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Social Trust in the Middle East and North Africa: The Context-Dependent Impact of Citizens' Socio-Economic and Religious Characteristics

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Abstract

Our knowledge of social and political trust's drivers in the MENA region is limited and there are good reasons to expect that Western-based theories cannot be copied to the MENA one-to-one. Arguing for a broader and at the same time context-sensitive comparative approach, I translate the 'societal winners', social capital, and religious beliefs mechanisms explaining trust to the MENA context. Moreover, I acknowledge the region's diversity and hypothesize intra-region context-dependency. Empirically, I synchronize 47 surveys from 15 MENA countries, which provides the broadest and most systematic assessment of trust in the MENA to date. The results show that the societal-winner mechanism does not hold: employed and wealthier citizens are not more trusting, politically or socially. However, higher-educated citizens *dis*trust political institutions and other citizens more, particularly in the strongest autocracies. Religiosity seems pivotal too. Among others, service-attending citizens are more trusting, but not in religiously fractionalized countries. In sum, this study provides new insight into what shapes social and political trust in the Middle East and North Africa and it underscores that at a comparative level we need to consider inter-regional and intra-regional forms of context-dependency were we to formulate a broadly applicable theoretical framework of trust's drivers.

Introduction

'Trust is a puzzling concept: its individual origins are largely unexplained', Newton (2009: p. 358) wrote. He was specifically referring to trust levels in European and North American democracies, but his claim is even more appropriate for the Middle East and North Africa (MENA). While the literature on civic attitudes in the MENA has been growing since the late 1990s, work on the micro-level *explanations* of social trust in this region is largely absent (cf. Moaddel and Azadarmaki, 2002;

Jamal, 2007a). This is all the more surprising given scholars' claims about, for instance, its role in authoritarian legitimacy and democratization (Jamal, 2007a), and about social trust's supposedly positive impact on well-being (Helliwell, Huang and Wang, 2018) and economic growth (Bjørnskov, 2018). Against this background, this study will theorize the impact of privilege, social capital, and religiosity, and test the influence of the socio-economic and religious factors derived from these characteristics on generalized trust in the MENA context.

If we want to theorize the impact of the contextual setting and understand how disposition- and experience-based mechanisms of privilege, social capital and religiosity connect socio-economic and religious factors on the one hand and generalized trust on the other, I argue that we need to take into account the MENA's religious and political setting, as the existing theories often take for granted the setting of most West-European countries (cf. Jamal, 2007a,b; Spierings, 2019). For instance, I expect that in paternalistic authoritarian regimes there is a negative relationship between education and social trust (cf. Whiteley, 1999; Paxton, 2007; Newton, 2009; Hakhverdian and Mayne, 2012).

Though theorizing context-dependency helps to build a more general theory applicable across the board, it should make sure to cover both interregional and intraregional differences. A few Western-based studies have already shown that the effect sizes of explanatory factors differ by context (Traunmüller, 2010; Laurence, 2011; Zmerli and Hooghe, 2011; Hakhverdian and Mayne, 2012), and previous MENA studies also show intraregional differences in the levels of trust (e.g. Jamal, 2007a; Spierings, 2017). Still, knowledge on how contextual factors moderate the impact of socio-economic and religious factors is scarce. I therefore theorize the existing intraregional differences. For instance, while the Muslim predominance in the MENA suggests a positive relationship between religious attendance and trust, I expect a weakening of trust in the more religiously heterogeneous MENA countries (cf. Bègue, 2002; Delhey and Newton, 2003; Wisneski, Lytle and Skitka, 2009; Traunmüller, 2010).

Empirically, multilevel cross-sectional models are applied to test the relationship between different explanatory factors and generalized trust. Here, 52 MENA Arab Barometer (AB) and World Value Surveys (WVS) datasets (2001–2014) are uniquely combined and synchronized. In doing so, this study is one of the first to present systematic analyses of the impact of socio-economic and religious factors on social trust across the MENA region (cf. Moaddel and Azadarmaki, 2002; Jamal, 2007a; Spierings, 2017), and with a comparable approach to that taken in the lion's share of the generalized trust literature.

Theoretical Background

Social Trust

Trust is a multidimensional concept (see Uslaner, 2012; Bauer and Freitag, 2018). The dominant sociological conceptualization of social trust understands it as a person's disposition or general belief that other people—

regardless of who they are—are willing to behave in ways that are not detrimental to the first person (e.g. Newton, 2001: p. 203; Uslaner, 2002: p. 21; Bauer and Freitag, 2018: pp. 15–16; Uslaner, 2018: pp. 3–4). It thus differs from particularized trust—the trust in the people one is close to—(see Freitag and Traunmüller, 2009; Bauer and Freitag, 2018; Uslaner, 2018), which is less relevant to well-being, social cohesion, and economic growth, and is sometimes even talked about as the 'dark side' of social capital (e.g. Portes and Landolt, 1996). Moreover, a focus on generalized social trust aligns with the core conceptualization of much of the literature to which this study speaks (e.g. Jamal, 2007a; Uslaner, 2018). This is evidently not to say that further theorization on different forms of trust and how their antecedents differ is not worthwhile, but that it is a matter of choice and scope. In the conclusion I will return to this issue; below the focus is on generalized social trust.

Explaining Social Trust in the MENA Region

The literature on social trust is often divided in focussing on two main causes: (I) trust resulting from current experiences with society at large and people's direct environment and (II) trust being learned through early-life socialization which leads to a general disposition (see Freitag and Traunmüller, 2009; Newton, 2009; Bauer, 2014; Dinesen and Bekkers, 2017; Newton, Stolle and Zmerli, 2018; Uslaner, 2018). In relation to the first cause, the following mechanisms can be deduced: (i) people with more privilege (e.g. higher education and employment) and (ii) people with more social capital are more trusting. Since the second cause relies more on the notion of general dispositions, it has been argued that (iii) social trust is the result of holding certain religious beliefs. Below, these mechanisms are translated to theorize the impact of specific factors in the MENA region. This first requires a short outline of this MENA context and the role of social trust therein.

To understand social trust in the Arab MENA, it needs to be noted that the region is characterized by varying but persistent authoritarian regimes—with the exception of post-uprising Tunisia and arguably Lebanon. This is relevant, as Jamal (2007a,b) convincingly argued that these authoritarian regimes, realizing that different forms of trust are related and social trust might spill over to political trust, wish to create high levels of generalized trust as that is considered a legitimization of the regime (see also Newton, Stolle and Zmerli, 2018; cf. Spierings, 2017). Congruently, MENA regimes—reflecting the privilege mechanism—try to increase social trust via paternalistic policies (Jamal,

2007b), while at the same time high levels of corruption and repression generally undermine trust (Newton, Stolle and Zmerli, 2018). Unsurprisingly, generalized trust is relatively low across the region, and—reflecting the regimes' considerations—it even seems that low trust feeds into democratization, as was illustrated by declining generalized trust before the uprisings (Jamal, 2007a; Spierings, 2017). Moreover, although the region consists solely of Muslim-majority countries, with close to all citizens considering themselves religious (Glas, Spierings and Scheepers, 2018), the religious and ethnic homogeneity does vary by country. Some are not only fractionalized but also have seen violent conflict along ethno-religious lines, while others are rather homogenous and have seen little religious conflict, although their governments might suppress politicized religion (Owen, 2003; Jamal, 2007b; Szmolka, 2017; Spierings, 2019).

It is against this backdrop that I will theorize the (interregion and intraregion) context-dependency of the three core mechanisms influencing generalized trust discussed above.

Privilege: Socio-Economic Factors

When it comes to the privilege mechanism, whether or not people feel they have succeeded in life is crucial. Society's 'winners' thus are expected to have higher levels of general trust because they have more positive first-hand experiences with the world around them. In other words, 'it is true that trust seems to be a privilege of the rich, successful, and educated' (Newton, 2009: p. 357; see also Whiteley, 1999; Jamal, 2007a; Paxton, 2007; Newton, Stolle and Zmerli, 2018). It is reasonable to expect this general mechanism to hold in the MENA for the rich and employed, yet it does not hold for the higher educated (see Moaddel and Azadarmaki, 2002; Jamal, 2007a).

In the kind of authoritarian patronage systems present in the MENA, higher-educated people are not the most privileged, but the most critical of the regime. Scholars have explained this by noting that education feeds into a need for self-expression and freedom, developing cognitive skills and a more critical mindset that making the higher educated better equipped to identify the acts of an a-democratic regime and also more likely to judge these negatively (Inglehart, 1997: pp. 51–66; Hakhverdian and Mayne, 2012). Aware of this dynamic, the regimes tend to keep the most critical citizens outside their patronage networks of protection and security (Jamal, 2007b).

As argued before, citizens' political assessments are said to feed into social trust (see Jamal, 2007a; Newton,

Stolle and Zmerli, 2018), and the MENA authoritarian regimes' self-protection strategies are likely to reinforce this. In managing public attitudes, they tend to utilize a large secret service with eyes and ears everywhere (see Schlumberger, 2007; Bellin, 2012). This mainly targets, and is noticed by, the more critical citizens (i.e. the higher educated: journalists, academics, civil society leaders), among whom such strategies instil a constant fear of being betrayed by common people in the streets (Ross, 2001; Owen, 2003). Syrian activist Yazbek (2013: p. 82) succinctly captured this omnipresence of the regime: 'Security forces are everywhere. Street-sweepers and doormen are use as informants by the regime'.[1] In short, this means that it can be expected that, across the MENA in general and under its most authoritarian regimes in particular, the higher educated are most likely to be distrustful of the general other.

To summarize:

H1: Employed citizens have higher social trust than unemployed citizens. (direct effect)

H2: The higher educated citizens are, the lower their social trust. (direct effect)

H3: The more authoritarian a regime is, the stronger the negative relationship between education levels and social trust. (cross-level interaction effect)

From Social Capital to Religious Service Attendance

The second mechanism, social capital, involves people's positive experiences of being integrated and active in voluntary organizations, which is expected to facilitate reciprocal relationships and understanding, consequently teaching trust (e.g. Putnam, 2000; Paxton and Ressler, 2018). However, empirical results strongly suggest that 'voluntary associations do not seem to matter' (Uslaner, 1999, 2018; Hooghe, 2003; Newton, 2009: p. 357), at least not when it comes to most types of organizations and contexts (Newton, Stolle and Zmerli, 2018; Paxton and Ressler, 2018).

In the MENA context, however, attending communal services might be an activity that does affect people's social capital, leading more to integration and bridging (see Welch *et al.*, 2004; Traunmüller, 2010; Newton, Stolle and Zmerli, 2018). At its core, religious attendance is defined by religious group membership and, following social-identity theory, such membership makes people attach positive attributes to other members of the in-group, which here includes people from other economic strata, ethnicities, or tribes (Tajfel and Turner,

1979; Taylor and Moghaddam, 1994; Dinesen and Sønderskov, 2018). Communal service attendance reifies membership and facilitates contact with people with whom one might only have a religion in common (Dinesen and Sønderskov, 2018). In general, attendance can thus be expected to lead to more trust, as it bridges across economic and other cleavages. This is particularly true in the MENA, where religious attendance is a social custom connecting social strata (see Gonzalez, 2011).

However, the MENA context is also one of religious conflict and instrumentalized religion. The literature shows that ethno-religious diversity not incidentally decreases social trust (Dinesen and Sønderskov, 2018), and particularly when such diversity or fractionalization is present religious identities can be expected to be more dominant, in which case attendance mainly deepens religious in-group ties (bonding), feeding into particularized instead of generalized trust; the 'dark side' of social capital (Portes and Landolt, 1996; Putnam, 2000; Uslaner, 2018).

Additionally, Jamal's argument and findings on the role of the patronage system should be considered as well. The combination of patronage and a tradition of controlling civil society suggest that regimes can instrumentalize attendance to instil people with the generalized trust regimes seek (Jamal, 2007a,b). Translating this to the MENA's generally low levels of trust and the region's varieties of authoritarianism when it comes state-religion relationships (Spierings, 2019), the positive linkage between attendance and social trust can be expected to be particularly present where regimes regulate religious affairs.

Summarizing:

H4: The more citizens attend religious services, the higher their social trust. (direct effect)

H5: The more religiously fractionalized a country is, the weaker the positive relationship between religious attendance and social trust. (cross-level interaction effect)

H6: The positive relationship between religious attendance and social trust is strongest under regimes that regulate religious affairs. (cross-level interaction effect)

Regarding attendance, it should be noted that its prevalence and meaning is known to differ for men and women. Theorizing this in detail is beyond the scope of this study, but based on existing work it could be expected that attendance's linkage to trust might differ considerably and should be assessed separately for men and women (e.g. Katz, 2014; Glas, Spierings and Scheepers, 2018).

Cultural Socialization: Religious Beliefs

The notion of early-life socialization translates to trust as a general disposition which is partly a cultural phenomenon linked to religious beliefs. Although few effects are found for religious beliefs in the literature on Western countries—which mainly treats religion as a social-capital indicator (see Delhey and Newton, 2003; Newton, 2009; Wilkes and Wu, 2018), being socialized into a religion (particularly orthodox strands) has still been repeatedly argued to create symbolic boundaries between the group of the self and the outside world (e.g. Portes and Landolt, 1996; Uslaner, 2002; Welch *et al.*, 2004; Tan and Vogel, 2008).

In the predominantly religious and Muslim MENA region, whether one is more religious—regardless of attendance—likely indicates the degree to which people are socialized in trusting their fellow believers. This positive connection might not be self-evident, but Tan and Vogel's (2008) experiment supports it: more religious people are more trusting of others, as long as the others are also religious (regardless of denomination). Similarly, Wilkes and Wu (2018) list several studies showing that (more religious) Muslims in Western Europe are more trusting than non-Muslim natives. In the more fractionalized MENA countries, however, as I argued above with regards to attendance, this linkage between religious belonging and *generalized* trust seems less likely to go beyond the in-group.

When it comes to *orthodox* beliefs, the literature's focus shifts to being socialized in particular beliefs that rely on scripture. Most prominently, Bègue (2002) and Wisneski, Lytle, and Skitka (2009) find positive correlations between the importance someone attaches to scripture and social trust. Scriptural literalists accept the authority of God over one's own judgement and believe that God created a just world. Scholars argue this translates to trusting one's social environment.

In sum:

H7: The more citizens identify themselves as belonging to a religion, the higher their social trust. (direct effect)

H8: The more religiously fractionalized a country is, the weaker the positive relationship between religious belonging and social trust. (cross-level interaction effect)

H9: The more religiously orthodox (i.e. scriptural literalist) citizens are, the higher their social trust. (direct effect)

Data and Method

Methods and Data[2]

In testing the theorized relationships, I will follow the field's predominant approach: survey-based regression

analyses. This is possible utilizing existing MENA data, allowing me to test the context-dependency hypotheses and enabling maximum comparability to the main literature. The extent to which the results indicate causal relationships is subject to interpretation, depending for instance on the assessment of confounding and selection effects (see e.g. Gangl, 2010; Winship and Sobel, 2010; Keele, 2015).

I combined all applicable World Value Surveys (WVS, 1981–2014) and Arab Barometer surveys (AB, 2006–2014) collected between 2001 and 2014 and representing 15 MENA countries: Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Palestine, Saudi Arabia, Sudan, Tunisia, and Yemen. Of these, 47 surveys have at least one valid item for each of the core theoretical concepts (see Appendix A1) and are by approximation nationally representative. If provided, individual-level weights are applied.

I use multilevel models to estimate the overall relationships across the region. Including different combinations of independent variables helps to assess the robustness of these relationships. First, I will present the results of the analyses with one core independent variable at a time (controlled for age and sex—Column 1 in the results table). Next, all variables are included simultaneously (Model 2). The full model is also estimated, including alternate operationalizations (Model 3). The substantive significance of relationships is based on the sample-mean probability approach (see Mood, 2010).

The intraregional context-dependency is estimated by including cross-level interaction terms (Model 4), with the countryyears as second level.[3] However, 'only' 13 countries and 42 countryyears are included at the context level. Under these circumstances, large effects in one country can influence the results of an interaction effect quite strongly (see Spierings, 2016), so I also present the results of the micro-level relationships per countryyear (Appendix B). This helps scrutinize the results in terms of outliers and potential other explanations, and Appendix C presents a model with additional macro-level controls. Regarding the cross-level interaction estimates, Model 4 includes all four interaction effects simultaneously; they have also been estimated separately, showing hardly changed B-coefficients and the *P*-values do not cross common thresholds. Only the interaction of attendance with fractionalization turns significant at $P < 0.05$ (but if the second attendance interaction is included $P = 0.081$).[4]

Measuring Social Trust

The main discussion regarding measuring *generalized* trust revolves around whether to use a dichotomous item, a multi-value item, or a multi-item scale (Ermisch and Gambetta, 2010; Bauer and Freitag, 2018; Uslaner, 2012, 2018). The only provided measurement across AB and WVS data is the dichotomous item, which has convincingly been argued to succinctly or even best measure 'a moral trust in people we don't know' (Uslaner, 2012: p. 104; Uslaner, 2018: p. 8; cf. Bauer and Freitag, 2018: p. 22). Concretely, the respondent indicates whether most people can be trusted (1) or that one cannot be too careful in dealing with people (0). As this item is dichotomous, logistic regression models are estimated. For descriptive data on the social-trust (and all other microlevel) variable(s), see Appendix A2.

In the surveys synchronized for this study, however, 12 also provide a multi-value item related to social trust: most people try to take advantage of you [0—'most would take advantage' through 9—'most people try to be fair']. The low number of surveys does not allow me to test the context-dependency hypotheses (H3, H5, H6, and H8), but I will use this item for an additional robustness test of the direct effects (see Appendix C). In the results section, I refer to these results where relevant.

Individual-Level Explanatory Variables

For both the AB and WVS, *employment status* could be recoded to provide the following categories: employed; retired; housewife; student; and unemployed (including 'not employed other'). I focus on difference between the employed and unemployed. *Education* was standardized in four groups: no education, completed primary education, completed secondary education, or at least some tertiary education. I also included *household income* to tap into privilege, but did not include it in the main models, as >10 per cent of the respondents had no valid response (and non-respondents had lower trust levels). In Model 3, it is included as a within-survey *z*-score based on 10 category variables for each survey. This model furthermore includes education as a linear variable and age in years (thus dropping one survey).

Operationalizing religious-service attendance, religious belonging, and orthodoxy in a comparable way across surveys was somewhat more challenging. Because not all surveys include the same items for these theoretical concepts, I synchronized the data by creating standardized scores for each survey (z-scores), taking the average if more items were present. This makes comparable measures available, and the countryyear-disaggregated models (Appendix B) indicate that the results are not systematically biased by the presence of specific items.

Attendance of communal services is measured by (i) how regularly a respondent attends Friday prayer (or

Sunday service) or (ii) whether the respondent prays in church or mosque and how often (higher means attending more often). The degree to which a person feels religious—*religious belonging*—is measured by at least one of three items: To what extent do you consider yourself as religious (not, somewhat, religious); Are you a religious person? (no, including atheists; yes); How important is religion in your life? (0–3). For the surveys including multiple items, factor analyses show they load on one dimension. *Orthodoxy* is operationalized by focussing on people's stance towards a set of *haram* (forbidden) acts: suicide, alcohol, euthanasia, charging interest, divorce, and participation in a lottery. The final variable is based on within-survey *z*-scores; a higher score indicates more doctrinal orthodoxy. Alternate operationalizations were not available across surveys. The closest often-included alternative is to what extent people agree with the statement that 'only laws of the Sharia should be implemented'. Empirically, this item is not available for eight countryyears; conceptually, the haram items refer to one own's behaviour, whereas the Sharia items refer to restricting that of others. The Sharia item might therefore tap into some form of Islamism as well as scriptural literalism, which needs to be taken into account when interpreting the robustness test (Appendix C).

Age and sex are included as control variables. *Age* is included in seven categories (0–6), as one survey does not include exact years. *Sex* was included as dummy variable.

Context-Level Variables

To test the cross-level interaction hypotheses, I include the country's level of authoritarianism (H3), to what extent religious cleavages exist (H5, H8), and whether the regime regulates religious affairs strictly (H6)—final scores are given in Appendix A3.

For the level of autocracy, I use the *autocracy-democracy* score ('Polity') from the Polity IV data (Polity IV, 2017; see Marshall, Jaggers and Gurr, 2002). These data indicate a country's position on a spectrum ranging from the selection of political leaders being constrained, closed, and uncompetitive and participation regulated and uncompetitive (full autocracy: −10) to an unconstrained, competitive, open selection process with competitive political participation (full democracy: +10). Evidently this does not fully capture whether the secret service has eyes on every street corner, but the scores are congruent with what is known from in-depth cases studies (e.g. Owen, 2003). Also, Polity IV fits better here than Freedom House, which does return similar results, because the latter includes many informal aspects which are not part of the concept of authoritarianism as

discussed in the theoretical section. The few missing data points have been added based on interpolation and supplementary information: for Iraq 2004 and 2006, I interpolated the scores linearly from before to after the occupation; for Yemen 2014, the 2013 score is taken; and for Palestine I used the Polity IV coding scheme, country reports and general information, scoring it 3 up until 2006 and −3 as of 2007, when political parties took control of balancing bodies and the end of Abbas' term was not respected.[5]

The existence of religious cleavages is measured by the standard operationalization of *religious fractionalization* provided by Alesina *et al.* (2003) at the country level. This fractionalization measurement indicates whether there are many different religious groups in a country, something which is fairly time invariant (certainly over 14 years). Countries with several large, equally sized groups particularly score high (e.g. Bahrain, Iraq, Lebanon), which fits the theory, as in those cases the chance increases that the dark side of social capital is activated.

The *regulation of religious affairs* is derived from the Global Restrictions on Religion Data (GRRD [ARDA, 2017]), which includes whether the government has such a regulating body. If it does, and this body uses strict and coercive regulation, I code the regulation as 1, otherwise as 0. Since no data were available for 2014 and the few years before 2007, in those cases I use the score of the closest year.

Given the limited number of context-level observations, the main models only include the core macro-level variables; the differences in trust between countryyears are captured by modelling the random intercept. In a robustness model (Appendix C), I additionally control for two depressors of trust: the level of corruption (Transparency International, 2019; see Hakhverdian and Mayne, 2012) and the society-level illiteracy based on the survey aggregates; including them does not lead to substantively different results.

Results

Social Trust in the MENA

As has been observed before (e.g. Fish, 2002: p. 18; Spierings, 2017: p. 11), generalized trust is not particularly high in most MENA countries: on average 27 per cent of the respondents reply that most people can be trusted; 73 per cent that one cannot be too careful. Country averages of saying most people can be trusted range between 15 per cent (Lebanon) and 41 per cent (Kuwait). Clearly, the inclination is towards distrust, as

Table 1. Multilevel logistic regression models of social trust

	Column 1: 'Bivariate' models[a]	Model 2: all variables included	Model 3: Robustness test of Model 2	Model 4: Cross-level interaction model
Individual-level variables	Logged odds	Logged odds	Logged odds	Logged odds
Employment				
Employed	Ref.			
Unemployed	−0.003	−0.030	−0.044	−0.030
Retired	−0.047	−0.035	−0.050	−0.047
Housewife	0.073*	0.025	0.010	0.020
Student	0.041	0.028	0.040	0.019
Education				
No education	Ref.			
Primary completed	−0.129***	−0.141***		
Secondary completed	−0.233***	−0.247***		
At least some tertiary	−0.246***	−0.253***		
Education (0–3)			−0.094***	−0.075***
Education * democracy				0.007**
Attendance	0.032**	0.024*	0.026*	−0.001
Attendance * fractionalization				−0.056
Attendance * regulating religion				0.070***
Religious belonging	0.037**	0.053***	0.043**	0.061***
Belonging * fractionalization				−0.030
Doctrinal orthodoxy	−0.001	0.005	0.008	0.005
Control variables				
Age (0–6)	[a]	0.050***		0.055***
Age (in years)			0.006***	
Sex	[a]			
Man		Ref	Ref	
Woman		−0.031	−0.015	−0.025
Income			0.007	
Countryyear-level variables				
Religious fractionalization				0.509
Democracy: Polity IV				−0.048*
Regulating religion				0.105
Model statistics				
Intercept	[a]	−0.951***	−1.083***	−1.253***
Variance at countryyear level	[a]	0.417***	0.420***	0.408***
BIC	[a]	270,222.892	229,281.916	27,026.842
N_{ind}	[a]	58,176	49,668	58,176
N_{ctryyr}	[a]	42	41	42

Notes: Weighted by individual weight provided per survey.

[a]For each variables (i.e. attendance, employment groups) separate models are run, thus these coefficient are not controlled for the other core independent variables; however, they are controlled for age and sex, and in that sense they are not truly bivariate. As the coefficients in this column come from five different models the coefficients for the control variables and model statistics vary (they can be obtained from the author).

***$P < 0.001$. **$P < 0.01$. *$P < 0.05$. #$P < 0.10$.

Source: AB and WVS surveys.

has been found for other regions in the world too. For instance, Newton (2009: p. 346) reports that 73 of the 81 countries included in that study fall beneath that threshold, 47 of which having a generalized trust below the 27 per cent found here.

The alternative 10-point scale—available for 12 surveys—also shows an overall tendency towards distrust, but the mean is rather close to the centre of the scale (4.45; the centre being 4.5).

Explaining Social Trust

The pooled regression analyses are presented in Table 1. Comparing the bivariate models (Column 1) and full

model (Model 2) indicates very robust results. For instance, the impact of education does not run through religious belonging, and the impact of religious belonging is not mediated by attendance. Similarly, robustness Model 3 shows very similar results. The country-disaggregated (Appendix B) and interaction (Model 4) models, however, reveal that these effects are highly context-specific. What do the results show per variable?

Privilege: socio-economic factors

The expected positive impact of being employed (H1) is not found for the MENA countries: no significant or substantive difference with the unemployed is registered (Table 1), and the country-disaggregated analyses (Appendix B) and robustness models, including the one with the multi-value social-trust indicator, (Appendix C) also show no proof of a systematic impact. Moreover, Model 3 shows income has no systematic impact either. Altogether, these results undermine the expectation (H1) that the (socio-economic) winners of society are systematically more trusting in the MENA.

However, as expected, higher-educated people are more distrustful (H2) according to all analyses in Table 1 and across the robustness analyses (Appendix C). The only nuance is that the multi-value trust measurement shows the effect to be driven mainly by secondary education. However, the 12 surveys included in that robustness analysis represent relatively more democratic countries, biasing the results towards a weaker effect (see below). Turning back to the main model, substantively, the predicted probability declines from 29.5 per cent among the uneducated to 24.6 per cent among the higher educated (secondary and tertiary; based on Model 2's sample averages). Such a drop of five percentage points can be considered substantial given that the 'empirical research at the individual level has not been conspicuously successful in establishing the origins ... of social trust' (Newton, 2009: p. 352; see also Uslaner, 2018) and this change translates to millions of MENA citizens switching from being more trusting to being more careful.

To what extent does this overall negative effect confirm the proposed causal mechanism? Two steps do confirm the theoretical reasoning presented above. First, additional models (see Appendix C) show that the linkage between education and social trust is mediated by people's trust in parliament, police, and government. Thirty-two surveys include four-point items on each of these institutions, which load on one dimension in a factor analysis. Based on this I created an additive variable running from 0 to 10.[6] Including this variables decreases education's B-coefficient by 37 per cent. Second, the
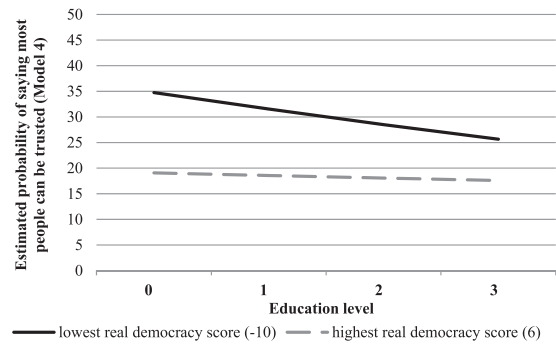

Figure 1. Estimated impact of education on social trust by level of democracy, in sample average probabilities

negative relationship varies across countries by the level of democracy. Appendix B shows the negative relationship is found in many countryyears, but positive relationships are found for particularly tertiary education in the relatively more democratic Jordan (2013), Lebanon (2011), Morocco (2013), and Palestine (2006; 2012). Indeed Model 4 shows that the negative impact of education is weaker in democracies (H3). As illustrated by Figure 1, on average, education does not correlate with social trust in the most democratic MENA countries, whereas the relationship is rather strongly negative among the more autocratic countries such as Bahrain and Saudi Arabia. In the latter, the probability of generally trusting people is almost 10 percentage points higher among uneducated citizens than among people with tertiary education.

Creating bridges: religious-service attendance

Initially the models show a modest but statistically significant ($P < 0.05$) relation between religious attendance and social trust (H4). That this does not run via religious beliefs (cf. Models 1 and 2) lends support to the idea that attendance works via experiences instead of the controlled for dispositions.

However, the gender-segregated models (Appendix C),[7] disaggregated analyses (Appendix B), and context-dependency model (Model 4) all indicate that the relationship between attendance and generalized trust is far from systematic: it is conditional on group and setting. Appendix B reveals a statistically significant effect for 15 countryyears: 5 negative, 10 positive. Additionally, Model 4 indicates that the positive effect is only present in the countries where the regime regulates religion (H6). The weakening effect of fractionalization (H5) is not present overall, but seems present for men only ($P < 0.10$;[8] next to the positive interaction with regulation).[9] Among women, there is a similar significant positive moderation

for regulating religion, which also holds for attendance's positive impact in countries that strictly regulate religious affairs.[10] However, for the non-regulating countries a negative main effect is found, which should be interpreted more carefully given that women might have different reasons for non-attendance.

Altogether, in line with the notion of patronage in paternalistic authoritarianism (Jamal, 2007b), the results support the idea that state regulation leads to attendance positively impacting generalized trust (H6), whereas in societies without strict regulation the effect is negative (for women), or at least it is in the more religiously fractionalized societies (for men) (H4, H5). Noteworthy here is that additional models with language- or ethnic-based fractionalization return opposite results: religious attendance seems to bond people of different *ethnic* groups, not of different *religious* groups, which further supports the theoretical logic presented above.

Cultural socialization: religious beliefs

At first sight, the (positive) impact of religious belonging seems rather robust (Models 1 through 3; Appendix C) (H7), with an estimated impact for the range between three standard deviations above and below the mean of 4.2 percentage points. The countryyear-disaggregated analyses (Appendix B), however, demand a more cautious conclusion: 10 of the 22 statistically significant effects are negative. Overall there might be a positive relationship (see also Jamal, 2007b), but this clearly does not hold across the region. Theoretically, religious fractionalization was expected to be responsible for such variation in the impact of belonging (H8), but neither Appendix B nor the interaction term in Model 4 lends any support to this expectation. In sum, religious belonging does often link to generalized trust, but the differences between contexts are substantial and deserve more attention.

Last, Table 1 shows that there is no overall general connection between orthodoxy or scriptural literalism and generalized trust (H9). At the same time, Appendix C shows a moderate but significant positive effect for the alternative operationalization, and the countryyear-disaggregated models (Appendix B) show the main operationalization of orthodoxy is not irrelevant either, as quite a number of statistically significant relationships turn up: 57 per cent positive; 43 per cent negative (for the alternative indicator this is 67 per cent vs 33 per cent [Appendix B]). Overall, the results lean towards the expected positive effect, but they are too weak to fully support the hypothesis.

If anything, the results on religious beliefs show that religion matters, but in rather complex, context-dependent ways. Caution is warranted in drawing general conclusions on religion's impact based on the study of only one or two countries or on pooled regression models only.

Conclusion

For the MENA, hardly any study has looked into the causes of social, interpersonal, or generalized trust (but see Jamal, 2007a,b; Spierings, 2017), while it is known that the meaning social trust is different in non-democratic regimes and, consequently, insights from empirical work on established democracies or other non-MENA countries cannot simply be applied to the MENA (see Jamal, 2007b). I set out to address this issue and advance existing knowledge by theorizing and testing the context-dependency of commonly discussed relationships between generalized trust on the one hand and socio-economic and religious factors on the other. In line with the dominant approach in the existing literature (see Winship and Sobel, 2010; Bauer and Freitag, 2018), I applied large-scale regression analyses to 47 surveys from the AB and WVS.

In the current literature, one of the core findings is that the *socio-economic privileged* are more trusting, given their positive general life experiences (see Whiteley, 1999; Paxton, 2007; Newton, 2009; Dinesen and Bekkers, 2017; Newton, Stolle and Zmerli, 2018). For the MENA, I found no support for this mechanism. Employment, higher income, higher education: none of them showed a systematic positive correlation to generalized trust.

However, as theorized and in line with Jamal's (2007a,b) results for only a few countries and years, *education* did relate to social trust negatively, particularly in the most authoritarian regimes. This supports the idea that higher-educated people have developed a more independent and critical mindset. They desire democracy more (Spierings, 2014), are least included in the patronage networks (Jamal, 2007b), and consequently have most to fear from the secret services' penetration of society in authoritarian regimes they distrust (e.g. Ross, 2001), which creates a spillover effect on their social trust.

The overall negative effect in the MENA as well as the dependency of this effect on the level of authoritarianism provide further support for a more general pattern that is emerging in the literature on social trust (and is found for political trust [Hakhverdian and Mayne, 2012]): the positive effects of education are predominantly found in Europe (e.g. Delhey and Newton, 2003; Freitag and Traunmüller, 2009; Hooghe, Marien and

De Vroome, 2012) and Latin America, which are considered predominantly democratic, but not in Sub-Saharan Africa (Mattes and Moreno, 2018), which is largely authoritarian, or in Central and Eastern Europe (Borgonovi, 2012), where the older generations have been socialized in authoritarian regimes.

Future research should delve into this more deeply. First, this study should be replicated on other communities socialized or living in authoritarian regimes. Second, more advanced data or matching methods could help flesh out the mechanism at work and filter out potential identification effects (Gangl, 2010). Third, experiments could be designed to circumvent selection effects and test the spillover effect of political trust (see Winship and Sobel, 2010; Keele, 2015). Last, biological factors might be cofounders (and even suppressors) here too (see Cawvey *et al.*, 2018; Uslaner, 2018), but such information is not available, at least not cross-nationally.

This study also focused on the impact of religious factors. First, I zoomed in on *religious attendance* building on the social capital logic. The larger literature finds little systematic support for the idea that participation in civic organizations fosters trust (Uslaner, 1999; Hooghe, 2003; Newton, 2009; Newton, Stolle and Zmerli, 2018), and the exploration of religious attendance's impact in the MENA also showed mixed effects, albeit mostly absent or positive ones (see also Uslaner, 2018). The positive effects are clearest among men, and state regulation of religious affairs pushes attendance to have a positive impact on generalized trust, though there are also indications that this positive effect is undermined in religiously diverse societies. Altogether these results support Jamal's argument that state patronage is crucial to understanding social trust in the MENA (Jamal, 2007b) and underlines that (non-)attendance means different things for women and men (see Katz, 2014; Glas, Spierings and Scheepers, 2018).

Still, under the above-mentioned circumstances, religious gatherings and attending sermons seem to foster bonding within a religious group, which can bridge other cleavages, suggesting that the mixed results regarding the supposed negative impact of societal diversity on generalized trust (see Dinesen and Sønderskov, 2018) are likely to be conditional on whether people participate in non-selective civic organizations. To explain the divergent results, the literatures on (gendered) social capital, societal diversity, and state policies need to be connected further.

Regarding *religious beliefs*, for both doctrinal orthodoxy and religious belonging the main conclusion should be that they are quite evidently related to social trust, and overall their effects seem positive, but the impact is rather divergent across the MENA, which reflects the larger literature (Portes and Landolt, 1996; Welch *et al.*, 2004; Tan and Vogel, 2008). Nevertheless, this study indicates we should reserve a seat for religious beliefs, while context-dependency needs to be tested and theorized more too.

The results' summary and implications above refer to generalized social trust as measured dichotomously and do not necessarily hold for *other types of trust*, as extensively acknowledged for *in-group* or *particularized* trust (Portes and Landolt, 1996; Welch *et al.*, 2004; Tan and Vogel, 2008; Uslaner, 2018). More, recently, trust-game behaviour has received particular scholarly attention. Such games measure a different kind of trust than the more abstract generalized trust focused on here (Uslaner, 2012, 2018), but it might have similar antecedents. For instance, theoretically, religious attendance might similarly influence people's behaviour in experimental trust games, as attendance increases people's outward exposure (see Ermisch and Gambetta, 2010). This deserves more attention in future work. In terms of measurement, I also replicated the results on a multi-value scale. This showed large overall synchronies, but also some divergences on the less stable or more context-dependent relationships. This suggests that under some circumstance we should distinguish between switching from trusting to distrusting (or vice versa) and becoming less (or more) (dis)trusting but remaining on the same half of the scale. This issue deserves more attention in the scale-length debate (Bauer and Freitag, 2018) and in our theorizing.

Altogether, regarding larger debates on the causes of trust, two important conclusions can be drawn based on this study. First, the causes of generalized trust vary both between and within regions. I provided explanations for the newly laid-bare *context-dependent* impacts of education and religious attendance by focusing on authoritarianism, state regulation, and fractionalization. One avenue for future work is to study this at a global scale, increasing the number of contextual observations so that more contextual control variables can be added and alternative explanations tested simultaneously (see Traunmüller, 2010; Zmerli and Hooghe, 2011; Mattes and Moreno, 2018). A clear risk here, however, is that when specific substantive indicators for contextual factors are absent, studies mostly use simplistic proxies (e.g. 'Islamic civilization', 'GDP/c') that are basically catch-all factors.

A second general conclusion is that the theoretical distinction between *experience-based* and *socialization-dispositional* factors (see Newton, 2009; Bauer, 2014; Dinesen and Bekkers, 2017; Uslaner, 2018) is useful in theorizing how certain factors influence generalized trust, but for almost all sociological factors the causal

reasoning can rely on either mechanism (e.g. attendance) or a combination of both (e.g. education). To empirically distinguish between these basic mechanisms, better data and new techniques are necessary.

As said, this study set out to see whether common insights derived from the Western-based literature also hold in MENA countries and to theorize how existing mechanisms translate to different contexts. It proved fruitful, but (newly raised) questions remain. For now, this study concludes that contrary to our current Western-based understanding of the drivers of trust, social trust in the MENA seems undermined by education, given authoritarian settings, while under certain conditions attending religious services fosters social trust.

Notes

1 Author's translation.
2 The micro-level data can be obtained from WVS and AB (users are forbidden to share the data themselves); the macro-level data from the appendix; and the syntaxes are available from author.
3 Models with country as second level produce similar conclusions.
4 These models can be obtained from the author.
5 Iraq 2004, 2006: Polity does not provide a substantive score if the country is occupied, so it was coded (−66 for 'foreign interruption); Yemen 2014: Polity IV provided no score, as Yemen was considered a case of interregnum or anarchy; Palestine is simply not included in the Polity IV dataset (not as West Bank or Gaza Strip either).
6 Thirty-two surveys include four-point items on each institution, loading on one dimension in a factor analysis. The used additive variable runs from 0 to 10.
7 The cross-level models for women and men separately can be obtained from the author.
8 Men's main effect of attendance: B-coefficient 0.042 ($P = 0.158$); interaction with fractionalization −0.116 ($P = 0.087$); interaction with regulation 0.068 ($P = 0.034$).
9 This might also explain why the multi-value trust model (Appendix C) shows no overall positive effect: this model mainly includes surveys from shortly after the Arab Uprising when which religious cleavages were activated across the region.
10 $B = 0.044$ ($P = 0.051$).

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Appendix

Appendix A1. Survey information

Country	Year	Survey organization	Survey round[a]	N in original data	Survey weight
Algeria	2002	WVS	4	1,282	N
	2006	AB	1	1,300	N
	2011	AB	2	1,216	Y
	2013	WVS	6	1,200	N
	2013	AB	3	1,220	Y
Bahrain	2009	AB	1	435	N
	2014	AB	3	1,200	N
Egypt	2001	WVS	4	3,000	N
	2008	WVS	5	3,051	Y
	2011	AB	2	1,219	Y
	2012	WVS	6	1,523	Y
	2013	AB	3	1,196	Y
Iraq	2004	WVS	4	2,325	N
	2006	WVS	5	2,701	N
	2011	AB	2	1,234	Y
	2013	WVS	6	1,200	N
	2013	AB	3	1,215	Y
Jordan	2001	WVS	4	1,223	N
	2006	AB	1	1,143	N
	2010	AB	2	1,188	Y
	2013	AB	3	1,795	Y
	2014	WVS	6	1,200	N
Kuwait	2014	AB	3	1,021	Y
Lebanon	2007	AB	1	1,195	N
	2011	AB	2	1,387	Y

(continued)

Appendix A1. (Continued)

Country	Year	Survey organization	Survey round[a]	N in original data	Survey weight
	2013	WVS	6	1,200	N
	2013	AB	3	1,200	Y
Libya	2014	WVS	6	2,131	Y
	2014	AB	3	1,247	N
Morocco	2001	WVS	4	1,251	Y
	2007	WVS	5	1,200	N
	2013	AB	3	1,116	Y
Palestine	2006	AB	1	1,270	N
	2010	AB	2	1,200	Y
	2012	AB	3	1,200	Y
	2013	WVS	6	1,000	N
Saudi Arabia	2003	WVS	4	1,502	N
	2011	AB	2	1,404	Y
Sudan	2011	AB	2	1,538	Y
	2013	AB	3	1,200	Y
Tunisia	2011	AB	2	1,196	Y
	2013	WVS	6	1,205	N
	2013	AB	3	1,196	Y
Yemen	2007	AB	1	717	N
	2011	AB	2	1,200	Y
	2013	AB	3	1,200	Y
	2014	WVS	6	1,000	N

Note: [a]The Arab Barometer has held surveys in three round now, whereas the WVS project includes six rounds, but only as of the fourth MENA countries have been included. The original round in included here, so the WVS 4 indicates the first WVS round including MENA countries.

Appendix A2. Descriptive statistics of micro-level variables

Variables	Mean	S.D.	Min	Max	Frequency
Outcome variable					
Social trust	0.27	0.45	1	1	
Most people can be trusted (1)					0.27
Cannot be too careful (0)					0.73
Explanatory variables					
Employment	na	na	na	na	
Employed					0.57
Retired					0.04
Housewife					0.22
Student					0.08
Unemployed					0.09
Religious attendance	0.01	1.00	−5.74	1.68	
Religious belonging	0.00	0.85	−11.09	1.60	
Doctrinal orthodoxy	0.00	0.86	−3.30	8.86	
Education	1.43	1.12	0	3	
No education					0.29
Primary completed					0.21
Secondary completed					0.29
At least some tertiary					0.21
Control variables					
Sex	0.49	0.50	0	1	
Male					0.51
Female					0.49
Age (in 7 cat.)	1.79	1.45	0	6	
Robustness variable					
Income (standardized)	0.00	1.00	−2.89	3.85	

Note: Data are weighted by AB and WVS survey weight (if provided).

Appendix A3. Macro-level scores per country or countryyear

Country	Religious fractionalization[a]	Countryyear	Level of democracy[b]	Corruption[c]	Regulation[d]
Algeria	0.0091	Algeria 2002	−3	2.6	0
		Algeria 2006	2	3.1	0
		Algeria 2011	2	2.9	0
		Algeria 2013	2	3.6	1
Bahrain	0.5528	Bahrain 2009	−7	5.1	0
		Bahrain 2014	−10	4.9	1
Egypt	0.1979	Egypt 2001	−6	3.6	1
		Egypt 2008	−3	2.8	1
		Egypt 2011	−2	2.9	1
		Egypt 2012	−3	3.2	1
		Egypt 2013	−4	3.2	1
Iraq	0.4844	Iraq 2004	−6	2.1	1
		Iraq 2006	−3	1.9	0
		Iraq 2011	3	1.8	0
		Iraq 2013	3	1.6	0
Jordan	0.0659	Jordan 2001	−2	4.9	1
		Jordan 2006	−2	5.3	0
		Jordan 2007	−3	4.7	1
		Jordan 2010	−3	4.7	1
		Jordan 2013	−3	4.5	1
		Jordan 2014	−3	4.9	1
Kuwait	0.6745	Kuwait 2014	−7	4.4	1
Lebanon	0.7886	Lebanon 2007	6	3.0	0
		Lebanon 2011	6	2.5	0
		Lebanon 2013	6	2.8	0
Libya	0.0570	Libya 2014	−7	1.8	1
Morocco	0.0035	Morocco 2001	−6	3.7	0
		Morocco 2007	−6	3.5	0
		Morocco 2013	−4	3.7	1
Palestine	0.1719	Palestine 2006	3	na	0
		Palestine 2010	−3	na	0
		Palestine 2012	−3	na	0
		Palestine 2013	−3	na	0
Saudi Arabia	0.1270	Saudi Arabia 2003	−10	4.5	0
		Saudi Arabia 2011	−10	4.4	1
Sudan	0.4307	Sudan 2011	−4	1.6	0
		Sudan 2013	−4	1.1	1
Tunisia	0.0104	Tunisia 2011	4	3.8	0
		Tunisia 2013	6	4.1	0
Yemen	0.0023	Yemen 2007	−2	2.5	0
		Yemen 2011	−2	2.1	1
		Yemen 2013	3	1.8	1
		Yemen 2014	0	1.9	1

Sources: [a]Alesina *et al.* (2003).
[b]Polity IV (2017).
[c]Transparency International (2019). For Algeria 2002 and Morocco 2001 the score of the year after is taken as the score for the year itself was missing.
[d]GRRD (ARDA, 2017).

Appendix B. Statistically significant relationships with social trust per countryyear

Countryyear	Employment (ref = employed)				Sex (ref = male)	Religious attendance	Religious belonging	Doctrinal orthodoxy	Alternative orthodoxy indicator	Education (ref = no)			Age
	Retired	Housewife	Student	Not employed						Primary completed	Secondary completed	At least some tertiary	
Total						+	+			–	–	–	+
Algeria 2002													
Algeria 2006								+		–	–	–	
Algeria 2011						+	+	–					
Algeria 2013[a]				–			–	+	+		–	–	
Bahrain 2009		+						+	–		–		
Bahrain 2014[a]								–					
Egypt 2001							–	–		–	–	–	+
Egypt 2008[a]							–	+				–	+
Egypt 2011				–				+		–	–	–	
Egypt 2012[a]			+			+	–	–		–			+
Egypt 2013	+					+	+	+	+				
Iraq 2004					–				+		–	–	
Iraq 2006			+					–			–	–	–
Iraq 2011						–	+	–					+
Iraq 2013[a]	–					+		–			–		
Jordan 2001	–	–		–							–		
Jordan 2006		+					+			–	–	–	
Jordan 2010										–	–	–	
Jordan 2013						+		+			+	+	
Jordan 2014[a]			+					–					
Kuwait 2014			+				+			–	–	–	–
Lebanon 2007								+					
Lebanon 2011								–	–			+	
Lebanon 2013[a]							–	+				–	+
Libya 2014[a]						+					–		+
Morocco 2001		+	+					–					+
Morocco 2007[a]		+					–	–					+
Morocco 2013				–			+					+	
Palestine 2006					–							+	
Palestine 2010					–								
Palestine 2012			+				–				+	+	
Palestine 2013[a]								+					
Saudi Arabia 2003						–			+				
Saudi Arabia 2011								–	–		–	–	
Sudan 2011							+	+				–	+
Sudan 2013	–	–				+		–					+
Tunisia 2011						–	+		+				+
Tunisia 2013[a]						–	+						+
Yemen 2007						–							
Yemen 2011						+	+		+			–	
Yemen 2013													
Yemen 2014[a]				–			–	–			–		

Note: + indicates a positive relationship ($P < 0.10$). – indicates a negative relationship ($P < 0.10$).
[a]Included in robustness analysis with alternative operationalization of the dependent variable (see Appendix C).

Appendix C. Robustness test of the multilevel logistic regression models of social trust

	Model 2 from Table 1	Model 2 with alternative DV (0–9)	Model 2 with political trust as mediator[a]	Model 2, incl. interaction attendance with gender	Model 2 with alternative orthodoxy variable	Model 4 from Table 1	Model 4, with additional macro-level controls
	Logged odds	B-coefficient	Logged odds	Logged odds	Logged odds	Logged odds	Logged odds
Individual-level variables							
Employment							
Employed	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Unemployed	−0.030	−0.044	0.039	−0.030	−0.029	−0.030	−0.012
Retired	−0.035	−0.057	−0.123#	−0.037	−0.098	−0.047	−0.034
Housewife	0.025	0.104	−0.039	0.026	0.008	0.020	0.045
Student	0.028	0.192*	0.097	0.030	−0.011	0.019	0.036
Education							
No education	Ref.	Ref.		Ref.	Ref.		
Primary completed	−0.141***	−0.038		−0.141***	−0.127***		
Secondary completed	−0.247***	−0.211**		−0.247***	−0.250***		
At least some tertiary	−0.253***	−0.032		−0.254***	−0.241***		
Education (0–3)			(−0.062***) −0.039**			−0.075***	−0.085***
*Democracy						0.007**	0.006**
Mediator: political-institutional trust			0.132***				
Attendance	0.024*	−0.016	0.033*	0.055***	0.020	−0.001	−0.014
*Sex				−0.055**			
*Fractionalization						−0.056	−0.042
*Regulating religion						0.070***	0.081***
Religious belonging	0.053***	0.056#	0.023	0.051***	0.103***	0.061***	0.078***
*Fractionalization						−0.030	−0.054
Doctrinal orthodoxy	0.005	−0.029	0.008	0.004		0.005	−0.001
Orthodoxy: Sharia					0.038***		
Control variables							
Age (0–6)	0.050***	−0.003	0.085***	0.050***	0.042***	0.055***	0.058***

(continued)

Appendix C. (Continued)

	Model 2 from Table 1	Model 2 with alternative DV (0–9)	Model 2 with political trust as mediator[a]	Model 2, incl. interaction attendance with gender	Model 2 with alternative orthodoxy variable	Model 4 from Table 1	Model 4, with additional macro-level controls
Age (in years)							
Sex							
Man	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Woman	−0.031	0.092	−0.004	−0.028	−0.048	−0.025	−0.028
Income							
Countryyear-level variables							
Religious fractionalization						0.509	0.381
Democracy: Polity IV						−0.048*	−0.063*
Regulating religion						0.105	0.075
Corruption (high = less)							−0.069
Illiteracy (proportion)							−0.295
Model statistics							
Intercept	−0.951***	4.475***	−1.943***	−0.963***	−0.949***	−1.253***	−0.955#
Variance at countryyear level	0.417***	0.330*	0.316***	0.416***	0.417***	0.408***	0.448***
BIC	270,222.892	80,820.032	180,226.219	270,238.494	175,331.245	27,026.842	247,860.778
N_{ind}	58,176	16,313	34,139	58,176	38,449	58,176	53,028
N_{crryyr}	42	12	30	42	34	42	38

Notes: Weighted by individual weight provided per survey; [a]between brackets the coefficient is given of the same model without the mediator on the same cases.

*** $P < 0.001$. ** $P < 0.01$. * $P < 0.05$. # $P < 0.10$.

Source: AB and WVS surveys, Alesina *et al.* (2003), GRRD (ARDA, 2017), Polity IV (2017), Transparency International (2019).