

**Running head: CULTURAL RELIGIOSITY AS MODERATOR**

**Cultural Religiosity Moderates the Relationship Between Perceived Societal Injustice and  
Satisfaction with One's Life**

### Abstract

Mono-cultural studies have demonstrated that individual religiosity buffers the negative relationship between perceived injustice and personal well-being. However, it is unclear whether this relationship holds as strongly across societies with varying levels of cultural religiosity. We argue that higher levels of societal religiosity provide a cultural context that reduces pressure on its members to ameliorate societal injustice and consequently attenuates the link between injustice and an individual's satisfaction with life. To test this hypothesis, we assessed representative citizens from 136 societies with varying levels of religiosity, individual perceptions of societal injustice, and satisfaction with life. Using multi-level modelling on responses from 362,340 respondents, while controlling for societal wealth and societal freedom, we found that the relationship between injustice and life satisfaction was pan-societal but also that it was weaker at higher levels of societal religiosity. We explain this attenuation effect by arguing that sociocultural contexts higher in religiosity provide a worldview and set of value priorities that support its members to disengage from concerns about secular affairs and orient their concerns towards transcendent issues, deriving their satisfaction from less worldly pursuits.

*Keywords:* perceived societal injustice; societal religiosity; individual religiosity; life satisfaction

## Cultural Religiosity Moderates the Relationship Between Perceived Societal Injustice and Satisfaction with One's Life

Injustice can be thought of as unfairness in procedure, treatment, or distribution of outcomes received by a person, especially when such unfairness also violates established conventions, rules, or moral norms. A body of research using individual-level (Dalbert, 1998; Johnson, 1990) and societal-level (Elliot & Hayward, 2009; Joshanloo & Weijers, 2016a; Tavits, 2008) measures of perceived injustice shows that injustice negatively relates to various measures of life satisfaction.

Research demonstrates that individual-level religiosity can reduce the harmful effects of adverse circumstances (Bierman, 2006; Elliot & Hayward, 2009; Hackney & Sanders, 2003; Joshanloo & Weijers, 2016b; Smith et al., 2003), a phenomenon that has been dubbed the religiosity-as-buffer effect (Plouffe & Tremblay, 2017). The mechanism underlying the religiosity-as-buffer effect is often explained with reference to the terror management theory of religion (Hackney & Sanders, 2003) or the life stress paradigm (Ellison, 1994; Schnitker, 2001), but fits equally well within system justification theory (Jost & Banaji, 1994). Given these psychological explanations, religious belief or participation with like-minded others is thought to mitigate distress, by instilling an attitude of detachment towards worldly affairs and building resilience when confronting negative circumstances.

In individual-level studies, religiosity can only be measured as a person-level construct (e.g., religious values and behaviours). In societal-level studies, on the other hand, religiosity is measured as a group-level construct. There are various ways to measure religiosity as a group-level variable, including for example calculating the percentage of religious people in a population (Joshanloo & Gebauer, 2020). Studies that have included religion as a contextual variable have provided cultural-level explanations of the religiosity-

as-buffer effect. Diener et al. (2011), for example, observed that cultural-level religiosity buffered the negative effects of more difficult life conditions on subjective well-being in 154 societies. In explaining this finding, they suggested that higher levels of cultural-level religiosity are likely to generate “supportive and integrative social structures” that help people adjust to adversity. In a societal-level study of 121 societies, Joshanloo and Weijers (2016a) demonstrated that the negative relationship between perceived societal injustice and life satisfaction was buffered by societal religiosity.

Single-level studies do not clarify whether the buffering effect of religiosity is driven mainly by individual-level religiosity or societal-level religiosity. Discussing the previous results, Joshanloo and Weijers (2016a) note that, despite strongly supporting the religiosity-as-buffer effect with regards to societal injustice, “these results offer little information about the exact mechanism by which the religiosity of a society might reduce the negative psychological effects of societal injustice” (p. 609). In multi-level studies, however, religiosity can be included at both levels, enabling the mechanism to be investigated more closely. Thus, a multi-level analysis that includes both individual and societal measures of religiosity should help identify whether religiosity’s buffering of the negative effects of perceived societal injustice is acting at the individual level, the societal level, or both.

For example, Gebauer et al. (2013) found that both individual-level and societal-level religiosity buffered the negative effects of poverty on psychological adjustment. Gebauer et al. argue that when the majority of a population constituting a cultural unit endorses something and behaves accordingly, a cultural norm of valuing, believing, and behaving in certain ways can become established regardless of the individual-level motivations for the initial valuing, believing and behaving. This cultural norm could then act to moderate the impact of individual predispositions on the psychological adjustment of a population (e.g., Lun & Bond, 2013).

## The Present Study

The current study uses multi-level analyses of data from respondents in 136 societies to answer the question: Does individual-level or societal-cultural level religiosity or some interaction between these levels of analysis buffer the negative effect of perceived injustice on life satisfaction? Informed by the results of the studies discussed above, we expect that religiosity buffers the negative effect of injustice on life satisfaction at both levels.

“Injustice is subjective” (Rehman, 2016, p. 188), meaning that different people may perceive different levels of adverse circumstances as more or less unjust. So, to direct our analysis more specifically at the mechanism by which religiosity buffers the negative effects of injustice, we constructed a subjective measure of injustice. Since injustice is a central concept of this study, but also a relatively complex concept, an index is strongly preferred over a single-item measure. Given that a general subjective index of societal injustice with broad intersocietal coverage is not available, one was created for this study from the most relevant items in the World Gallup Poll (GWP). The items selected for possible inclusion in the injustice index all asked respondents for their views on matters of injustice. Two items ask about confidence, one in the police and the other in the judiciary. As Tankebe (2010) points out, “There is a significant body of literature on various dimensions of public confidence in local police forces and courts... [indicating that] procedural justice, trustworthiness and effectiveness are important dimensions of this confidence.” (p. 298). Another item asks about perceptions about how poor people are treated in society. This item relates mainly to distributive injustice in the social system (Hochschild, 1981). The last item asks whether women are treated with respect. This item enables respondents to identify potential unfair discrimination against women (Kappen & Branscombe, 2001). Thus, instead of asking directly about perceived levels of injustice, the present study uses four proxy items for measuring different aspects of societal injustice.

Many previous studies have pointed out that national wealth and societal freedom are correlated with the psychological variables of interest in this study (Beugelsdijk, & Welzel, 2018; Gropper et al., 2011; Helliwell, 2003; Inglehart et al., 2008). In order then to isolate the impact of societal levels of religiosity on the individual-level relationship between perceived societal injustice and satisfaction with life, we controlled for both economic prosperity and personal freedom in our analysis. By controlling for these variables, we would be able to discover whether moderation effects would still hold after adding economic prosperity and societal freedom to the model.

## Methods

### Participants

The data are from the dataset of the Gallup World Poll (GWP). Using randomly selected and societally representative samples, GWP surveys residents annually from a large number of countries, representing more than 95% of the world's adult population. The GWP has been translated into various languages using the method of back-translation. In the present study, the data collected during the period between 2015-2017 are used. The survey items were not included in all countries during this period. The total sample used consisted of 362,340 individuals across 136 countries who responded to all the survey items used in the present analyses. The names of the countries included, gender ratios, average ages, average variable scores, and societal sample sizes are reported in the supplementary material (Table S1). The average age for the entire sample was 41.76 ( $SD = 17.90$ ).

### Measures

**Perceived Societal Injustice.** From the GWP surveys, four items are suitable for measuring perceived injustice. The items and their response formats are reported in Table 1. All items have a binary response format and principal component analysis was used to examine their factor structure. Scree plots, both at the individual and societal levels,

suggested a single-factor solution. The factor loadings are shown in Table 2. The loadings at the individual level were between .615 and .722 (eigenvalue = 1.765, % variance explained = 44.137). The loadings at the societal level ranged from .724 to .897 (eigenvalue = 2.761, % variance explained = 69.019). The Kuder-Richardson 20 coefficient at the individual level and Cronbach's alpha coefficient at the societal level were .58 and .84, respectively. The individual-level reliability was deemed acceptable given the measure's small number of items, and the breadth of the contents measured (Rammstedt & Beierlein, 2014).

A justice score was calculated for individuals who responded to at least three of the items. The injustice score for each individual was calculated by averaging these items, and (considering that the items measure societal justice) subtracting the resulting value from 1. Individual scores within each society were then averaged to obtain a societal score. The possible range of the injustice scores is between 0 and 1. The societal scores are shown in Figure 1.

Table 1  
*The Items Used to Measure Injustice and Factor Loadings*

Item wording	Response Format	Factor loading	
		Individual	Societal
In the city or area where you live, do you have confidence in the local police force, or not?	1 Yes 0 No	.670	.848
In (this society), are you satisfied or dissatisfied with efforts to deal with the poor?	1 Yes 0 No	.615	.724
In (this society), do you have confidence in each of the following, or not: How about judicial system and courts?	1 Satisfied 0 Dissatisfied	.722	.897
Do you believe women in (Society) are treated with respect and dignity, or not?	1 Yes 0 No	.646	.844

*Note.* As a supplementary analysis, the society-level factor analysis was run in the sample of countries (not individuals) with the national averages of the four items.

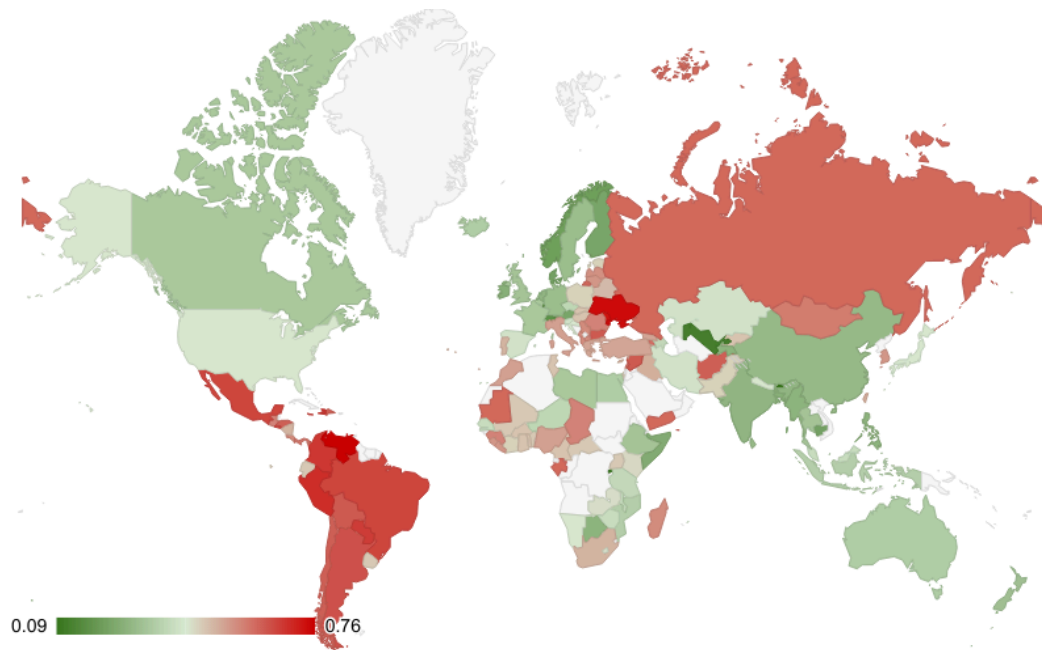


Figure 1  
Perceived Societal Injustice index. Data were not available for countries marked with grey color.

**Life satisfaction.** Participants responded to the item, “Please imagine a ladder with steps numbered from zero at the bottom to ten at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?”, using a scale from 0 = *Worst Possible* to 10 = *Best Possible*.

**Religiosity.** Joshanloo and Gebauer’s global religiosity index was used to measure societal religiosity (Joshanloo & Gebauer, 2020). This index was calculated by obtaining the percentages of individuals in each society who answered yes to the question, “Is religion an important part of your daily life?” (based on all available data in the GWP between 2005 and 2017). Religiosity was measured at the individual level with the same item.

**Economy and freedom.** The economy and freedom sub-indices from the societal prosperity indices (Legatum Institute, 2017) were used to control for the societal levels of



economic and democratic achievement. The annual scores between 2015 to 2017 were averaged for each society to calculate overall economy and freedom scores for each society.

**Demographic Variables.** Gender (female = 1, male = 0), age, education, and religious affiliation were included as control variables. Two dummy-coded variables were used to indicate secondary and tertiary education. The reference category was elementary education. Four dummy-coded variables were included for Christian, Muslim, Buddhist, and Hindu religious groups, which had large enough samples for statistical analysis ( $Ns > 11,337$ ). The reference group included all other religious affiliations and people who did not report any religious affiliation.

It is noteworthy that all items in the study have two additional response options: “Don’t know” and “Refuse to answer”. Except for the life satisfaction item, other variables were dummy coded as 1 for “yes” or “satisfied” and 0 for “No”, “Dissatisfied”, “Don’t know”, and “Refused”.

### **Statistical Analysis**

All the analyses were performed using IBM-SPSS 27. Considering the hierarchical nature of the dataset, multi-level modeling was used (Hox, 2010; Nezlek, 2010). All the models were estimated with Restricted Maximum Likelihood (REML), which is the generally recommended estimation method in multi-level modeling (Brown & Prescott, 2015). In all the analyses of the study, the intercept, as well as the slopes of the predictors had a random component (i.e., they were allowed to vary across societies). Considering that the multi-level models tested here have many predictors, model convergence was not achieved using an unstructured covariance matrix. For model identification purposes, the variance components (or diagonal) structure was used instead, in which all of the variances for random effects are estimated, while the covariances between the random effects are constrained to be zero (Hox, 2010; West, Welch, & Galecki, 2014).

In multi-level modeling, the variance in the outcome variable is partitioned into individual- and group-level components. Therefore, a separate effect size estimate is reported for each level. Effect size in multi-level modeling is the percentage reduction in variance between the null model (a model that has no predictors) and a model that includes predictors (Brown & Prescott, 2015; Hox, 2010). Thus, effect sizes represent the percentage of variance explained at each level because of adding predictors (roughly similar to  $R^2$  in simple regression). Following Enders and Tofighi (2007) and Nezlek's (2010) recommendations, injustice was group mean-centered and the society-level variables of religiosity, economy, and freedom were grand-mean centered.

### Results

The correlation between perceived injustice and societal religiosity was  $r = .103$ , between injustice and life satisfaction was  $r = -.144$ , and between societal religiosity and life satisfaction was  $r = -.316$  ( $N = 362,340$ , all significant at  $p < .001$ ).

A multi-level model without predictors (the null model) was tested as the baseline model. The random effects from the null model are reported in Table 2. As shown, there is significant variability both at the individual (residual) and societal (intercept) levels in the life satisfaction scores. In another model, all the predictors of the study were included along with the interaction between perceived injustice at the individual level and societal religiosity, the interaction between perceived injustice and personal religiosity, the interaction between personal and societal religiosity, and the three-way interaction between perceived injustice, personal religiosity, and societal religiosity. The fixed effects of the model are reported in Table S2. Considering that only the interaction effect of injustice and societal religiosity was significant, the other interactions were removed from the model. Therefore, the main model of the study had only one interaction term. The resulting random effects for this model are reported in Table 2, and the fixed effects are reported in Table 3. Adding the predictors

explained about 6.5% of the individual-level variance in life satisfaction. The predictors collectively explained about 52% of the society-level variance in life satisfaction.

Table 2  
*Random Effects*

	Variance	Wald <i>z</i>	<i>p</i>	95% CI	
				Low	Up
Null model					
Residual	4.764	425.561	< .001	4.742	4.786
Intercept	1.238	8.203	< .001	0.975	1.572
Model 1					
Residual	4.456	424.883	< .001	4.436	4.477
Intercept	0.588	7.619	< .001	0.455	0.760

*Note.* The analyses yielded variance estimates for all of the predictors' random effects. Given that these estimates are not of interest here, they are not reported.  $N = 362,340$ .

Table 3  
*Fixed Effects*

	Estimate	<i>t</i>	<i>p</i>	95% CI	
				Low	Up
Individual level					
Female	0.116	6.957	< .001	0.083	0.149
Age	-0.010	-10.804	< .001	-0.012	-0.008
Christian	0.048	2.164	.034	0.004	0.092
Muslim	0.014	0.296	.768	-0.080	0.108
Hindu	-0.042	-0.443	.664	-0.242	0.159
Buddhist	0.038	0.573	.574	-0.103	0.180
Secondary education	0.549	25.636	< .001	0.507	0.591
Tertiary education	1.086	32.106	< .001	1.020	1.153
Perceived Societal Injustice	-1.009	-28.154	< .001	-1.080	-0.938
Personal religiosity	-0.021	-1.211	.229	-0.055	0.013
Societal level					
Societal religiosity	-0.029	-10.569	< .001	-0.034	-0.024
Cross-level interaction					
Perceived Societal Injustice × Societal religiosity	0.008	5.794	< .001	0.005	0.011

After controlling for all the covariates, the interaction of perceived injustice at the individual level and societal religiosity was significant (Table 3). This finding suggests that the strength of the relationship between injustice and life satisfaction partly depends on a society's level of religiosity. The online tool provided by Preacher, Curran, and Bauer (2006) was used for plotting this moderation effect. As shown in Figure 2, the correlation between injustice and life satisfaction was always negative but weaker for individuals that live in countries with higher levels of religiosity (1 *SD* above the mean) and stronger among individuals that live in societies with lower religiosity (1 *SD* below the mean). Simple slopes were -1.22 ( $p < .001$ ) in low-religiosity societies, and -0.79 ( $p < .001$ ) in high-religiosity societies.

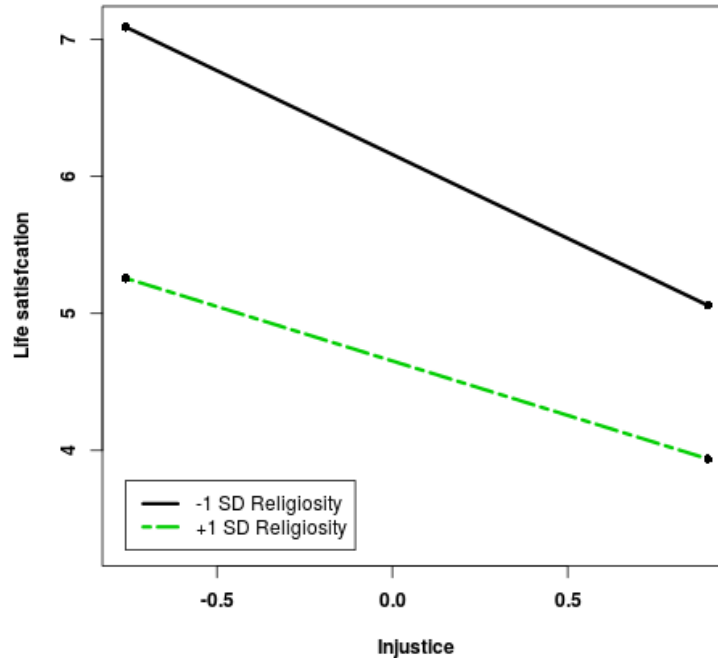


Figure 2

The relationship between perceived societal injustice and life satisfaction as moderated by societal levels of religiosity

### **Post Hoc Analyses**

In our two-level model, the dependence of nations based on regional grouping was not considered. To account for regional grouping, the main model of the study was re-tested with region as a third level (i.e., individuals nested in nations, and nations nested in regions). The 22-region categorization provided by the United Nations was used. However, as shown in Table S5, the nations included in this study belong to 18 regions. The results are reported in Table S6, showing that the cross-level interaction effect was virtually unchanged after accounting for regional grouping.

Finally, another model was tested where societal economy and freedom were added as covariates, to see if the interaction effect would hold. These additions resulted in some loss of data, considering that these societal indicators were not available for 10 countries (as shown in Table S1 in the supplementary material). The resulting random effects are reported in Table S3, and the fixed effects are reported in Table S4. As can be seen, including these two variables increased the percentages of explained variance to 7.3% at the individual level and 65% at the societal level. Adding the two variables reduced the size of the main effect of societal religiosity on life satisfaction. However, the interaction between perceived injustice and societal religiosity was virtually unchanged after including societal economy and freedom.

### **Discussion**

In line with previous findings (e.g., Dalbert, 1998; Johnson, 1990; Joshanloo & Weijers, 2016a), perceived societal injustice was a strong negative predictor of life satisfaction across the societies examined in this study; this association is robust and pan-societal. Importantly, there was a significant interaction between societal religiosity and perceived injustice, such that the more religious group of societies show a flatter (less negative) relationship between perceived injustice and life satisfaction than the less religious

group of societies. This corroborates the hypothesis that societal religiosity partly buffers the pan-societal negative effects of perceived injustice on an individual's satisfaction with life such that the degree of that buffering increases as the level of religiosity characterizing that society increases.

These results also shed light on the issue of the level at which the buffering effect of religiosity takes place. Neither individual-level religiosity nor the interaction of individual-level religiosity and perceived injustice were significant predictors of satisfaction with life. Only societal religiosity moderated the relationship between perceived injustice and life satisfaction. This finding makes it unlikely that the main mechanism driving the buffering effect of religiosity is the individual-level process of psychological resilience via the personal belief that there is a religious rationale for adverse societal circumstances. Instead, the driver of the buffering effect on the pan-societal relationship between injustice and life satisfaction seems likely to be found in religious heritage and current features of the cultural environment into which its members have been born. In other words, living in a religious society alleviates the subjective dissatisfaction of perceived injustices independent of a person's own level of religiosity. As has been shown in other studies (e.g., Lun & Bond, 2013), personal religiosity has no pan-societal (or universal) association with life satisfaction,

How satisfied a person becomes with life depends highly on what he or she has been socialized to expect from life, viz., their worldviews, which will be strongly influenced by the societal culture they live in (Bond et al., 2004; Haybron, 2007). In highly religious societies, religion can be such a dominant cultural force that it affects everyone in the society, not just religious adherents in that society (Adamczyk & Pitt, 2009). As Gebauer and Sedikides (2021) point out, there is now enough empirical evidence to conclude that, "religious norms pervade religious cultures and, thus, also impact their inhabitants independent of personal religiosity" (p. 75). These conclusions are consistent with our present findings that societal-

cultural religiosity moderates the relationship between injustice and wellbeing independently of personal religiosity.

That societal-cultural religiosity mitigates the subjective consequences of perceived injustice may partly reflect the fact that societies high in religiosity are more hierarchical than secular cultures (Joshani & Gebauer, 2020; see also Fog, 2020, on higher regality, and Beugelsdijk & Welzel, 2018, on higher collectivism). Such findings suggest that religious cultures may be more tolerant of injustice. Historically, religious societies would have established institutions that are less focused on redressing societal injustice, but rather on sustaining norms of ingroup solidarity and social support for a transcendent worldview. In religious societies, there is a cultural history of “relinquishing injustices to God or a High Power” (Worthington et al., 2010, p.126). Individuals in these cultural settings are socialized to occasionally cultivate detachment from worldly concerns, such as injustice and inequality, and focus on treading the path to personal salvation, whether salvation is contentment in this life or blessings and rewards in some heralded afterlife. This realignment of personal priorities in religious cultures can offer solace in the face of injustices and reduce the cultural pressure felt by individuals to right the societal wrongs they encounter in their daily lives.

The strengths of the present study include its large global sample of people, sophisticated statistical analysis, and novel measure of injustice. By controlling for societal prosperity and societal freedom, we have also un-confounded the effects of societal religiosity from some key features of societies that contribute to their citizens’ satisfaction with life. Some limitations of the study should also be acknowledged, however. For example, life satisfaction and religiosity were measured using single-item scales, and the corresponding data from many countries were not available from the GWP. Furthermore, the choice of items for the injustice scale was constrained by the availability of items in the GWP.

Future studies need to replicate the present results using other scales of perceived societal injustice and perhaps also personal experiences of unjust treatment in globally representative samples. Prior research show that societal religiosity is associated with other cultural characteristics such as collectivism and its correlated construct, power distance (e.g., Joshanloo & Gebauer, 2020; Beugelsdijk & Welzel, 2018). A worthwhile avenue for future research is to examine the interactions between religiosity and other cultural dimensions in alleviating the subjective discomforts of perceived injustice. However, a major challenge with using the other cultural dimensions is that they may not be available for the wide range of societies included in this study and their inclusion could lead to a reduced sample of nations.

Despite some limitations, our results are novel and feed into the emerging research domain of cultural religiosity as an important force shaping human psychology. They also help bring cultural factors of many types into a wider discussion of how a person's cultural heritage impacts their psychological processes (Smith & Bond, 2019).



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