# How Polities Shape Support for Gender Equality and Religiosity's Impact in Arab Countries 

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#### Abstract

Previous public opinion studies argued that in the Arab Middle East and North Africa (MENA) Muslim citizens support gender equality less than non-Muslims, due to Islamic-patriarchal socialization. Deviating from this Orientalist narrative, we formulate a context-dependent agentic-socialization framework, which acknowledges religiosity's and gender equality's multidimensionality along with the MENA's political-institutional diversity. We expect that religious service attendance and devotion decrease support for gender equality in politics but not in education. Moreover, we theorize that open political structures allow citizens to express agency and dissociate from dominant patriarchal patterns. We test these expectations using WVS and AB data covering 50,000 respondents in 39 MENA country-years. Our results show religious service attendance indeed reduces support for gender equality. However, more devoted citizens support gender equality in education more than the less devoted, and in more democratic polities and in polities with more freedom of press, the same is found for political gender equality. Moreover, support for gender equality is greater in open polities than closed ones, but this gap closes when people frequent religious services. These results suggest MENA citizens are not univocally passively socialized by patriarchal religious views, but actively engage with other interpretations, provided these are not banned by oppressive governments.


## Introduction

In Western public debates, the Arab Middle East and North Africa (MENA) is often depicted as a homogenous region in which support for equality between men and women is virtually non-existent due to Islam (as also observed by, for instance, Angrist, 2012; Moghadam, 2013: esp. p. 14-19; Çavdar and Yaşar, 2014). Several quantitative studies echo this view; they have shown that MENA publics report the world's lowest average support for gender equality in the public sphere, and attributed this to MENA inhabitants' patriarchal religious socialization (Norris, 2009; Price, 2016). As scholars have noted (e.g. Said, 1979; Kongar,

Olmsted, and Shehabuddin, 2014; Spierings, 2015; Alexander and Parhizkari, 2018), this general narrative implies Orientalism; the MENA is portrayed as one homogenous bloc-contrary to the progressive, secular West-inhabited by a passive populace perpetually subjected to patriarchal Islam. These Orientalist views hamper nuanced insights in at least three ways; they narrow religiosity, they confound gender attitudes, and they ignore (political) differences between MENA countries. The present study adds to the literature by addressing these three lacunae in its study of polities' and religiosity's impact on support for gender equality within the Arab MENA.

We address the first lacuna by incorporating more direct measures of religiosity next to denomination. Previous quantitative studies have theorized that integration in patriarchal religions engenders socialization into oppressive views inducing less support for gender equality, but most have only empirically addressed denomination, comparing Muslims to non-Muslims (e.g. Inglehart and Norris, 2003). This is troublesome, as it is unclear whether this denominational dichotomy solely reflects religious integration; for instance, it also completely corresponds with being a member of the majority versus minority (Htun and Weldon, 2015; Spierings, 2018). Additionally, single-country studies have found that different aspects of religiosity relate to support for gender equality differently, pressing the need to study multiple and more fine-grained aspects of religiosity (Meyer, Rizzo and Ali, 1998; Rizzo, Meyer and Ali, 2002). In this study we tackle religious integration in a more direct manner by theorizing and testing the independent impacts of religious belonging (devotion) and religious behaviour (attending religious services) (see Kellstedt et al., 1996; Berghammer, 2012).

Second, different aspects of gender equality have been shown to receive varying support and, theoretically, the many-sidedness of gender equality may be overlooked when gender attitudes are lumped together (Price, 2014; Lussier and Fish, 2016). Still, only a few existing studies differentiate between different dimensions of gender equality attitudes (e.g., Alexander and Welzel, 2011; Price, 2014; Kostenko, Kuzmuchev and Ponarin, 2016). Therefore, we disentangle different aspects of support for gender equality. As argued from a gender and Islam studies perspective and elaborated later, religious integration may affect educational gender equality differently than political gender equality (Najmabadi, 1998; Mahmood, 2005). Our first research question addresses these first two lacunae: To what extent are religious devotion and religious service attendance related to support for gender equality in education and in politics in the Arab MENA?

Third, we theorize and study the role of differences between countries within the Arab MENA. Previous quantitative studies have mainly studied the MENA countries as one bloc 'othered' against the West, while regional specialists have mostly focussed on one particular MENA country, creating little insights into the differences between MENA contexts (James-Hawkins, Qutteina, and Yount, 2016; see Rizzo, Abdel-Latif, and Meyer, 2007; Price, 2016; Alexander and Parhizkari, 2018). As of yet, we thus do not know how to explain the 'significant cross-cultural variation in women's status [that] exists within the universe of Muslim-majority countries' (Angrist, 2012: p. 52). Next to obfuscating
how MENA contexts directly influence gender equality attitudes, this is especially troublesome as the relation between individual religiosity and support for public gender equality seems to vary across MENA countries. Indeed, while cross-country studies have largely found that individual religiosity decreases support for gender equality, country-specific studies have found insignificant relations and even higher support for gender equality among the more religious (e.g. Moaddel, 2006; Meyer, Rizzo, and Ali, 2007; Alibeli, 2015).

To address these possible contextual differences, the present study focuses on differences in MENA countries' polities, as qualitative studies have repeatedly emphasized their significance but they have been conspicuously absent in large-scale MENA-specific studies (Owen, 2004; Charrad, 2011). To illustrate, Algeria, Morocco, Jordan, and Tunisia have seen democratic currents, gender quotas in politics, and relatively progressive family laws, while Saudi Arabia and Yemen's recent histories are coloured by Islamism and continued political oppression (Moghadam and Sadiqi, 2006; Charrad and Zarrugh, 2014; see Alexander and Apell, 2016 for similar arguments pertaining to Egypt). However, to our knowledge, no existing quantitative study has systematically addressed how these varying political structures across MENA countries shape their publics' support for gender equality and religiosity's impact on gender equality attitudes. Our second research question thus reads: To what extent are Arab MENA countries' polities related to support for gender equality and to what extent do they moderate religiosity's impact?

## Theoretical Background

## Religious Integration

To explain publics' support for gender equality in Muslim-majority countries, most previous studies have proposed a basic socialization perspective (Inglehart and Norris, 2003; Alexander and Welzel, 2011; Price, 2016). They proposed that people who adhere to an Islamic denomination are integrated in religious communities that socialize them to reject gender equality through internalizations of patriarchal views voiced by for instance parents, teachers, clergy, fellow mosquegoers, and governments (Al-Hibri, 1982; Lussier and Fish, 2016). However, existing studies on Kuwait show that varying dimensions of religion relate to support for gender equality differently, which implies that multiple and more direct measures of religiosity are needed (Meyer, Rizzo and Ali, 1998; Rizzo, Meyer and Ali, 2002). Additionally, adhering to a certain denomination is a rather obfuscated measure of religious integration
(Scott, 1998; Berghammer, 2012). As Htun and Weldon (2015: p. 460) note, 'it is difficult to attribute causal power to the doctrines of "Islam," "Catholicism," or "Hinduism." In the Arab MENA, being Muslim or non-Muslim also completely corresponds with being a member of the majority or minority, which may relate to gender equality attitudes via mechanisms besides religious integration (Mahmood, 2015). Differences in support for gender equality between Muslims and nonMuslims may thus reflect religious integration but they may also reflect other mechanisms, rendering them difficult to interpret with certainty.

To address religious integration more directly, we focus on more straightforward features of exposure to and internalizations of religious norms. First, by frequenting religious services, people are exposed time and again to dominant patriarchal religious interpretations, which are expected to be internalized (Voicu, Voicu and Strapcova, 2009; Moghissi, 2011; Berghammer, 2012; Halman and Van Ingen, 2015). Second, religious devotion taps into personal internalizations of religious norms. When people are exposed to religious norms, the devoted among them are probably more likely to 'take these norms seriously' and internalize them more strongly than the less devoted (Kellstedt et al., 1996). Non-MENA specific studies provide support for both relations (Alexander and Welzel, 2011; Lussier and Fish, 2016; Price, 2016); some even demonstrated that devotion's impact far outweighs denomination's (Seguino, 2011; Cochrane, 2013). However, almost no comparative studies have systematically addressed these relationships in the MENA, whereas the particularities of the region do not warrant a simple generalization of this research. So, our contribution proposes that:

The frequency of religious service attendance (a) and devotion (b) are negatively related to support for gender equality (Hypothesis 1).

We should note here that there is one MENA-specific study that does address the impact of religious integration and argues it is gendered (Glas, Spierings, and Scheepers, 2018). Women would use opportunities to resist patriarchal views more than men, and these opportunities would become sparser with greater religious integration. Their results indeed show that, amongst the less religious, women are more supportive of gender equality than men, and that these gender gaps close with greater service attendance and devotion. However, although the authors show that the strength of the impact of service attendance and devotion differs for men and women, it reduces support for gender equality among
both. As religious integration in services and through devotion thus works seems to work similarly (although not equally) for men and women, we leave gendered relations beyond the scope of our study, although we will of course ascertain that our conclusions hold for both men and women.

## Different Dimensions of Support for Gender Equality

The second lacuna of previous studies identified in the introduction is their lack of attention to different dimensions of gender equality attitudes. However, different aspects of gender equality receive varying support. In fact, in one of the few studies that does disaggregate specific attitudes, Price (2014: p. 372) finds that 'across the globe, individuals are much more conservative regarding women in politics than in higher education'. Simultaneously, her findings imply that the gap between support for gender equality in politics and in education is especially pronounced in Arab countries. We propose this phenomenon can be explained by religious integration affecting support for gender equality in education and in politics differently.

First, mainstream interpretations of Islam particularly emphasize women's roles as homemakers-caregivers; Voas, McAndrew, and Storm (2013) propose that ' $[\mathrm{t}]$ he conservative ethos of religious organizations validates and reinforces the choice [of a woman] to be a homemaker' (p. 264). This seems incongruent with political gender equality but not necessarily with educational gender equality (e.g. Tohidi, 2003; Moghadam, 2013; Ben Shitrit, 2016; Rahimi, 2017). Indeed, while being active in politics may conflict with motherhood responsibilities, women who attend universities may still become homemakers-caregivers later in life (Najmabadi, 1998; Mahmood, 2005; El Fadl, 2013).

Moreover, religious scriptures also seem to support education as they consider knowledge a virtue. For instance, the Quran states: 'Say, "Are those who know equal to those who do not know?" Truly, only those endowed with understanding will take heed'. (Quran 9: 39, Khan trans.). Even more clearly, one Sahih (authentic) hadith states: 'Seeking knowledge is a duty upon every Muslim' (Ibn Majah 224, Al-Khattab trans.). Accordingly and pivotally, regional specialists have noted that conservative religious interpretations favour women's education to shape them into 'good Muslims' and 'good mothers' (Abu-Lughod, 1998; Elliott, 2015; Spierings, 2015: p. 135). Already during the 19th century, well-known Islamist reformers as Qasim Amin linked women's education to the nation's progress and
this has been echoed by Islamists especially since the Islamist revival (Hoffman-Ladd, 1987; Najmabadi, 1998; Khedher, 2017). More recently, Mahmood (2005, p. 101-102, original emphasis) notes that even in conservative women's piety lessons in Egypt, women's right to higher education is presumed, quoting the teacher: 'God Almighty has informed us that the correct way of understanding ikhtilat is the abstention from the mixing of women and men unless by necessity [...] Now [the pursuit of education] is a necessity'. Altogether, we thus expect that religious integration fuels support for gender equality, but only in education:

The frequency of religious service attendance (a) and devotion (b) are positively related to support for gender equality in education (Hypothesis 2).

## Agency and Polities

To understand differences between MENA countries, we complement this socialization framework with a focus on context-dependent agency (Elder, Johnson and Crosnoe, 2003). Context-dependency stresses that people interpret their lives in virtue of the times and places in which they live (Spierings, 2016). Likewise, the ability to express agency, the innate ability to make life choices, can be promoted or prohibited by the context in which people are embedded (Sewell, 1992; Charrad, 2011). Adding this to socialization insights creates 'context-dependent agentic socialization'; MENA inhabitants are not merely passively socialized by exposure to patriarchal norms, but are autonomous beings, who are restrained by their spatiotemporal contexts but are nevertheless able to deviate from dominant societal patterns (Spierings, 2015).

The importance of contexts is echoed by case studies and social movement studies, which have emphasized polities in particular (Rizzo, Price and Meyer, 2012; Charrad and Zarrugh, 2014; James-Hawkins, Qutteina, and Yount, 2016). Building on these insights, we propose that MENA citizens will internalize support for gender equality more strongly when they are embedded in polities that expose them to signals of the equality of all citizens (Ben Shitrit, 2016). First, democracies signal equality by ensuring men and women's equal rights to participate in electoral processes (Tétreault, Meyer and Rizzo, 2009). Second, greater freedom of press and more secular polities reduce restrictions on what views may be promulgated, leaving more room for liberal voices (Voicu, Voicu and Strapcova, 2009; Zakarriyya, 2014). Third, more progressive family laws directly signal gender equality by establishing equal rights for men and women (Scott, 1998; Htun and Weldon, 2015). All
of these polity characteristics are thus expected to increase the likelihood that publics will internalize liberal values, inducing greater support for gender equality.

Here, it should be noted that MENA publics who support gender equality might also choose leaders that act on their wishes and create more open polities. Still, it seems questionable that MENA publics' values have such a strong influence, for instance, as most polities clearly restrict the influence of elections and elected politicians. Accordingly, existing studies have assumed that MENA countries' structures shape attitudes rather than the other way around (Lussier and Fish, 2016; Price, 2016). Additionally, empirical evidence indicates that the relation at least also runs from structure to attitude, as MENA publics' support for gender equality has been shown to vastly increase after the introduction of quotas, even those implemented following foreign pressures (Alexander, 2015; Bush and Jamal, 2015). Altogether, we thus propose that:

Publics in more democratic countries (a), in countries with greater freedom of press (b), in countries with more progressive family laws (c), and in more secular countries (d) are more supportive of gender equality (Hypothesis 3).

Moving on to agency, MENA countries' polities are expected to affect their citizens' possibilities to actively deviate from dominant religious interpretations. Polities or 'political opportunity structures' can either reinforce patriarchal interpretations of religiosity by closing opportunities to encounter divergent views, or dim patriarchal interpretations by opening up possibilities to come across alternative religious interpretations (Kandiyoti, 1988; Spierings, Smits and Verloo, 2009; Moghadam and Gheytanchi, 2010; Abu-Rabia-Queder and Weiner-Levy, 2013; Halman and Van Ingen, 2015).

First, democracies probably facilitate exercising agentic deviations from conservative religious interpretations, as they create public arenas in which citizens can discuss divergent interpretations (Moghadam and Gheytanchi, 2010). Similarly, freedom of press probably enlarges the variation in views people can actively consume creating alleys for more liberal religious thought (Moghadam and Sadiqi, 2006). Third, as conservative family laws are a bastion for authoritative religious interpretations of gender relations, more progressive family laws probably create more freedom for discussions of alternative interpretations (Scott, 1998; Mahmood, 2005; Htun and Weldon, 2015). Last, following Htun and Weldon (2015: p. 457), we expect that 'political institutionalization [of religion] reduces religious pluralism,


Figure 1. How polities are expected to moderate religiosity's impact on support for gender equality
suppressing currents of religious thought that are more supportive of sex equality'. Secular countries thus probably open up opportunity structures as they may refrain from signalling that the only correct religious interpretation is the patriarchal manner in which it is institutionalized (Moghadam and Gheytanchi, 2010).

All in all, we thus expect that more open polities allow more religious individuals to actively deviate from patriarchal religious interpretations, while religious citizens in closed polities probably interpret their religion more conservatively; meanwhile, less religious individuals are probably limitedly affected by religion in either polity, as they are less subjected to religious socialization in general (Figure 1):

Negative relations between religious service attendance (a) and devotion (b) and support for public gender equality are weaker in MENA countries with more open polities (Hypothesis 4).

## Methods \& Data

This study uses a subset of the PRiME database, including 39 surveys from the two most recent waves of the Arab Barometer $(\mathrm{AB})$ and the three most recent waves of the World Values Survey (WVS). Altogether, 14 countries surveyed between 2001 and 2014 were included, namely Algeria (4 surveys), Bahrain (1), Egypt (4), Iraq (5), Jordan (4), Kuwait (1), Lebanon (3), Libya (2), Morocco (2), Palestine (3), Saudi Arabia (2), Sudan (2), Tunisia (3), and Yemen (3). All surveys targeted to represent the entire population of 18 years and older, employed stratified random or national full probability sampling, and mostly used face-to-face interviewing. There is evidence that these data are representative regarding gender, age, and regional population distributions for most populations, and educational attainment
for some populations as well. ${ }^{1}$ The initial data covered 55,211 respondents, and after listwise deletion for missing values on variables we did not impute (see below), 52,323 respondents remained ( 94.8 per cent). Table 1 shows the descriptive statistics for all variables.

## Support for Gender Equality

Support for gender equality in education was measured by respondents' agreement with 'University education is more important for a boy than for a girl'. Support for gender equality in politics was measured by agreement with 'On the whole, men make better political leaders than women do'. Both statements had four answer categories: 'strongly agree' (scored 0), 'agree’ (33.3), 'disagree’ (66.7), and 'strongly disagree’ (scored 100).

## Religiosity

Religious service attendance was measured in the AB by 'Do you attend Friday prayer or Sunday services?', 'never', 'rarely' (both scored 0; 'never' was only included in AB 3), 'sometimes' (1), 'most of the time' (2), or 'always' (3). The WVS asked respondents 'Apart from weddings and funerals, about how often do you attend religious services these days?', 'never or practically never', 'less often' than once a year, 'once a year' (all three scored 0 ), 'only on special holy days' (1), 'once a month' (2), 'once a week', or 'more than once a week' (both scored 3). The values for 1,729 respondents with missing scores were estimated using per-survey multiple imputations. ${ }^{2}$

Religious devotion was measured by 'Would you describe yourself as. ..' in both surveys. As answer categories slightly differed we synchronized the data by distinguishing between low devotion ( 0 ) and high devotion (1), representing 'not religious' versus 'religious' and 'somewhat religious' in the AB data and 'not a religious person' and 'an atheist' versus 'religious' in the WVS data. ${ }^{3}$ The scores of 1,829 respondents with missing values were estimated using per-survey multiple imputations.

## Polities

Democracy is measured on the survey level using Freedom House's seven-point 'freedom in the world' scale, ranging from a complete lack of democracy (0) to complete democracy (6). ${ }^{4}$ As a robustness check, VDem's 'electoral democracy index' was used. ${ }^{5}$ Freedom of press is measured using Freedom House's 'press freedom' scale ranging from 0 to 100 , with higher scores indicating greater freedom of press. Progressive family laws could be measured at the country level using six indicators from the Organisation for Economic Co-operation and Development's Social Institutions \& Gender Index,

Table 1. Descriptive statistics [ $\left.N_{\text {individual }}=52,323 ; N_{\text {survey }}=39 ; N_{\text {country }}=14\right)$

|  | $N$ | Min | Max | Mean | SD |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Dependent variables |  |  |  |  |  |
| Support for gender equality in education | 52,323 | 0 | 100 | 62.50 | 34.90 |
| Support for gender equality in politics | 52,323 | 0 | 100 | 28.94 | 32.04 |
| Religiosity |  |  |  |  |  |
| Religious service attendance ${ }^{\text {a }}$ | 52,323 | 0 | 3 | 1.75 | 1.30 |
| Religious devotion |  |  |  |  |  |
| Low devotion | 52,323 | 0 | 1 | 0.14 |  |
| High devotion | 52,323 | 0 | 1 | 0.86 |  |
| Individual-level controls |  |  |  |  |  |
| Denomination |  |  |  |  |  |
| Muslim | 52,323 | 0 | 1 | 0.95 |  |
| Non-Muslim | 52,323 | 0 | 1 | 0.05 |  |
| Sex |  |  |  |  |  |
| Male | 52,323 | 0 | 1 | 0.50 |  |
| Female | 52,323 | 0 | 1 | 0.50 |  |
| Age ${ }^{\text {b }}$ | 52,323 | 18 | 93 | 37.57 | 13.84 |
| Education | 52,323 | 0 | 3 | 1.48 | 1.00 |
| Marital status |  |  |  |  |  |
| Single | 52,323 | 0 | 1 | 0.29 |  |
| Married | 52,323 | 0 | 1 | 0.65 |  |
| Other | 52,323 | 0 | 1 | 0.06 |  |
| Employment status |  |  |  |  |  |
| Full time employed | 52,323 | 0 | 1 | 0.30 |  |
| Part-time employed | 52,323 | 0 | 1 | 0.11 |  |
| Other employed | 52,323 | 0 | 1 | 0.05 |  |
| Retired | 52,323 | 0 | 1 | 0.05 |  |
| Homemaker | 52,323 | 0 | 1 | 0.30 |  |
| Student | 52,323 | 0 | 1 | 0.09 |  |
| Other non-employed | 52,323 | 0 | 1 | 0.10 |  |
| Polities |  |  |  |  |  |
| Democracy ${ }^{\text {a }}$ | 39 | 0 | 3.5 | 1.51 | 0.82 |
| Freedom of press ${ }^{\text {a }}$ | 39 | 13 | 48 | 32.21 | 10.14 |
| Progressive family law ${ }^{\text {a }}$ (country level) | 14 | 0 | 1 | 0.25 | 0.24 |
| Secularism ${ }^{\text {a }}$ | 39 | 0 | 5 | 2.49 | 1.38 |
| Contextual-level controls |  |  |  |  |  |
| Survey type |  |  |  |  |  |
| Arab Barometer | 39 | 0 | 1 | 0.51 |  |
| World Values Survey | 39 | 0 | 1 | 0.49 |  |
| Wealth ${ }^{\text {b }}$ | 39 | 1350 | 43332 | 5448.80 | 6994.44 |
| Oil rents ${ }^{\text {b }}$ | 39 | 0 | 63.3 | 18.79 | 21.00 |
| Alternative variables for robustness analyses |  |  |  |  |  |
| Support for gender equality in education B |  |  |  |  |  |
| Non-supportive | 52,323 | 0 | 1 | 0.32 |  |
| Supportive | 52,323 | 0 | 1 | 0.68 |  |
| Support for gender equality in politics B |  |  |  |  |  |
| Non-supportive | 52,323 | 0 | 1 | 0.75 |  |
| Supportive | 52,323 | 0 | 1 | 0.25 |  |
| Religious devotion B, WVS ${ }^{\text {a }}$ | 25,818 | 0 | 1 | 0.96 | 0.11 |
| Religious service attendance $\mathrm{B}^{\text {a }}$ | 52,323 | 0 | 3 | 1.57 | 1.32 |

[^0]namely legal equality concerning: minimum age of marriage, custody rights in marriage and divorce, inheritance rights of widows and daughters, and freedom of movement. ${ }^{6}$ The scores were averaged to the scale progressive family laws, ranging from conservative (0) to progressive laws (1). Secularism is measured as the absence of state Islamization using the seven-point scale introduced by Spierings, Smits, and Verloo (2009), based on content analyses of the constitutions of MENA countries. Secular countries score 6, countries that mention Islam as a historical part of the country 5 , those depicting Islam as the state religion while guaranteeing freedom of religion 4, and next, one point is subtracted for each of the following: a country is called an 'Islamic state', only Muslims are eligible to become head of state, all laws are founded in the Shari'a, and freedom of religion is not guaranteed.

## Control Variables

We control for respondents' denomination, sex, age, education, marital status, and employment status. Respondents' self-reported denomination distinguishes between non-Muslims (0) and Muslims (1). Unfortunately, there are no data available to make further distinctions within these denominations, but by only distinguishing between Muslims and non-Muslims our results are comparable to those of previous studies (e.g. Inglehart and Norris, 2003; Lussier and Fish, 2016). ${ }^{7}$ Self-reported sex distinguishes between men (0) and women (1). We included respondents' age at the time of interview and the quadratic term $\mathrm{age}^{2}$; respondents younger than 18 were excluded as they were not part of the target population. Respondents' highest level of education was measured in four categories: 'no complete education', 'complete elementary education', 'complete secondary education', and 'complete tertiary education'. Marital status distinguishes between 'single', 'married', and 'other'. Employment status is comprised of seven categories: 'full time employed', 'part-time employed', 'other employed', 'retired', 'homemaker', 'student', and 'other non-employed'. Contextually, we control for wealth (measured as gross domestic product (GDP) per capita in current US dollars) and oil rents (as the percentage of GDP). ${ }^{8}$

## Analytic Strategy

The data are analysed using multilevel models to control for their nested structure (Spierings, 2016). We include three levels as respondents are nested in country-years, which are nested in countries $\left(\mathrm{ICC}_{\text {educational gender equal- }}\right.$ $\left.\mathrm{ity}=0.07 ; \mathrm{ICC}_{\text {political gender equality }}=0.12\right)$. As the variance between countries far outweighs the variance between years, we consider countries as the highest level
and include temporal changes in the second level. ${ }^{9}$ All models allow the impact of service attendance, devotion, and denomination to differ per survey.

In addition to the main analyses, we performed several robustness checks. All led to substantially similar results unless stated otherwise. First, we also ran logistic regression models on dichotomized versions of our two dependent variables: (0) if they (strongly) agreed that university education was more important for men or that men made better political leaders; (1) for who (strongly) disagreed (1). Second, we reran the models without the multiple imputations. Third, we used alternative compositions of our main theoretical variables (Supplementary Appendix 1). Fourth, we reran the models on subsamples (including per-gender subsamples) (Supplementary Appendices 2 and 3). Fifth, all models including contextual variables were also estimated excluding outliers: surveys in which (a) contextual characteristics or (b) relations between religiosity and support for gender equality greatly diverged from the rest of the sample. Some full-sample models turned out to show misleading results and in those instances we present the models without outliers and report so in the text.

Sixth and last, we analysed the WVS and AB data separately. Surprisingly, publics from $A B$ surveys were, on average, 10 points more supportive of gender equality on 0 to 100 -point scales than publics from WVS surveys, also for publics of the same country surveyed in the same year. These gaps between AB and WVS surveys were limitedly explained by about one-third of WVS respondents not being interviewed in privacy and by sample differences in education, denomination, and regional distributions. ${ }^{10}$ Consequently, descriptive statistics should be interpreted with caution and we decided to control the explanatory models for survey type. This observation might indicate a serious bias against the Arab countries when comparing them to countries in other regions using the WVS data (see for instance Inglehart and Norris, 2003)- and warrant future attention of researchers. We, however, stress that relations between religiosity and support for gender equality-the main focus in this paper-were substantially similar in the subsamples by survey type (see Supplementary Appendix 4). Although differences between $A B$ and WVS surveys are thus striking, they do not lead to divergent conclusions regarding our research questions.

## Results

## Descriptive Analyses

Figure 2 shows average levels of support for gender equality in surveys and countries across years. ${ }^{11}$ MENA


Figure 2. Mean support for educational and political gender equality per survey ( $N=39$ ).
Source: PRiME 2001-2014.
publics support gender equality in education more than twice as much as gender equality in politics ( 63 versus 29) (cf. Price, 2014). As expected, women's roles that do not necessarily counter homemaker-caregiver norms (education) thus receive greater support than those that do (being active in politics). More generally, these findings underline the importance of distinguishing between different dimensions of support for gender equality rather than assuming that support for one dimension of gender equality will simply translate into support for another.

Figure 2 also shows substantial differences between countries within the Arab MENA, which indicates the importance of not homogenizing different MENA countries to one bloc. On average, Lebanese, Algerian, and Tunisian publics are most supportive of gender equality in the public sphere, while Iraqi, Saudi, Sudanese, and Yemeni publics are most hesitant. Thus, as expected, the highest levels of support for gender equality are found in relatively open polities, while the lowest are found in closed polities.

## Explanatory Analyses

Models 1 and 2 in Table 2 assess how individual religiosity relates to support for gender equality in education and politics respectively (Hypotheses 1 and 2). Models 3 through 10 in Table 3 address whether MENA countries' polities fuel their publics' support for gender equality (Hypothesis 3) and whether they moderate religiosity's impact (Hypothesis 4). All models include the control variables, which relate to support for gender equality as
expected; for instance, women are more supportive of gender equality in education and politics than men. Also, in line with previous studies, Muslims are less supportive than non-Muslims, although, as stated, the mechanism behind this relationship is difficult to assert. ${ }^{12}$

Models 1 and 2 in Table 2 probe the impact of religious integration and first show that more frequent attendance of religious services significantly lowers support for gender equality in both education and politics. These findings support Hypothesis 1a and refute Hypothesis 2a; it seems that MENA citizens are exposed to and internalize patriarchal values in religious services. Similarly, the more devoted are found to be significantly less supportive of gender equality in politics, providing support for Hypothesis 1b.

Strikingly however, religiously devoted MENA citizens are significantly more supportive of gender equality in education than the less devoted. This supports Hypothesis 2b; devoted MENA inhabitants actually support women's equal right to a university education more than the less devoted, which may, for instance, reflect beliefs that education prepares women for motherhood. More generally, it seems that MENA citizens' personal religious interpretations do not necessarily block support for gender equality; it is rather exposure to religious authorities' (patriarchal) messages that does so.

## Contextual Differences

Models 3 through 10 in Table 3 show that MENA publics are significantly more supportive of gender equality

Table 2. Multilevel analyses of support for gender equality ( $N=52,323$ )

|  | Model 1 |  | Model 2 |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Education |  | Politics |  |
|  | $b$ | SE | $b$ | SE |
| Individual religiosity |  |  |  |  |
| Religious service attendance | -1.08* | 0.31 | -1.35* | 0.38 |
| Devotion (ref. = low) |  |  |  |  |
| Highly devoted | 1.37* | 0.61 | -1.31* | 0.75 |
| Controls |  |  |  |  |
| Denomination (ref. $=$ non-Muslim) |  |  |  |  |
| Muslim | -5.49 * | 0.80 | -9.81* | 1.71 |
| Sex (ref. $=$ male $)$ |  |  |  |  |
| Female | 12.42* | 0.41 | 12.31* | 0.36 |
| Age | 4.74 | 5.10 | 3.79 | 4.54 |
| Age ${ }^{2}$ | -3.21 | 6.36 | -3.37 | 5.67 |
| Education | 4.37* | 0.17 | 1.53* | 0.15 |
| Marital status (ref. = single) |  |  |  |  |
| Married | 0.89* | 0.44 | -0.46 | 0.40 |
| Other | 0.78 | 0.76 | 0.30 | 0.68 |
| Employment status (ref. $=$ fulltime ) |  |  |  |  |
| Part-time | -1.65 * | 0.52 | 0.02 | 0.47 |
| Other employed | -4.93* | 0.72 | -1.02 | 0.64 |
| Retired | -0.64 | 0.77 | 0.17 | 0.69 |
| Homemaker | -4.04* | 0.51 | -4.13* | 0.46 |
| Student | 0.95 | 0.65 | 0.08 | 0.58 |
| Other non-employed | -3.06* | 0.56 | -0.14 | 0.50 |
| Survey type (ref. $=\mathrm{AB}$ ) |  |  |  |  |
| WVS survey | -10.31* | 2.38 | -9.62* | 2.91 |
| Intercept | 59.55* | 1.97 | 38.23* | 2.67 |
| Variances |  |  |  |  |
| Intercept | 65.86 |  | 118.47 |  |
| Muslim | 0.18 |  | 40.35 |  |
| Highly devoted | 4.87 |  | 12.84 |  |
| Service attendance | 2.54 |  | 4.74 |  |
| Residual | 1076.8 |  | 854.7 |  |

Note: ${ }^{P} P<0.05$.
Source: PRiME (AB and WVS) 2001-2014.
in education and politics in countries and years with higher levels of democracy (Model 3 and 4), greater freedom of press (Model 5 and 6), more progressive family laws (Model 7 and 8), and greater secularism (Model 9 and 10). ${ }^{13}$ These findings indicate that publics of more open polities internalize their signals of gender equality, which supports Hypothesis 3.

Do these open polities also moderate religiosity's impact on gender equality attitudes? Starting with the impact of attendance, Table 3 shows that its relations to support for gender equality are indeed altered in more democratic countries, countries with greater freedom of press, and more secular countries, but not in the
expected direction. Religious service attendance is more strongly negatively related to support for gender equality in these more open polities. ${ }^{14}$ For instance, as Figure 3 illustrates, attending religious services more strongly reduces support for educational gender equality if countries have more progressive family laws. ${ }^{15}$ Thus, although support for gender equality amongst frequent service attendees is larger in open countries than in closed ones, the impact of attending services is larger in these countries. Vice versa, attending religious services has less impact in less open countries, where people are more opposed to gender equality in general. The exception to this pattern is that the relation between religious
Table 3. Multilevel analyses of divergent relations between religiosity and support for gender equality by polity

|  | Model 3 $N_{\text {survey }}=39$ <br> Education |  | Model 4 $N_{\text {survey }}=39$ <br> Politics |  | Model 5 $N_{\text {survey }}=39$ <br> Education |  | Model 6 $N_{\text {survey }}=39$ <br> Politics |  | Model 7 $N_{\text {survey }}=39$ <br> Education |  | Model 8 $N_{\text {survey }}=39$ <br> Politics |  | Model 9 $N_{\text {survey }}=38$ <br> Education |  | Model 10 $N_{\text {survey }}=38$ <br> Politics |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $b$ | SE | $b$ | SE | $b$ | SE | $b$ | SE | $b$ | SE | $b$ | SE | $b$ | SE | $b$ | SE |
| Individual religiosity |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Service attendance | $-1.07^{*}$ | 0.31 | -1.36 * | 0.38 | -1.08 * | 0.31 | -1.36 * | 0.38 | $-1.08 *$ | 0.29 | -1.30 * | 0.36 | $-1.06^{*}$ | 0.31 | -1.41 * | 0.34 |
| *Democracy | -0.04 | 0.29 | -0.15 | 0.37 |  |  |  |  |  |  |  |  |  |  |  |  |
| *Freedom of press |  |  |  |  | -0.32 * | 0.28 | -0.36 | 0.36 |  |  |  |  |  |  |  |  |
| *Progressive family laws |  |  |  |  |  |  |  |  | -0.80 * | 0.29 | -0.93 * | 0.35 |  |  |  |  |
| *Secularism |  |  |  |  |  |  |  |  |  |  |  |  | -0.16 | 0.29 | 0.68* | 0.33 |
| Devotion (ref. = low) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Highly devoted | 1.37* | 0.61 | -1.40 * | 0.63 | 1.38* | 0.60 | -1.35 * | 0.70 | $1.33 *$ | 0.63 | -1.41 * | 0.74 | 1.35* | 0.62 | -1.32 | 0.78 |
| *Democracy | $-0.20$ | 0.56 | 1.66 * | 0.58 |  |  |  |  |  |  |  |  |  |  |  |  |
| *Freedom of press |  |  |  |  | $-0.55$ | 0.56 | 1.33* | 0.65 |  |  |  |  |  |  |  |  |
| *Progressive family laws |  |  |  |  |  |  |  |  | 0.30 | 0.65 | 1.08 | 0.74 |  |  |  |  |
| *Secularism |  |  |  |  |  |  |  |  |  |  |  |  | 0.17 | 0.57 | 0.03 | 0.72 |
| Contextual polities |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Democracy | 4.34* | 1.17 | 3.16 * | 1.25 |  |  |  |  |  |  |  |  |  |  |  |  |
| Freedom of press |  |  |  |  | 4.33* | 1.08 | 2.38* | 1.22 |  |  |  |  |  |  |  |  |
| Progressive family laws |  |  |  |  |  |  |  |  | 3.04* | 1.26 | 4.30* | 1.16 |  |  |  |  |
| Secularism |  |  |  |  |  |  |  |  |  |  |  |  | 2.83* | 1.23 | 2.59* | 1.26 |
| Controls |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Denomination (ref. $=$ non-Muslim) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Muslim | -5.93 * | 0.95 | -9.49* | 1.71 | -6.15 * | 0.95 | -9.72 * | 1.72 | $-5.48 *$ | 0.80 | $-10.03 *$ | 1.72 | -5.24 * | 0.82 | -9.52 * | 1.71 |
| Sex (ref. = male) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Female | 12.40* | 0.41 | 12.30* | 0.36 | 12.41* | 0.41 | 12.31* | 0.36 | 12.41* | 0.41 | 12.30* | 0.36 | 12.32* | 0.42 | 12.55* | 0.37 |
| Age | 4.82 | 5.10 | 3.76 | 4.54 | 4.73 | 5.10 | 3.74 | 4.54 | 4.67 | 5.10 | 3.66 | 4.54 | 6.14 | 5.14 | 3.21 | 4.59 |
| Age ${ }^{2}$ | -3.35 | 6.36 | -3.42 | 5.67 | -3.24 | 6.36 | -3.35 | 5.67 | -3.13 | 6.36 | -3.23 | 5.67 | -4.46 | 6.42 | -2.67 | 5.72 |
| Education | 4.37* | 0.17 | 1.52* | 0.15 | 4.37* | 0.17 | 1.52* | 0.15 | 4.38* | 0.17 | 1.53* | 0.15 | 4.28* | 0.17 | 1.56* | 0.15 |
| Marital status (ref. = single) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Married | 0.89* | 0.44 | -0.46 | 0.40 | 0.90* | 0.44 | -0.46 | 0.40 | 0.90* | 0.44 | -0.46 | 0.40 | 0.83 | 0.45 | -0.47 | 0.40 |
| Other | 0.79 | 0.76 | 0.30 | 0.68 | 0.79 | 0.76 | 0.30 | 0.68 | 0.80 | 0.76 | 0.31 | 0.68 | 0.58 | 0.77 | 0.36 | 0.70 |
| Employment status (ref. $=$ fulltime) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Part-time | $-1.66^{*}$ | 0.52 | 0.03 | 0.47 | $-1.65 *$ | 0.52 | 0.03 | 0.47 | $-1.65 *$ | 0.52 | 0.02 | 0.47 | $-1.63 *$ | 0.53 | -0.11 | 0.47 |
| Other employed | -4.93* | 0.72 | -1.00 | 0.64 | -4.92* | 0.72 | -1.00 | 0.64 | -4.94* | 0.72 | -1.02 | 0.64 | $-4.57 *$ | 0.76 | -1.12 | 0.66 |

Table 3. (Continued)

|  | Model 3 $N_{\text {survey }}=39$ <br> Education |  | Model 4 $N_{\text {survey }}=39$ <br> Politics |  | Model 5 $N_{\text {survey }}=39$ <br> Education |  | Model 6 $N_{\text {survey }}=39$ <br> Politics |  | Model 7 $N_{\text {survey }}=39$ <br> Education |  | Model 8 $N_{\text {survey }}=39$ <br> Politics |  | Model 9 $N_{\text {survey }}=38$ <br> Education |  | Model 10 $N_{\text {survey }}=38$ <br> Politics |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $b$ | SE | $b$ | SE | $b$ | SE | $b$ | SE | $b$ | SE | $b$ | SE | $b$ | SE | $b$ | SE |
| Retired | $-0.63$ | 0.77 | 0.15 | 0.69 | -0.64 | 0.77 | 0.16 | 0.69 | -0.62 | 0.77 | 0.18 | 0.69 | -0.64 | 0.78 | 0.18 | 0.70 |
| Homemaker | -4.05 * | 0.51 | -4.13 * | 0.46 | -4.05* | 0.51 | -4.12 * | 0.46 | -3.99* | 0.51 | -4.11 * | 0.46 | -3.92 * | 0.52 | -4.20 * | 0.46 |
| Student | 0.96 | 0.65 | 0.09 | 0.58 | 0.96 | 0.65 | 0.09 | 0.58 | 0.96 | 0.65 | 0.09 | 0.58 | 1.09 | 0.66 | 0.03 | 0.59 |
| Other non-employed | -3.06 * | 0.56 | -0.14 | 0.50 | -3.05 * | 0.56 | -0.14 | 0.50 | -3.06 * | 0.56 | -0.14 | 0.50 | -2.97* | 0.57 | -0.14 | 0.51 |
| Survey type (ref. $=\mathrm{AB}$ ) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| WVS survey | -11.39* | 1.86 | $-9.17^{*}$ | 2.21 | -10.37* | 1.91 | -8.36 * | 2.37 | -9.31* | 2.00 | -8.52* | 2.11 | -10.23* | 2.01 | -7.80* | 2.43 |
| Wealth | -9.03 | 5.09 | 17.19* | 6.06 | -7.52 | 5.22 | 19.41* | 6.50 | -7.39 | 5.56 | 20.52* | 5.80 | -4.06 | 5.59 | 24.80* | 7.40 |
| Oil rents | -2.62 | 3.18 | -5.61 | 3.80 | -7.65 * | 3.12 | -11.47* | 3.88 | -3.88 | 3.36 | $-6.94 *$ | 3.55 | -6.66 * | 3.28 | $-11.54 *$ | 3.95 |
| Intercept | 62.13* | 2.06 | 37.31* | 2.58 | 63.21 * | 2.03 | 38.60* | 2.66 | 60.76* | 1.98 | 37.20* | 2.57 | 61.52* | 1.94 | 37.79* | 2.66 |
| Variances |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Intercept | 63.1 |  | 95.6 |  | 54.7 |  | 96.2 |  | 48.4 |  | 92.1 |  | 45.2 |  | 94.9 |  |
| Muslim | 4.7 |  | 40.5 |  | 4.7 |  | 40.4 |  | 0.2 |  | 41.1 |  | 0.4 |  | 39.4 |  |
| Highly devoted | 4.8 |  | 7.1 |  | 4.3 |  | 10.3 |  | 5.5 |  | 11.8 |  | 4.9 |  | 13.6 |  |
| Service attendance | 2.6 |  | 4.7 |  | 2.5 |  | 4.6 |  | 2.0 |  | 4.0 |  | 2.4 |  | 3.5 |  |
| Residual | 1076.7 |  | 854.8 |  | 1076.7 |  | 854.7 |  | 1076.7 |  | 854.7 |  | 1082.1 |  | 857.9 |  |

[^1]

Figure 3. Service attendance and support for gender equality by countries' family laws ( $N=14$ ).
Source: PRiME 2001-2014.


Figure 4. Religious service attendance and support for gender equality by secularism ( $N=38$ ).
Source: PRiME 2001-2014.
service attendance and support for political gender equality is weaker in secular countries (see Figure 4). Still, in general Hypothesis 4a has to be rejected. Rather than cushioning patriarchal messages preached in services, open polities reinforce their importance, because in open polities the openness of the system is used in particular by the people exposed least to patriarchal doctrines; particularly the least frequent attendees consume alternative views on gender equality given the opportunity.

Regarding devotion, our models show that the positive relation with gender equality in education remains unaltered in countries with greater freedom of press,
countries with more progressive family laws, and more secular countries. We only find a significant moderation in democratic polities, where the positive impact of devotion is slightly weaker. Hypothesis 4 b is thus mainly refuted for educational gender equality. The religiously devoted support gender equality in education more than the less devoted, mostly regardless of in which polity they are embedded.

Interestingly however, devotion's impact on political gender equality is moderated by the openness of countries' polities. We find that negative relations between devotion and support for gender equality in politics are weaker in more open polities, which supports


Figure 5. Devotion and support for political gender equality by level of democracy ( $N=39$ ).
Source: PRiME 2001-2014.

Hypothesis 4 b. Even more strikingly, in democracies and countries with large freedom of press, devotion actually increases support for gender equality in politics (see Figure 5). ${ }^{16}$ The more devoted are thus more supportive of gender equality in politics than the less devoted in these countries. Echoing our findings concerning educational gender equality, being religiously devoted thus does not per se diminish support for gender equality in the MENA; religious devotion fuels support for educational gender equality and, under certain conditions, for political gender equality as well.

## Conclusions and Discussion

This contribution addressed relations between religiosity and support for public-sphere gender equality in Arab Middle Eastern and North African countries. Previous quantitative studies have generally proposed that integration in patriarchal religions diminishes MENA citizens' support for gender equality, and have shown that Muslims on average support gender equality less than non-Muslims (Inglehart and Norris, 2003; Price, 2016). That existing line of research lacks nuance as it concludes the ubiquity of patriarchal religious socialization in the MENA without paying attention to (a) denomination only opaquely reflecting religious integration, (b) the many-sidedness of gender equality attitudes, and (c) the vast variations in MENA countries' polities, which may influence both support for gender equality and religiosity's impact thereon. We addressed these three lacunae by applying a new nuanced socialization framework, 'con-text-dependent agentic socialization'; MENA citizens are not unidimensionally or solely passively socialized to
oppose gender equality, but can actively engage more progressive religious interpretations, provided their countries' political systems do not singularly suppress alternative views. We tested our framework using WVS and AB data that include over 50,000 respondents in almost forty MENA contexts and multilevel analyses.

Our results first showed patriarchal socialization through religious integration does exist to some extent. MENA citizens who frequently attend religious services were found to be less supportive of gender equality. Also, the religiously devoted were less supportive of political gender equality than the less devoted, but as shown later this does not hold across countries. Exposure to and internalizations of (patriarchal) religious messages thus do lower support for gender equality.

However, disentangling different aspects of religiosity and support for gender equality also showed that patriarchal religious socialization was not omnipresent (cf. Norris, 2009; Price, 2016; Alexander and Parhizkari, 2018). First, MENA citizens do not reject all aspects of gender equality equally. In line with Price's (2014) findings, support for gender equality in education was twice as large as support for political gender equality, which is in line with our expectations as being active in politics more clearly contradicts motherhood roles (Najmabadi, 1998; Mahmood, 2005). Even more strikingly, while exposure to authorities' religious interpretations was consistently found to reduce support for gender equality, personal religious devotion also seems to fuel support for gender equality (cf. Voicu, Voicu and Strapcova, 2009; Berghammer, 2012). The devoted were more, not less, supportive of gender equality in education. Probably, this reflects religiously-inspired
views that education shapes women to become 'good mothers' and 'good Muslims' (Abu-Lughod, 1998; Elliott, 2015; Spierings, 2015: p. 135).

Devotion's positive impact was emphasized again when we took differences between MENA countries' polities into account. Negative relations between devotion and support for political gender equality were weaker in more open polities. In fact, in countries that establish freer public arenas - more democratic MENA countries and those with larger freedom of press - the devoted support gender equality in politics more than the less devoted. In line with our context-dependent agentic-socialization framework, MENA inhabitants are thus not solely passively socialized by patriarchal religious views, but also engage other interpretations, provided these are not suppressed by oppressive governments.

This does not mean that all aspects of religious integration lose importance in MENA countries with more open polities. Religious service attendance was generally more strongly associated with opposition to gender equality in more democratic countries, countries with greater freedom of press and countries with more progressive family laws. Nevertheless, as expected, the general as well as the most religious populations in those countries were still more supportive of gender equality than in conservative countries (Halman and Van Ingen, 2015; Htun and Weldon, 2015; Ben Shitrit, 2016). It thus seems that while open polities allow more room for alternative views and support for gender equality, as we expected, this room is not mainly used by service-goers but rather by non-frequent attendees. In the case of religious service attendance, the less religious rather than the more religious use spaces to deviate from dominant patriarchal norms. All in all, in relatively progressive countries, houses of worship thus seem to be one of the few remaining bulwarks of patriarchal religious views, reinforcing their importance amongst those who attend them, whereas their traditional messages are more omnipresent in closed societies, leading to less additional impact of attendance (Al-Hibri, 1982; Kucinskas, 2010; cf. Scott, 1998).

Future research can further illuminate our findings by more directly addressing the existence of free public arenas, for instance, by focussing on feminist and religious movements (see Htun and Weldon, 2012). Our measures were rather higher-level top-down, which confounds exactly why the impact of religiosity is more clearly altered in some polities than in others. Additionally, future studies could also assess whether polities' alterations of the impact of religion is also gendered. Relatedly, if cross-national panel data become
available, future research should address in more detail to which extent MENA countries' polities shape gender equality attitudes and to which extent attitudes shape polities.

Religious forces could also be further disentangled from non-religious ones. Future research could explain why Muslims support gender equality less than nonMuslims even after religious socialization has been addressed. Similarly, the impact of power relations between governments and religious authorities could be studied further. Rulers in Islamist MENA countries might try to increase their legitimacy by monitoring religious institutions, influencing clergy to preach in favour of the political status quo and against political gender equality (Angrist, 2012; Moghadam, 2013; Zakarriya, 2014; Htun and Weldon, 2015). This would explain why the impact of attending religious services on political gender equality was not cushioned by democracies, freedom of press, or progressive family laws, but it was by secularism. However, this remains a question for future research to address.

These limitations notwithstanding, to our knowledge, the present study is the first of its kind to systematically disentangle how religiosity relates to different facets of support for public-sphere gender equality and in which MENA polities. Religiosity not only impedes the development of gender equality attitudes, but given the right political opportunity structures religious devotion actually serves as a motor of gender equality.

## Notes

1 The comparability of these data is discussed in the Results section. Http://www.arabbarometer.org/ and http://www.worldvaluessurvey.org/.
2 To test robustness to synchronizations of the two surveys types, we also recoded the WVS into 'always' (3), 'once a week' (2), 'once a month' (1) and 0 for other answers, which, combined with $A B$ measures, created religious service attendance $B$. For the main analyses we chose the first operationalization as it leads to the most similar attendance figures for AB and WVS surveys of the same country and year.
3 Religious devotion B averages WVS scores 'How important is God in your life?' (ten-point scale, ranging from 0 to 1 ) and 'How important in your life would you say is religiosity?' (four-point scale, from 0 to 1).
4 Www.freedomhouse.org. If scores in a year were missing, we averaged scores of the previous and the following year.

5 The results were substantially similar. https://www. v-dem.net/en/.
6 Http://www.genderindex.org/data/.
7 Denominations of Yemeni respondents from AB 2 were unavailable, but as virtually all Yemenis are Muslims ( 99.8 to 100.0 percent in other surveyed years), they were all considered Muslim. Likewise, Bahraini respondents' denomination was not included in WVS 6, so all who were born in Bahrain and held citizenship were considered Muslims, and others, who could be Muslim or non-Muslim migrants, were excluded. We also established that our results were substantially similar when Lebanon was excluded.
8 Data.worldbank.org. Libya's 2014 wealth and oil rents were substituted by 2011 numbers.
9 ANOVAs' F-values for seven countries surveyed in $\mathrm{AB} 2, \mathrm{AB} 3$, and WVS 6 between years were 5 to 35 (save Algeria), and between countries 28 to 130 concerning educational gender equality; F-values of political gender equality between years were 1 to 39 and between countries 68 to 135 .
10 When we exclude WVS respondents who were not interviewed in complete privacy, we find substantially similar results however (see Models R8 in Appendices 2 and 3).
11 These results hold when survey type differences are considered.
12 Relations between denomination and support for gender equality are slightly stronger when religious service attendance and devotion are added to the model (cf. Appendix 1). This indicates that denomination's impact is not explained by religiosity, although this is not our main focus and should be addressed in future studies.
$13 \quad P$-values for all contextual relations were estimated using likelihood ratio tests. Models without moderations (Appendix 1) show similar results. Additional analyses including moderations between polities and gender show that the gender gap in support for political gender equality significantly increases ( $P<0.05$ ) in more democratic countries, countries with more freedom of press, and countries with more progressive family laws. No significant moderations by gender are found for educational gender equality.
14 The moderation between service attendance and democracy concerning educational gender equality is relatively unstable and is non-significant in the Varieties of Democracy operationalization. Furthermore, pergender subsamples show the same moderating patterns of polities and religious service attendance in all cases except one, but in that case the moderation does not reach statistical significance. (Amongst men,
the negative relation between service attendance and political gender equality is non-significantly weakened in more democratic countries.)
15 Figures 3, 4, and 5 show net relations for Muslims and Figures 3 and 5 focus on devoted Muslims. We find similar patterns when we exclude contexts with the most open polities.
16 To reiterate, we also find the devoted are more supportive of political gender equality than the less devoted in democracies when we operationalize democracies using V-dem's electoral democracy index. In per-gender subsamples, all moderations between devotion and gender equality show the same patterns, except two, but these are nevertheless non-significant in both our main analyses and in our sub-samples. (Amongst men, the negative relation between devotion and political gender equality is non-significantly stronger in more secular countries. Amongst women, the positive relation between devotion and educational gender equality is non-significantly weaker in countries with more progressive family laws.)

## Supplementary Data

Supplementary data are available at $E S R$ online.

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[^0]:    ${ }^{\text {a }}$ Variable $z$-scored in analyses.
    ${ }^{\mathrm{b}}$ Variable rescaled to range from 0 to 1 in analyses.
    Source: PRiME 2001-2014.

[^1]:    Note: ${ }^{*} P<0.05$. Italics indicate significance at $\alpha=0.10$. Model 9 excludes Morocco WVS 5 ; Model 10 excludes Bahrain WVS 6 .
    Source: PRiME (AB and WVS) 2001-2014.

