

Intergroup tolerance leads to subjective morality, which in turn is associated with (but does not lead to) reduced religiosity

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Abstract

Although the effect of religious belief on morally relevant behavior is well demonstrated, the reverse influence is less known. In this research, we examined the influence of morality on religious belief. In the first study, we used two samples from Turkey and the United States, and specifically tested the hypothesis that intergroup tolerance predicts a shift in meta-ethical views toward subjective morality, which in turn predicts decreased religious belief. To examine the relationship between intergroup tolerance and religiosity via subjective morality, a structural equation model (SEM) was run. SEM results yielded good fit to the data for both samples. Intergroup tolerance positively predicted subjective morality, and in turn, morality negatively predicted religiosity. The bias-corrected bootstrap analysis confirmed the mediation, indicating that the association between intergroup tolerance and religious belief was mediated via subjective morality. In Study 2, we probed for the causal relationship, and the results showed that manipulating intergroup tolerance increases subjective morality, but does not influence religiosity. Therefore, we found only partial evidence for our proposed model that tolerance causally influences subjective morality, but not religiosity.

Keywords

Meta-ethics, morality, religion, subjective morality, tolerance, Turkey, the United States

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In Western countries, there has been a serious decline in religious belief (Pew Research Center, 2012). In addition, that people with different ethnic and religious identities live together in Western countries leads to more diversity, which could lead to more tolerance for different groups. Here, we propose and test that one of the reasons of religious disbelief might be the increasing tolerance level between the groups. According to the model we propose, increased tolerance leads to the belief that there are no absolute moral principles (subjective morality), which leads to a decrease in religious faith. We tested this model correlationally in the first study and experimentally in the second study.

Religion and morality

The question of how religious believers and non-believers differ in terms of morality is a compelling one since both religion and morality can mean many things. Saroglou (2011) suggests that religion implies at least four different things: Religion refers to beliefs in non-human supernatural agents, moral codes to be a virtuous person, some religious-specific rituals, or a sense of faithfulness to a group involving people of the same opinions (Saroglou, 2011). In a similar vein, morality can also mean at least three different things: namely, behaving prosocially (practical ethics), intuitive or reflective judgments of acts as right or wrong (normative ethics), or beliefs about moral principles as objectively or subjectively true (meta-ethics).

The link between religious belief and practical (prosociality) and normative ethics is relatively well understood. The findings generally suggest that priming religiosity leads people to show more prosocial behavior (see Shariff, Willard, Andersen, & Norenzayan, 2016, for a meta-analysis), and trait religiosity is positively correlated with deontological (rule-based) normative moral judgments (Piazza, 2012). However, there is a dearth of empirical investigation on the relationship between religious belief and meta-ethics. In one of those studies, one of the predictors of objectivist moral judgments was found to be seeing God as the origin of moral truths (i.e. divine command theory; Goodwin & Darley, 2008). Piazza and Landy (2013) developed a scale to reliably measure this meta-ethical view (the belief that morality is founded on a divine authority) and found that this belief mediates the relation between religiosity and non-consequentialist (e.g. rule-based) moral judgments. Yilmaz and Bahçekapili (2015) also directly investigated the influence of religious belief on objectivist and subjectivist meta-ethical judgments. In one experiment, they found that those who were primed with religious words reported more objectivist and less subjectivist responses on both a set of moral dilemmas and a meta-ethical scale. However, although the causal effect of religious belief on morally relevant behavior is well documented, the reverse causal influence is less known (i.e. morality → religious beliefs), and few studies have been carried out to explore the reverse causal influence. In one of those experiments, Yilmaz and Bahçekapili (2015) investigated that causal relation and found that inducing a subjectivist meta-ethical view with an argumentative text led participants to report less religious belief. In other words, when the participants are persuaded that moral principles are only subjectively true, they reported less belief in God. More recently, Sarkissian and Phelan (2019) primed moral objectivism and found that the followers of Abrahamic faith increased their endorsement of God's punishing characteristics. However, to our knowledge, there is no other research investigating the influence of meta-ethical beliefs on religiosity.

Meta-ethics and tolerance

As summarized above, meta-ethical beliefs are important predictors of social attitudes such as religiosity and normative moral judgments. Other research also suggests that diverse meta-ethical

views have other psycho-social functions, and both might reciprocally influence each other. For instance, Goodwin and Darley (2012) found that adopting an objectivist morality is positively correlated with closed-mindedness. In other words, more objectivist people generally do not want to share an apartment with those who have different meta-ethical views. There is also some research showing that moral perceptions are associated with intergroup tolerance in three different cultures (Obeid, Argo, & Ginges, 2017). Although several factors to date have been associated with intergroup tolerance such as perceived threat (Riek, Mania, & Gaertner, 2006), dual identities (Wenzel, Mummendey, & Waldzus, 2008), intergroup contact (Pettigrew & Tropp, 2011), and education (Engberg, 2004), meta-ethical views have been recently proposed as another alternative determinant of the level of tolerance. For example, Wright, McWhite, and Grandjean (2014) found that viewing an issue as objectively grounded is one of the indicators of political intolerance. Thus, viewing moral issues as subjectively grounded might be one psycho-social factor that leads to political tolerance for divergent moral views. There is another recent empirical demonstration of the influence of subjective morality on intergroup tolerance (Yilmaz, 2019). The findings show that experimentally manipulating subjective morality increases intergroup tolerance. Considering all of these correlational and experimental findings, one might argue that just as subjectivism casually influences tolerance, tolerance might lead to subjectivism as well, since there is evidence suggesting that manipulating intergroup tolerance causally influences morality-related judgments (e.g. Vasiljevic & Crisp, 2013). In this study, we specifically evaluate this possibility and argue that the reverse causal influence is also possible and thereby one can expect a reciprocal relationship between subjective morality and intergroup tolerance. In other words, an increased level of intergroup tolerance might shift meta-ethical views toward subjectivism, which might then influence religious belief. As Yilmaz and Bahçekapili (2015) demonstrated, there is also a direct causal relation between subjectivism and religious disbelief. Thus, a model in which intergroup tolerance might shift meta-ethical view toward subjectivism, which in turn leads to reduced religious belief, can be proposed.

The present research

Norenzayan and Gervais (2013) originally identified four different paths to explain the causes of religious disbelief: mind-blind atheism, analytic atheism, apatheism, and InCREdulous atheism (see Norenzayan, 2013, for more details). Based on the reading of the above-mentioned literature, Bahçekapili and Yilmaz (2017a) further argued that having different meta-ethical views can be one of the causes of religious disbelief (there is also experimental evidence for this causal link: Yilmaz & Bahçekapili, 2015). They proposed a model to indicate the pathway. According to their model, witnessing people with very different lifestyles and beliefs (mostly in urban settings) may lead to intergroup tolerance (especially in countries with high levels of liberalism such as Scandinavian countries), which in turn shifts meta-ethical view toward subjective morality. Finally, subjective morality leads to decreased religious belief. Thus, one of the factors that indirectly lead to religious disbelief might be intergroup tolerance.

In Study 1, we adopted an individual differences approach and examined whether the relationship between intergroup tolerance and religiosity was mediated via subjective morality in two different cultures (Turkey and the United States). We expected stronger associations among the variables in the American sample than the Turkish sample since American society is thought to be a more secular one than Turkish society. And finally, since Turkey is a highly religious country (Çarkoğlu & Kalaycıoğlu, 2009), we expect less variation within the variables, and higher levels of statistical variance in the American sample might explain why we expect stronger associations. In Study 2, we investigated the causal influence of manipulated intergroup tolerance on subjective

Table 1. Study I model fit statistics for tests of measurement invariance for the ITS.

Model	χ^2	<i>df</i>	CFI	TLI	RMSEA
1. Configural	46.808	11	.96	.92	.09
2. Metric	53.018	15	.93	.91	.09
3. Scalar	60.848	19	.92	.87	.10

CFI: comparative fit index; TLI: Tucker–Lewis index; RMSEA: root mean square error of approximation.

morality and religious belief in an American sample. We expected that manipulating intergroup tolerance increases subjective morality and decreases religious belief overall.

Study I

Method

Participants. Data were collected from 595 Turkish participants (55.10% female; $M_{\text{age}} = 28.62$ years, $SD = 9.83$) and 147 American Mechanical Turk (MTurk) workers (63.3% female, $M_{\text{age}} = 36.2$ years, $SD = 13.5$).¹ A convenience sampling was used for the Turkish sample. The research assistants randomly approached the participants in the streets of Istanbul and asked them to respond to the survey items.

Measures. Intergroup tolerance scale (ITS) was developed in this study through confirmatory factor analyses. It comprised five items on a 7-point Likert-type scale (“Different groups living together in the borders of the same country enriches the society”; “If every group lives in their own country, we won’t have much problems”—reverse coded; “For the society to function in the right way different groups are needed”; “Different groups being able to live together in the society is the indicator of that society’s development level”; “If different groups have more tolerance toward each other, we can live in a better world”; Cronbach’s $\alpha_{\text{Turkish}} = .77$; Cronbach’s $\alpha_{\text{American}} = .84$). We also examined measurement invariance of ITS across Turkish and American samples. Initially, a configural invariance model was specified in which single-factor models were estimated simultaneously for Turkish and American samples; factor mean was fixed to 0 and the factor variance was fixed to 1 for identification within each group. Then, we specified and estimated metric (i.e. equality of the unstandardized item factor loadings across groups) and scalar (i.e. equality of the unstandardized item intercepts across groups) invariance models subsequently. Nested model comparisons were conducted using chi-square difference tests. Analyses showed that we obtained measurement invariance between Turkish and American samples for ITS (see Table 1).

In a different sample, we investigated convergent validity and looked at the correlation between our new intergroup scale and general prejudice toward several outgroups through standard feeling thermometers (e.g. atheists, gay). As expected, the results revealed significant negative correlations between intergroup tolerance and negative attitudes toward outgroups (correlation coefficients ranged from .14 to .24). In addition, this scale was used in another unpublished study (Yilmaz, 2019) and it showed significant associations with political orientation and care/harm foundation (being more sensitive for the weaker members of the community). Overall, these findings provide further support for the validity of the scale.

Moral subjectivism scale (Yilmaz & Bahçekapili, 2015) comprising four items on a 7-point Likert-type scale (e.g. “Since moral rules are not right or wrong in an absolute sense, moral arguments are always destined to remain futile”; Cronbach’s $\alpha_{\text{Turkish}} = .78$; Cronbach’s $\alpha_{\text{American}} = .75$) was used to measure moral subjectivism. This scale was also used in further research and showed

good predictive and convergent validities (e.g. Yilmaz, 2015, 2019; Yilmaz & Bahçekapili, 2018). For example, higher endorsement of subjective morality predicts left-wing political orientation and lower endorsement of objective morality and belief that morality is founded on divine authority (Yilmaz, 2015, 2019).

Intrinsic religiosity scale developed by Hoge (1972) and used by Bahçekapili and Yilmaz (2017b) in Turkish was used to measure religiosity. It comprised 10 items on a 4-point Likert-type scale (e.g. "My faith involves all of my life"; Cronbach's $\alpha_{\text{Turkish}} = .90$; Cronbach's $\alpha_{\text{American}} = .95$). As in the Turkish translation study (Bahçekapili & Yilmaz, 2017b), only the first eight items were used in both Turkish and English forms since these items are only applicable for religious believers.

Results

The rationale for statistical analyses and strategy. First, a series of independent samples *t*-tests were conducted to examine potential country (i.e. Turkey and the United States) differences on the variables in question. Second, structural equation models (SEMs) were used to examine whether intergroup tolerance predicts subjective meta-ethical view, which in turn predicts reduced religious belief. The hypothesized models were estimated using the software Mplus 6.12 (Muthén & Muthén, 2012). SEM results would allow us to examine the structural associations between latent variables comprised of multiple indicators.

We assessed model fit using the chi-square model fit index, the root mean square error of approximation (RMSEA), the comparative fit index (CFI), the Akaike information criteria (AIC), and the standardized root mean square residual (SRMR). We also used χ^2/df as an additional model fit index because the chi-square test of absolute model fit is sensitive to sample size. An RMSEA value below .06 is considered a good fit (Hu & Bentler, 1999; Steiger, 2007), whereas SRMR values less than .08 are indicative of an acceptable fit (Hu & Bentler, 1999). The CFI is one of the most widely reported fit indices, with Hu and Bentler (1999) recognizing values equal to, or greater than, .95 on this index as a good fit. In all SEM analyses, first, we run a measurement model to see how well the indicators account for the latent constructs. Then, we tested the structural models to examine how well the hypothesized models fit the data for two samples separately (i.e. Turkish and American samples). Finally, a multigroup SEM approach was used to compare Turkish and American individuals on the structural relations of the hypothesized model. This approach would allow us to compare Turkish and American samples in terms of the structural associations across latent constructs.

The independent samples *t*-test analyses showed that Turkish participants reported more subjective morality and religious belief, compared to American participants. There were no significant group differences in political orientation and intergroup tolerance (see Table 2).

Turkish sample. The hypothesized model comprised three latent factors (i.e. intergroup tolerance, subjective morality, and religious belief) with 17 measured indicator variables. Intergroup tolerance was indicated by five items of ITS. The subjective morality latent variable comprised four items of moral subjectivism scale, and the religious belief latent variable included eight items of intrinsic religiosity scale. The measurement model for the Turkish sample revealed good fit, $\chi^2(116, N=594)=315.586, p < .01, CFI = .95, RMSEA = .06$ (90% confidence interval (CI) = .05–.07), SRMR = .05. Structural correlation coefficients between latent variables revealed that all associations were significant in the expected directions (see Table 3).

We also specified a structural model to assess the hypothesized direct and indirect relationships among the constructs. Figure 1(a) provides the SEM results for the hypothesized model. The SEM results revealed that the model fit was good, as indicated in the fit indices, $\chi^2(117, N=594)=318.336, p < .000, CFI = .95, RMSEA = .05$ (90% CI = .04–.06), SRMR = .05. Results

Table 2. Descriptive statistics and independent samples *t*-test results of the Study 1 variables ($N_{TR} = 595$; $N_{USA} = 147$).

Variables	Country	<i>M</i>	<i>SD</i>	<i>t</i>
Political orientation	TR	3.78	1.37	-0.30
	USA	3.82	1.76	
Intergroup tolerance	TR	5.41	1.13	0.08
	USA	5.41	1.15	
Subjective morality	TR	4.97	1.26	5.57***
	USA	4.31	1.34	
Religious belief (Hoge's scale)	TR	2.67	0.84	3.90***
	USA	2.36	1.01	

*** $p < .001$.

Table 3. Structural correlations between latent variables in Study 1.

	Morality	Religiosity	Tolerance
Morality	—	-.37***	.35***
Religiosity	-.25***	—	-.20*
Tolerance	.12*	-.11*	—

Note. Lower diagonal represents structural correlations between the latent variables for the Turkish sample; upper diagonal represents structural correlations between the latent variables for the American sample.

* $p < .05$; *** $p < .001$.

suggested that intergroup tolerance positively predicted subjective morality ($\beta = .12, p < .05$) and, in turn, negatively predicted religious belief ($\beta = -.24, p < .001$). The direct link from intergroup tolerance to religious belief was not significant. We drew 1000 samples to estimate the bias-corrected bootstrap standard errors and obtain CIs for the estimates. Confirming the presence of mediation, the indirect association of intergroup tolerance with religious belief through subjective morality was significant (95% CI = $-.006$ to $-.001$).

To compare the hypothesized mediational model with the alternative model, we also estimated the only predictor model in which both intergroup tolerance and subjective morality directly predict religious belief rather than indirect model estimations. Traditionally, there are various statistical procedures showing the possible indirect effect of a variable on the outcome variable(s) (Baron & Kenny, 1986; Hayes & Scharkow, 2013; Preacher & Hayes, 2004). One of the strategies is comparing the proposed mediational model with the model estimating both predictor and mediation as a predictor in the model (called the common effect model; see Danner, Hagemann, & Fiedler, 2015). Basically, the only predictor model is much simpler (and more successfully fit to the data) than the mediational model. If there are no significant differences between these two models, the hypothesized mediational model could be interpreted more confidently. Chi-square difference test yielded no significant difference between the only predictor and mediational models: $\Delta\chi^2(1, N=594) = 2.750, ns$, suggesting that the hypothesized mediational model fits to the data well as the only predictor model.

American sample. We run SEM analysis for the American sample with the same strategy used for the Turkish sample. Indicators of the latent variables were the same. The measurement model for the American sample yielded good fit to the data, $\chi^2(116, N=146) = 197.863, p < .001, CFI = .95, RMSEA = .07$ (90% CI = $.05$ – $.09$), SRMR = $.08$. Structural correlations between the latent variables were significant in the expected directions (see Table 2).

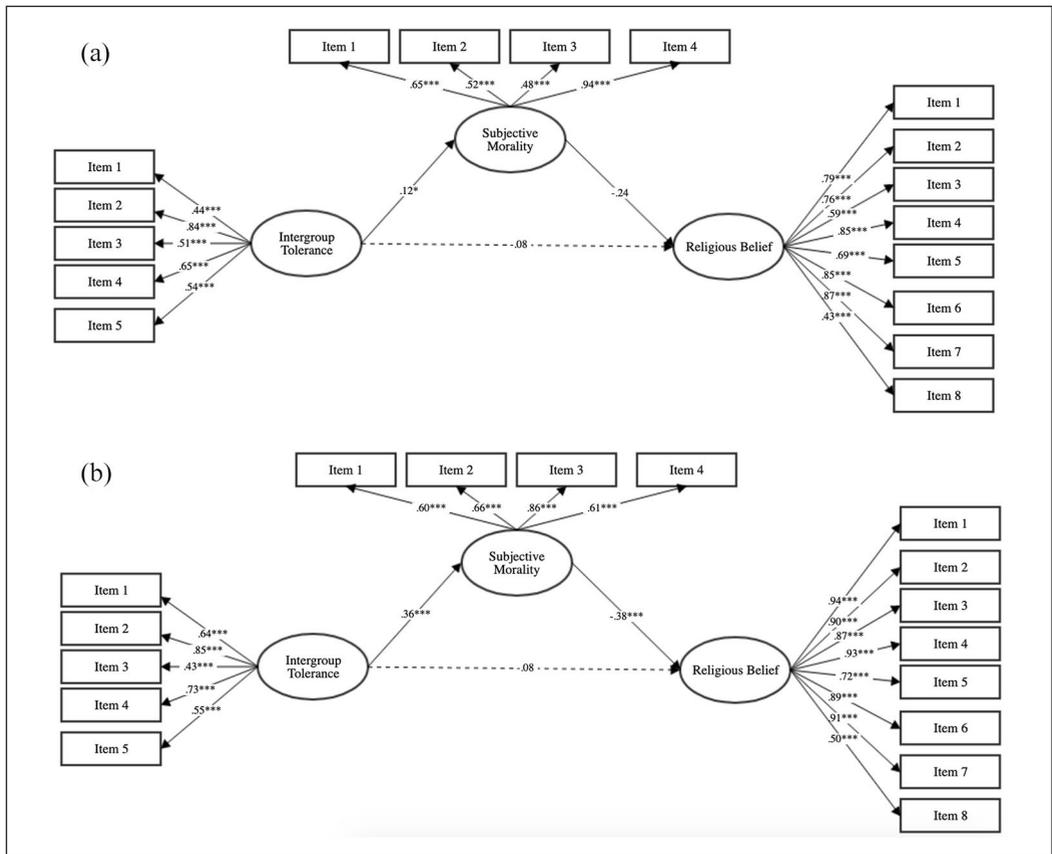


Figure 1. Structural equation model results for the hypothesized model in Study 1. (a) Turkish sample and (b) American sample.

The hypothesized model was also estimated via SEM (see Figure 1(b)). The results revealed that the model fit was good, $\chi^2(117, N=146)=198.468, p < .001, CFI=.95, RMSEA=.06$ (90% CI=.04–.08), SRMR=.08). Results showed that intergroup tolerance positively predicted subjective morality ($\beta=.36, p < .001$) and, in turn, negatively predicted religious belief ($\beta=-.38, p < .001$). The bias-corrected bootstrap analysis confirmed the mediation, indicating that the association between intergroup tolerance and religious belief was mediated via subjective morality (95% CI=-.008 to -.002).

Similar to model comparison for the Turkish sample, the hypothesized mediational model was also compared with the only predictor model for the American sample. Chi-square difference test also revealed no significant difference between the only predictor and mediational models: $\Delta\chi^2(1, N=594)=2.750, ns$, suggesting that the hypothesized mediational model fits to the data well as the only predictor model.

Multigroup comparisons across cultures. We further checked the robustness of the estimated model by testing both measurement and structural invariance across cultures (i.e., Turkish and American) via multigroup analyses (Bentler & Wu, 2002). A multigroup model was tested for Turkish and American samples. In the unrestricted model, parameter estimates (factor loadings and structural

paths) were freely estimated across groups. In the restricted model, we constrained each of the factor loadings as well as the structural paths to be invariant across groups. If the chi-square of the restricted model were significantly larger than the chi-square of the unrestricted model, the assumption of invariance would be rejected.

Chi-square difference test yielded a significant difference between the unrestricted and restricted models: $\Delta\chi^2(17, N=742)=100.464, p<.001$, suggesting that the estimated model produced different results for Turkish and American samples. Following the rejection of invariance across the country, we further run a $\Delta\chi^2$ test to find out the source of variance across groups: factor loadings, structural paths, or both. To do this, we compared two restricted models: only factor loadings were constrained (1) and both factor loadings and structural paths (2) were constrained. The chi-square of restricted model 1 (only structural paths) was significantly larger than the chi-square of restricted model 2: $\Delta\chi^2(17, N=742) = 8243, p<.05$, suggesting that the structural paths were different for Turkish and American samples. Freely estimated parameters for structural associations were still significant for participants in both Turkish and American samples, although the unstandardized parameter estimates were greater for participants in the American sample (see Figure 1).

Study 2

In Study 1, we found support for our proposed model in two different cultures spanning WEIRD (Western, Educated, Industrialized, Rich, Democratic) and non-WEIRD countries (Henrich, Heine, & Norenzayan, 2010). In Study 2, we investigated the causal relationship between intergroup tolerance, subjective morality, and religious belief.

Method

Participants. Using G*Power 3.1.9.2, we estimated our sample size based on an average effect size ($d=0.44$) found in Vasiljevic and Crisp (2013) since we used the same manipulation technique. With $\alpha=.05$ and 80% power, 130 participants were required to detect an effect. Considering potential attritions, we recruited a total of 185 participants from active MTurk workers (68.6% female, $M_{\text{age}}=34.28, SD=12.53$). They were randomly assigned to either the tolerance ($n=93$) or the neutral ($n=92$) condition.

Materials and procedure. To experimentally activate intergroup tolerance, we used the method developed by Vasiljevic and Crisp (2013). In the tolerance condition, the participants were asked to generate five cognitively difficult (counter-stereotypical) category combinations of various social groups (e.g. pairings of group membership that tend not to go together). In the control condition, they were asked to generate five cognitively easy (stereotypical) category combinations of various social groups. In several studies, Vasiljevic and Crisp (2013) showed that when participants think about category combinations which make them surprised to find in the same person (i.e. the tolerance condition), their general level of tolerance increases.

We then used the ITS (Cronbach's $\alpha=.84$) developed in Study 1 for manipulation check purposes. Finally, the participants were asked to respond to the same subjective morality (Cronbach's $\alpha=.77$) and religiosity scales (Cronbach's $\alpha=.95$) together with a demographic form.

Results

An independent samples *t*-test was conducted to see whether the tolerance manipulation increased the level of intergroup tolerance, and the results demonstrated a marginally significant effect,

$t(170)=1.87, p=.063, d=0.28$. Since we determined the sample size before the data collection, and the effect size is small-to-moderate, we did not collect additional data to increase the statistical power. The results demonstrated that those in the tolerance condition ($M=5.79, SD=0.98$; 95% CI=5.58–6.00) reported higher scores on ITS than those in the control condition ($M=5.47, SD=1.28$; 95% CI=5.19–5.74).

More importantly, the results showed that activating tolerance significantly increased the endorsement of subjective morality, $t(175)=2.14, p=.034, d=0.32$, as expected. Those in the tolerance condition ($M=4.46, SD=1.27$; 95% CI=4.20–4.73) reported higher scores on subjective morality than those in the control condition ($M=4.03, SD=1.42$; 95% CI=3.73–4.33). However, in contrast to our initial expectation, the tolerance manipulation did not influence religious belief, $t(167)=0.53, p=.599, d=0.08$. Therefore, the results partially supported our model that intergroup tolerance influences both subjectivism and religious belief.

In addition, we run mediation analysis with a categorical independent variable to examine the link between experimentally manipulated intergroup tolerance (i.e. tolerance vs control group) and religious belief via subjective morality. The mediation analysis using Hayes macro (2018, PROCESS Model 4) revealed no significant indirect effect of subjective morality on the link between tolerance and religious belief ($R^2=.01, p=.19$).

Discussion

We tested the hypothesis that intergroup tolerance might shift meta-ethical view toward subjective morality, which then decreases religious belief in two different cultures (Turkey and the United States). In Study 1, intergroup tolerance and subjective morality were more strongly related in the American sample than in the Turkish sample, although in both cases were significant. Similarly, the relationship between subjective morality and religious belief was stronger for participants from the United States than those from Turkey. Despite these minor differences, results supported an identical pattern for both Turkish and American samples, thus adding generalizability to the proposed model. Study 2 demonstrated that experimentally manipulating intergroup tolerance increases the endorsement of subjective morality, but it has no influence on religious belief. Therefore, although the proposed causal model was not fully supported by the data, it shows for the first time that intergroup tolerance causally influences subjective morality.

In this study, we examined the question why faith is at an all-time low in Western countries. We probed the possibility that intergroup contact and tolerance might represent one factor that leads to a decline in religion. In line with our initial expectation, the results suggested that in places where secularism has developed, tolerance is higher (e.g. Norenzayan & Gervais, 2015) and that this led to a subjective meta-ethical view in the current research. Therefore, although the United States and Turkey resemble each other in religious-related attitudes such as attitudes toward evolutionary theory (see Miller, Scott, & Okamoto, 2006; see also Yilmaz & Bahçekapili, 2016), the United States is a highly secular country compared to Turkey. Therefore, it can be expected that these relations that we put forward are more powerful in the United States than they are in Turkey. Also, since the American sample is collected from MTurk, its liberal-oriented participant (e.g. Huff & Tingley, 2015) profile may have led to this relationship being stronger, as liberal-oriented people are thought to have a more secular worldview than conservatives (Norris & Inglehart, 2011).

The reason why we failed to find a causal effect of tolerance on religiosity might be the fact that since religious belief is shaped over a long period of time through socialization, it might become an entrenched trait or habit and might be resistant to experimental manipulations, although there is research speaking against this interpretation (e.g. Yilmaz & Bahçekapili, 2015). Therefore, experimentally manipulating religious belief might require either very strong manipulations (e.g. a 1-year

tolerance training program) or much larger sample sizes (e.g. $n \approx 3000$). Next is that since the participants responded to the religious belief scale always after the subjective morality measure, the effect of the manipulation might have dissipated. Therefore, future studies should test the unique effect of intergroup tolerance on religious belief where the belief is the only dependent variable.

Limitations, strengths, and future directions

Validating an intergroup scale through confirmatory factor analyses in both Turkish and English is one of the strengths of this study. Although the current model was supported in two samples from two different cultures, the experimental study provided only partial support for the proposed model. Testing the reverse mediation models also does not reveal the true causal pathway (see Lemmer & Gollwitzer, 2017). Thus, one cannot decide on the true cause–effect relationship between tolerance and religious belief based on the current research. In addition, instead of our meta-ethics scale used in this research, use of more contextual moral vignettes can increase the validity of this construct (see Yilmaz & Bahçekapili, 2015, for similar moral vignettes) since measuring meta-ethical beliefs via questionnaire items has previously been criticized (see Goodwin & Darley, 2010).

Conclusion

All in all, the previous literature on the relation between religion and morality mostly focused on the causal effect of religious belief on moral judgments. This study investigated the reverse pathway (from morality to religiosity) and claimed, albeit with partial evidence, an additional pathway that might lead to religious disbelief. More specifically, we tested the hypothesis that living with people from different cultures and lifestyles may increase intergroup tolerance, which in turn shifts meta-ethical views toward subjective morality, which then decreases religious belief. The findings from two different cultural settings (Turkish and American) correlationally supported this model, and the additional experiment supported only the pathway from intergroup tolerance to subjective morality. Thus, the results indicate that intergroup tolerance can predict and lead to subjective morality, which in turn can predict religious beliefs, but we need further research to claim causality for the latter. Finally, further studies should investigate some other moderating variables that might also influence this pathway such as the WEIRDness of the culture (Henrich et al., 2010).

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Supplemental material

Supplemental material for this article is available online.

Note

1. Data contamination problems have recently appeared in samples recruited from Amazon Mechanical Turk. Consequently, some procedures have been offered to overcome these problems. Here, we report analyses based on these suggestions. We collected our data through the online survey program Qualtrics. This program saves the location information of participants in the data sets in terms of latitude and longitude. To test a possible bot problem, we first searched the number “88639831” as advised by Bai (2018).

The given number was not present in the locations of our participants. Then, we did frequency analyses (as advised by Ryan, 2018). Among the 147 participants, we had 133 different latitudes. In those 133, 1 of them was repeated three times, and 12 of them were repeated two times. The repetition amount in our data is pretty low, and considering possible housemates or families using the same computer, it should be acceptable and would not damage the uniqueness of our data. When we excluded those participants who have repeated latitudes, the results remained constant. We report these analyses in the Supplemental Material.

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