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Religion and Trust: An Experimental Study

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Abstract

We investigate the relationship between religion and trust. Using a questionnaire, we measure: i) general religiosity, and; ii) the extent of religious beliefs, experience, and ritual. These are then analyzed with behavior in a trust game (Berg et al., *Games and Economic Behavior*, 1995), which we also extend by providing information of a potential trustee's religiosity in certain tasks. We find that trusting increases with the potential trustee's religiosity. The extent to which trusting increases with a trustee's religiosity, in turn, increases with a truster's religiosity. Trustworthiness also increases with religiosity, and at an increasing rate.

PsycINFO classification: 2920, 3020
JEL classification: C72, C91, Z12
Keywords: Religiosity, Trust, Stereotype, Questionnaire, Experiment.

1. Introduction

Existing research suggests the importance of considering the relationship between religion and economic performance, via economic behavior. For instance, production suffers when work hours are sacrificed for religious activities (Lipford and Tollison, 2003); religious beliefs affect economic growth (Barro and McLeary, 2003). Lipford et al. (1993) show that religion provides a public good by promoting pro-social behavior. This paper experimentally investigates the relationship between religion and *trust*.

Trust, an element of social capital (Glaeser et al., 2000), has the power to enable the attainment of Pareto-improvements, notwithstanding there is scope for cooperation, i.e. individuals themselves stand to gain. A prevalence of trust and trustworthiness reduces downside default risks, and in turn lowers the cost of enforcing contracts, e.g. for loans. It is a predictor of economic success (Arrow, 1972), e.g., it improves socio-economic life via better judicial efficiency and less government corruption (La Porta et al., 1997).

Religion can influence trust directly, especially within religious communities, by promoting it via ritual (Iannaccone, 1998; Ruffle and Sosis, 2004). Religion can also influence trust indirectly, via psychological effects. *Social categorization* is the way by which individuals "simplify and systematize the [complicated] world into categories" (p.264, Brown, 2000). Categories facilitate the attribution of certain characteristics (e.g. "trustworthiness") shared by those belonging to a group (e.g. "highly religious people"), i.e., *group stereotyping* (c.f. Fiske, 1998). Orbell et al. (1992) report a widespread belief,

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shared by people of both high or low religiosity alike, that more religious people are more cooperative. Our paper provides an incentive-compatible test of such beliefs, in terms of trust. It further investigates if such beliefs – if they exist – are *legitimate beliefs* in the sense that they derive from aspects of social reality (Brewer and Campbell, 1976; Major, 1994), i.e. trustworthiness indeed increases with religiosity. Beyond discrimination due to stereotypes, categorization can also lead to intergroup rivalry (Tajfel et al., 1971), an issue that we do not focus on.

Existing research has tested the predictive power of questionnaires on economic behavior such as in Berg et al.'s (1995) trust game (e.g., General Social Survey: Glaeser et al., 2000, and; Machiavelianism scale: Gunnthorsdottir et al., 2002), and Dictator and Ultimatum games (Multi-dimensional Religiosity: Tan, 2005). We follow Tan's (2005) procedure, which aims to maintain autonomy between the data collected on a subject's religiosity and economic behavior. For this, the data elicitation process involves two phases. In Phase 1 subjects complete a questionnaire containing randomly ordered religiosity and distractor questions. Two weeks later, in phase 2, they play the trust game, with monetary incentives corresponding to the outcome of their interactions.

We find evidence that more (less) religious individuals are trusted more (less), relative to when the decision is made without information on the potential trustee. The degree to which the amount of trust invested increases with information on the potential trustee's religiosity, further, increases with the truster's religiosity. We also find that trustworthiness increases with religiosity, at an increasing rate. Section 2 discusses the relevant background for this study. Section 3 describes the procedure, and Section 4 presents the results. Section 5 relates our findings with existing research, and concludes.

2. Background

2.1. Religiosity

There is strong evidence for the multi-dimensionality of religiosity (e.g., Stark and Glock, 1968, and; De Jong et al., 1976). The religiosity structure is typically made up of three core dimensions: *belief*, *experience*, and *ritual*. The belief dimension captures the closeness to which an individual's set of beliefs ascribes to the ideological constructs of the religion, namely its theology. It consists of statements (of faith) on the (i) existence of a divine being and its nature; (ii) content and goals of the will of the divine being, and the role of nature and humans in this will, and; (iii) actions required to fulfill this divine will. The ritual dimension measures one's involvement in a variety of religious practices and the relationship between different practices (different individuals weight activities differently and so practice each with different frequencies). The experience dimension measures the extent to which individuals perceive themselves to have had encounters of a religious context (e.g. sense of salvation, sin, and closeness to and fear for the Divine).

In addition, peripheral dimensions such as *religious knowledge*, and attitudes on *social* and *moral consequences* can also reflect religiosity – albeit not central to the definition of religiosity unlike belief, experience, and ritual.[1] We do not consider these three dimensions in our analysis. [2]

2.2. Trust

[1] Consequential dimensions are excluded from the inner structure of religiosity, because other reasons such as political orientation influence it (as argued by De Jong et al. (1976) and Huber (2003)). A data reduction test on questionnaire responses from our sample corroborates on this result.

[2] If opinions on moral and social consequences were correlated with actions in social/moral dilemmas, we get biased when analyzing the relationship between religiosity measures and trusting and trustworthiness.

Trusting behavior and trustworthiness can be measured by attitudinal surveys such as the General Social Survey (GSS). Glaeser et al. (2000), for example, point out that these questions are abstract and vague and may not always serve to capture actual behavior.

An alternative is to rely on experiments with monetary incentives tied to the actions and outcomes of subject behavior. Commonly used to this purpose is Berg et al.'s (1995) trust game, also known as an *investment game*. In this game, *Proposer* (the first mover, i.e., the potential "truster") has to decide how much money to send to *Responder* (the second mover, i.e., the potential "trustee"). For each monetary unit Proposer 1 sends, Responder receives three. Responder then decides how much money to send back to Proposer. Assume, for now, that all players are purely self-interested. By backward induction reasoning, since Responder will keep everything received from Proposer, it pays of for Proposer, who knows that Responder will send nothing "back", to send nothing to Responder in the first place. There is, however, scope for cooperation. Both Proposer and Responder stand to gain if Proposer invests trust in Responder (by sending money), and Responder reciprocates this trust by sending enough money back. Pareto-optimality can be attained only with complete trust.

3. Procedure

The experiment was split into two phases, conducted with a two-week lag separating the two phases, to preserve autonomy between data elicited on religiosity (questionnaire) and trust (experimental). It took place in the European University Viadrina, Germany, in November – December 2004. Forty-eight subjects participated both in phases 1 and 2.

3.1. Phase 1: Religiosity

Questionnaires were distributed via email. Religiosity questions were Judeo-Christian oriented, for suitability with the subject pool. They follow De Jong et al's (1976)[3]: seventeen for religious *belief*, *experience*, and *ritual*, and eleven for religious *knowledge*, *social* and *moral consequences*, which were interpretable as related to the thirty-one *distractors*. Example questions include: for belief "What do you believe about Jesus?" and "Which of the following statements comes closest to expressing your conception of sin?"; for experience "There are particular moments in my life when I feel "close" to the Divine." and "I know what is feels like to repent and experience forgiveness of sin.", and; for ritual "How often do you attend Sabbath worship services?" and "Do you contribute funds to church?". Following Tan (2005), the distractors fall under *economics*, *environmentalism*, *politics*, and *society*, and employ phrasings similar to the religiosity questions; they were designed to prevent subjects from 'seeing through' the experimental objective. All questions were presented in random sequences unique to each respective subject, allowing us to (i) identify subjects; (ii) indirectly control for biasness related to subject fatigue, and; (iii) help check if they were completed in privacy. Subjects responded to categorical and Likert scale multiple-choices. They were instructed to complete the questionnaire unaided, without breaks, in complete alone. Attached instructions promised confidentiality. Responses were anonymously deposited into a sealed box in the experimental laboratory, within three days of receipt.[4]

[3] It serves as a reliable and appropriate measuring instrument of religiosity for our purpose. De Jong et al. derived these questions from other questionnaires. It contains items representative of the core dimensions, and common to standard religiosity questionnaires (e.g. Stark and Glock, 1968; Huber, 2003), yet manageable in size. It is also cross-culturally tested (Germany and USA), for replicability.

[4] Integrity Criteria: i) One distractor question included proposed answers completely irrelevant to the question: subjects not paying attention to, or randomly, answering the questions would possibly answer this

3.2. Phase 2: Trust

Two weeks later, subjects participated in a computerized experiment of an extension of Berg et al.'s (1995) trust game. Each session comprised of two stages: the Proposer stage and the Responder stage. In half the sessions (staggered), subjects played Proposer in stage 1 followed by Responder in stage 2. The other sessions counterbalanced this with respective stages arranged in the reverse order, i.e., a Responder stage followed by a Proposer stage. Every subject played both stages. Besides experimentally controlling for possible order effects by counterbalancing, we also run preliminary statistical tests to check for potential order effects due to letting subjects play in both roles.

Proposer stage. Here subjects play the role of Proposer. This stage comprises of twenty-six rounds. In each round subjects have 10 points (each worth €0.50), of which they must decide to pass or keep. Responder receives 3 points, for each point Proposer passed. In all but one round, Proposer was provided a piece of *information* about Responder, which varied across rounds. Five rounds contained information on Proposer's religiosity level (we labeled this information as *"religious orientation"*, ranging on a scale of 1–5). To facilitate perceptions of relative similarity (with oneself), we presented the subjects with the following statement in the pre-experimental instructions. "*'Religious orientation'* tells you how religiously oriented a person is, on a scale of 1 to 5, where 1 represents a person with weak religious orientation, and 5 represents a person with strong religious orientation." The words "weak" and "strong" defines the polar points and implements meta-contrast for the scale. A Responder with a religious orientation of 1 (5) is therefore the prototypical low (high) religiosity type. We did not provide information on one's own religiosity to avoid inducing framing effects of further intergroup biases such as those found in Tajfel et al. (1971); meta-contrast is thus on a self-assessed basis.

For benchmarking control, we had one round with no information whatsoever (a baseline round). In addition, to avoid subjects from seeing through the experimental veil, i.e., knowing that our experiment was about religion and trust, in the remaining rounds we provided distractor information on categories consistent with those used in Phase 1 (labeled as *"environmental friendliness", "moral emphasis", "political inclination", and "social attitude"*, also ranging on a scale of 1–5). Subjects received each piece of information in different rounds, and in different random sequences for each subject.

Responder stage. Here subjects play the role of Responder. This stage contained one round with ten tasks. We used the strategy method (Selten, 1967). For each number of points Proposer might possibly send to Responder, Responder had to state how much to send (back) to Proposer. This allows us to obtain data on each subject's full strategy set. We do not use the "hot" procedure (where Responder receives feedback on how much Proposer passed) also because Berg et al. (1995) find that more trust begets more reciprocity. In turn, if one is more religious and trusted more because of this, our data on responses to a single given level of trust will be confounded by the situational factor, rather than capturing purely the relationship between one's religiosity and trustworthiness, *ceteris paribus*.[5] Another function of the strategy method is to eliminate confounds from these "self-fulfilling stereotypes" (Snyder, 1981).

Neutral language was used to avoid potential framing effects (e.g. "Participant A" instead of "Proposer" or "Truster", and "Pass" instead of "Invest" or "Return"). Subjects

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question. ii) If we received questionnaires of similar question sequences, there was a high likelihood that it was filled in together with at least one other subject, not in privacy - it was printed off the same unique file.

[5] A natural extension is to provide information of Proposer's religiosity. We did not do this because it: 1) requires the addition of 250 more tasks per subject resulting in bias from fatigue; 2) confounds decisions in the Proposer stage with intended reciprocity related to intergroup bias, beyond that due to stereotyping.

were randomly seated upon arrival at the laboratory. Partitioned terminals prevented communication. After reading an instruction sheet, subjects answered a control questionnaire to ensure that the tasks were understood. Subjects with incorrect answers were individually and verbally advised before being allowed to begin. No feedback on outcomes was provided during the experiment to maintain independence across decisions. Subjects were paid €8 for phase 1 (questionnaire). Experimental earnings depended on the outcome from one randomly chosen round from either stage one or two and random pair-wise matching with another subject with the information relevant in that round. Each point earned in phase 2 was worth €0.50. There was no show-up fee. All payments (averaging €17≈US$24, for 1–1.5 hours of work) were privately collected a week later, from a third party not directly involved with the experiment.

4. Results

4.1. Religiosity

Our measures of religiosity are based on the structural definitions of religiosity. We performed factor analysis with and without oblique (varimax) rotation.[6] The unrotated Principal Components Analysis (PCA) yields a solution of three factors (explaining for 68.5% of the total variance). Communalities on *all* variables are high except for one item (0.41). In the unrotated structure, most variables load strongly (ranging from 0.46–0.92) and uniquely on the first factor, which we interpret as *general religiosity*. Rotation reveals a clearer classification of variables; all variables remain powerfully loaded on at least one factor. Most items load under the theoretically expected factors, which can be interpreted as *belief*, *experience*, and *ritual*; this agrees with De Jong et al.'s (1976) multi-dimensional structure, and provides us with an interpretation in line with those found in other studies (c.f. Stark and Glock, 1968; Tan, 2005).[7] Measures (factor scores) for each subject's general religiosity (*GENRELI*), belief (*BELIEF*), experience (*EXPERIENCE*), and ritual (*RITUAL*) are computed for use in the analysis below. [8]

4.2. Religiosity and Confounds

First, we checked if there were any order effects due to subjects playing in both roles of the trust game. We find no evidence of such order effects. The amount of money passed in the Proposer and Responder stages are not significantly different when played in either order. Further note that the pooled sample takes advantage of counterbalancing as an experimental control.

Next, we turn to check for possible confounds of gender *on religiosity*. Our sample contained 29 (60.4%) females, and 19 (39.6%) males. Considering Croson and Buchan's (1999) finding that gender and behavior in the trust game are related, we first check if there are gender-religiosity interactions. If such interactions exist, one would have to control for them. Using Mann-Whitney U-tests, we find no significant gender differences in religiosity, both in terms of general religiosity, and each of the three multi-dimensional

[6] Preliminary tests confirm our sample's suitability of for factor analysis. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy is 0.87, while Bartlett's Test of Sphericity has $p<0.0001$. All subject cases satisfied the Integrity Criteria (see note 4). We adopt Kaiser's eigenvalue of 1.00 as a minimum threshold.

[7] The belief items regarding "afterlife" and "immortality" load stronger on the second dimension, and so this dimension can be alternatively interpreted as a "spirituality" dimension. The ritual item of "church membership", the experience items of "forgiveness" and "being a sinner" load stronger on the belief dimension. These overlaps reflect the strong links of concepts underlying the Judeo-Christian institution.

[8] Factor scores provide a measure of religiosity for each subject, along each corresponding dimension. They are standardized *z*-scores, weighted on corresponding factor loadings, and suitable for regression purposes.

measures. The following analyses are therefore performed with controls for confounds of possible gender effects on behavior, without controls for gender-religiosity interactions.[9]

4.3. Religiosity and Trusting

Table 1 shows the mean amount passed by Proposer, for each corresponding level of religiosity for Responder (*RELI*), and the baseline without information. The mean pass increases (decreases) by 0.2 to 0.5 points per *RELI* more (less) from the midpoint of *RELI* (3.5, and equal to the baseline mean pass). Spearman's correlation coefficient for *PASSPROP* (proportion of initial wealth sent by Proposer) and *RELI* is 0.15 (p=0.01).

<Insert Table 1 about here.>

This result is robust when we regress *PASSPROP* on *RELI* (Responder's "religious orientation", ranging from 1 to 5), even when we control for confounds from gender (*GENDER*=0 for females, and =1 for males) and Proposer's own religiosity (*GENRELI*) – the uni-dimensional religiosity model.[10] Table 2 reports these results in models 1, 2, and 3. Note that the low adjusted R^2 values are typical of such studies (e.g. Glaeser et al., 2000). We find no gender effect on *PASSPROP*, replicating Croson and Buchan's result. *GENRELI* has a negative effect on *PASS*, but this effect tends on the borderline of significance. The coefficient for *RELI* is positive and significant.

<Insert Table 2 about here.>

Next, we consider the effect of Proposer's religiosity on a multi-dimensional basis in models 4 and 5. In the multi-dimensional religiosity models, we replace *GENRELI* with the measures for each of the three dimensions of religiosity, namely, *BELIEF*, *RITUAL*, and *EXPERIENCE*. The coefficient for *BELIEF* is negative but only marginally significant. The result of the significantly positive *RELI* coefficient continues to hold.

RESULT 1: *Trust, as invested by a Proposer, increases with a Responder's religiosity*.

Does religiosity have higher order effects? By considering the interactions between *RELI* and each religiosity measure, we test if Proposer's own religiosity influences the degree to which *RELI* is a determinant of trust. Referring once again to Table 2, we find that the *RELI*×*GENRELI* term is positive: the *degree* to which *PASSPROP* increases with *RELI* (Responder's religiosity) increases with Proposer's own religiosity *GENRELI*. The multi-dimensional model shows that this 2nd-order effect is due to *BELIEF*.

RESULT 2: *The degree to which trust increases with a Responder's religiosity, in turn, increases with the Proposer's own religiosity*.

We further investigate this effect from a "group" perspective, to check if result 3 entails favoritism, discrimination, or both. For this the sample is ordinally-split on the median of *GENRELI* into two equal-sized sub-samples: a "high religiosity" group (HRG), and a "low religiosity" group (LRG). Others such as Gunnthorsdottir et al. (2002) and Meier-Pesti and Kirchler (2003) have employed similar methods, i.e., dichotomizing samples, to analyze and compare group behavior and processes. Separate regression analyses, with *MALE* and *RELI* as independent variables on each sub-sample, show that Proposers who are relatively more religious explain chiefly for the significance of the

[9] Our results below are robust to the addition of the gender-religiosity interaction term to the regressions.

[10] The advantage over using factor scores in regression analyses over alternatives such as comparison of mean behaviour of cluster groups is that memberships are defined by the degrees, not directions, of similarity in (multivariate) scores between subject cases. Another benefit is the ability to statistically control for confounding effects such as gender.

RELI coefficient (see models 1a and 1b in Table 2). Friedman's tests confirm that there is no significant difference for *PASSPROP* for each *RELI* in the LRG (χ^2=3.14, p=0.54), while those in the HRG assign significantly different levels of *PASSPROP* to different levels of *RELI* (χ^2=23.25, p=0.0001). Figure 1 paints a similar picture, where *DPASSPROP* (the *difference* between *PASSPROP* given *RELI*, and *PASS* in the baseline with no information) monotonically increases from –0.12 to 0.10 and this pattern is pronounced for the HRG, but not so for the LRG.

<Insert Figure 1 about here.>

RESULT 3: *Proposers of high religiosity trust Responders of high (low) religiosity more (less); for Proposers of low religiosity there is no significant effect*.

DPASSPROP>0 (<0) can also be interpreted as favoritism (discrimination).[11] To test the alternative hypothesis of pure intergroup bias (as opposed to just stereotyping), we tested for relationships between dummy variables *DISC* (=1 if *DPASSPROP*<0, outgroup discrimination) and/or *FAV* (=1 if *DPASSPROP*>0, ingroup favoritism), or *DPASSPROP*, with meta-contrast *SOCDIST* (social distance from self to other), but found no evidence of pure ingroup favoritism or outgroup discrimination, except for subjects of *RELI* = 5 for which pure intergroup bias behavior necessarily coincides with stereotyping behavior.

4.4. Religiosity and Trustworthiness

Table 3 shows the mean proportion of wealth returned by Responder (*RETPROP*) for each possible pass. Both *RETURN* and *RETPROP* increases with the potential amount passed by Proposer (*PASSED*).

<Insert Table 3 about here.>

Table 4 reports the relationship between religiosity and trustworthiness, where we regress *RETPROP* (the proportion of the amount returned by Responder, of that received from Proposer) on *GENRELI* (models 1 and 2 for the uni-dimensional model), and separately, the three dimensional measures of religiosity (model 4, for the multi-dimensional religiosity model). In addition, we control for *GENDER* and *PASSED*.

<Insert Table 4 about here.>

We find that *RETPROP* decreases with *GENDER* (females return more) and *PASSED*. Once again, this replicates Croson and Buchan's result. Turning to the question of religiosity, the uni-dimensional religiosity model shows that *GENRELI* has a positive and significant effect on *RETPROP*. The multi-dimensional religiosity model shows that this positive effect is attributable to *RITUAL* and perhaps *EXPERIENCE*.

RESULT 4: *A Responder's trustworthiness increases with religiosity*.

Let us now consider higher order effects: does the rate at which a Responder reciprocates increasing levels of trust co-vary with religiosity? Table 4 reports regressions with the addition of interaction terms between *PASSED* and religiosity. Model 3 finds the interaction term *PASSED*×*GENRELI* as positive and significant. The multi-dimensional religiosity model (model 5) indicates that this effect is due to *RITUAL*.[12]

RESULT 5: *The rate at which a Responder reciprocates increasing levels of trust increases with religiosity*.

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[11] Zizzo (2003) defines "favoritism" and "discrimination" as deviations from behavior in the baseline.

[12] It is clear that *RITUAL* has an effect, but the influence of *EXPERIENCE* does not receive unequivocal support (comparing models 4 and 5).

5. Discussion and Conclusion

Like Berg et al. (1995) and its many replications, we find that (more) trust begets (more) reciprocity. Also, our results replicate Croson and Buchan's (1999) findings of gender effects. We found no gender differences for Proposer, but female Responders were found to be trustworthier, returning more of what they had received.

We found that overall, the amount of trust a Proposer invests in a Responder increases with the Responder's religiosity. Religiosity is effectively used as a category to guide decision-making – but not by everyone. The degree to which a Proposer relies on information on a Responder's religiosity depends on the Proposer's own religiosity.

Bruner (1957) explains that the likelihood of using certain social categories increases with the degree to which one has "access" to it, i.e., "what a person brings to the situation […] contributes to the ease or difficulty with which categories are assessed" (p.273, Brown, 2000). Accessibility can be affected by a perceiver's experience, personal disposition – which affects their habit of using certain categories, and the current task or goal of the decision-maker, in relations to the category (Brown, 2000). The use of religiosity as a category was *perhaps* more accessible for those who are more religious. The underlying assumption of this argument rests on the likelihood that more religious people interact with others of high religiosity more frequently, while at the same time religion is a more central concept in their lives, and so the category of religiosity is more salient to them. In turn, those who are more religious and perceived the stereotype (that trustworthiness increases with religiosity) as a legitimate belief deemed it useful for decision-making.

Proposers of high religiosity invested more trust in those of high religiosity, and less in those of low religiosity, while those of low religiosity displayed no systematic nor significant evidence of discrimination. For this, we make no claim that pure intergroup biases (such as those found in Sherif et al., 1961, and Tajfel et al., 1971) cannot explain this observation. Our results, however, appear to point favorably towards the stereotyping hypothesis. Further note that since subjects were not told their own religiosity, the pure intergroup bias story appears somewhat far-fetched, due to the weak or abstract perceived entitativity (Campbell, 1958) our experimental design implements.

For Responders, trustworthiness increases with religiosity. Further, the rate at which a Responder reciprocates increasing levels of trust increases with religiosity, and this effect is due to the dimensions of ritual (see Iannaccone, 1998, Lipford et al., 1993, and Ruffle and Sosis, 2004, where religious ritual promotes pro-social behavior) and experience (Tan, 2005, shows that the (spiritual) experience dimension is positively correlated with rejection of low offers in the UG, the dark side of reciprocity). Thus, the Proposer behavior we observed is possibly explained by the fact that the stereotype is a "legitimate belief": Responders of higher religiosity indeed respond to the trust invested in them.

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Tables and Figures

Table 1 Mean pass for Proposer

RELI	1	2	3	4	5	Baseline
PASS	2.85	3.04	3.46	3.94	4.19	3.51

Table 2 Pass ratio of Proposer*

Model	1		1a		1b		2		3		4		5	
MALE	0.02		-0.03		0.07		0.01		0.01		0.02		0.02	
RELI	0.16	***	0.06		0.26	***	0.16	***	0.16	***	0.16	***	0.16	***
GENRELI							0.04		-0.21					
GENRELI by RELI									0.28	**				
BELIEF											0.11	**	-0.23	*
EXPERIENCE											-0.03		0.06	
RITUAL											-0.03		-0.19	
BELIEF by RELI													0.38	***
EXPERIENCE by RELI													-0.10	
RITUAL by RELI													0.18	
Adjusted R^2	0.02		-0.01		0.06		0.01		0.02		0.02		0.04	

* Standardized beta's reported since religiosity measures are z-scores. *N*=240 for each model. *(**)[***] denotes 1-tailed p < 0.1(0.05)[0.01].

Table 3 Mean return ratio of Responder

PASSED	1	2	3	4	5	6	7	8	9	10
RETPROPN	0.13	0.13	0.15	0.17	0.19	0.20	0.22	0.22	0.24	0.24

Table 4 Return ratio of Responder*

Model	1		2		3		4		5	
MALE	-0.20	***	-0.20	***	-0.20	***	-0.20	***	-0.20	***
PASSED	0.23	***	0.23	***	0.23	***	0.23	***	0.23	***
GENRELI			0.13	***	-0.04					
GENRELI by PASSED					0.20	**				
BELIEF							0.00		-0.12	*
EXPERIENCE							0.14	***	0.11	
RITUAL							0.10	***	-0.06	
BELIEF by PASSED									0.14	*
EXPERIENCE by PASSED									0.03	
RITUAL by PASSED									0.18	**
Adjusted R^2	0.09		0.10		0.11		0.11		0.12	

* Standardized beta's reported since religiosity measures are z-scores. *N*=480 for each model. *(**)[***] denotes 1-tailed p < 0.1(0.05)[0.01].

Figure 1 Mean pass ratio deviations from the baseline