Behind the Veil: the strategic use of religious garb

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Abstract:

There is anecdotal evidence that since the late 20th century young, educated, and urban Muslim women veil more frequently and strictly. Does this imply that the classical sociological theories of religion, which predict that modernisation should cause a decrease in religious behaviours, do not apply to Islam? We investigate this question using Structural Equation Modelling to analyse three datasets, one from Turkey, one covering 25 Muslim countries, and one from Belgium where Muslims are a minority. We find that averagely religious women conform to the classical theories' predictions. But among highly religious women the modernising forces – education, occupation and higher income, urban living, and contacts with non-Muslims – *increase* veiling. We conjecture that for highly religious women modernising factors raise the risk and temptation in women's environments that imperil their reputation for modesty: veiling would then be a strategic response, a form either of *commitment* to prevent the breach of religious norms or of *signalling* women's piety to their communities. Our findings have implications for cultural policy and Muslim integration in Europe.

Keywords: Signalling theory; veiling; quantitative methods; structural equation modelling; religious behaviour

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Short Bios

Ozan Aksoy is post-doctoral Research Fellow at the Nuffield Centre for Experimental Social Sciences and the Department of Sociology, University of Oxford. His research interests include understanding cooperation and trust as well as religious behaviour and policy using game theory, statistical tools, and experimental methods. His work has been published in *Social Psychology Quarterly, Social Science Research, Journal of Mathematical Sociology*, *Journal of Experimental Social Psychology*, and *Games*.

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The various head-covers and dresses worn by Muslim women are collectively referred to as *veiling*. The names and styles differ across the Islamic world, but everywhere there is a range of veiling *types* of varying degree of strictness.[1]

Veiling is generally taken, by the public and by social scientists alike, as a sign of religiosity. Yet, much anecdotal evidence indicates that from the late 20th century onward veiling spread chiefly among the highly educated, young, urban, middle-class women (El Guindi, 1981; Hoodfar, 1991). If true, these accounts would pose a challenging puzzle as to why veiling should be increasing precisely among the women who are *more* exposed to such "modernising" forces. But, to our knowledge, there is no large-scale empirical study of veiling that corroborates or disconfirms these accounts.

In this paper we investigate whether veiling is indeed more widespread among such highly educated, urban, middle-class women than the average Muslim women. In doing so, we test a number of theories, some of which explain why veiling, under certain conditions, could *increase* as the exposure to modernising forces increases. One such theory proposes that women decide to veil strategically, either with the intent to manage their impulses or to communicate their piousness to their communities, and that veiling would be a response to the "temptations" posed by social circumstances. We test this and other theories with an innovative approach, applying Structural Equation Modelling to three large scale datasets, one from Turkey, one from Belgium, where Muslims are a minority, and one covering 25 Muslim countries. We believe that this is the first systematic test of the theories of veiling.

Veiling is not just an interesting phenomenon for social scientists, but the subject of extensive public controversy. Especially its stricter forms are perceived by some as an affront to Western values, a sign of social backwardness and women's subjugation—so much so that strict forms of veiling have been banned in several European countries. Veiling has been a contentious issue in the Muslim world too, for a much longer time and on an incomparably larger scale. For

instance, compulsory de-veiling laws in Turkey and Iran and a voluntary de-veiling movement in Egypt in the first half of the 20th century were reversed in the late 20th century. After describing the theories, the hypotheses derived from them, and our findings, in the concluding section we address the implications of our results for cultural policy and Muslim integration in Europe.

Theories and hypotheses

Veiling as an outward expression of religious beliefs

The well-established sociological theories of religion have been developed largely with reference to Christianity (see Ruiter and van Tubergen, 2009). Nevertheless, we can use them to derive predictions on veiling prevalence and strictness amongst Muslim women, and test whether they can be successfully transposed to an Islamic context. The *scientific worldview theory* predicts that as education increases scepticism towards religious beliefs also increases (Need and De Graaf, 1996). Education instils the ideas of scientific rationalism, the view that natural phenomena can be explained by science, weakening the authority of religious beliefs. In so far as veiling is an outward expression of these beliefs it should decline accordingly. Similarly, *existential security theory* predicts that people in safe economic positions – with high education, high income and stable employment – should rely less on religion and thus veil less (Norris and Inglehart, 2004). Additionally, one can expect veiling to be lower among younger and single women, in keeping with the evidence that religiosity is less widespread in these groups (Tiliouine, Cummins, and Davern, 2009). Finally, *social integration theory* (Durkheim, [1897] 1951; Need and De Graaf 1996) predicts that veiling should be lower in urban areas than in rural areas—where tighter social ties and community feelings sustain higher levels of religiosity.

To summarize, the classical theories predict that veiling, both in terms of prevalence and strictness, will be lower among women who are more exposed to the secularising effect of modernisation and thus become less religious. These should include women who are educated, employed, earning a higher income, and are young, unmarried and residing in urban areas. This

set of predictions constitutes our first hypothesis (H1), which will enable us to test whether the secularising effects posited by the classical theories, are present also in a Muslim context.

Veiling as a strategic choice

Classical theories of religion focus on religious beliefs, and religious *behaviours*, such as veiling, are seen as the consonant outward expression of those beliefs: if the former decline the latter decline too. Yet, while as a general trend modernisation may decrease religiosity, it may not cause universal secularisation.[2] For women who remain religious, classical theories do not predict any change in veiling even if modernisation increases (or perhaps they could predict a decrease in veiling, in so far as modernisation, even if it does not decrease inner religiosity, may push religiosity into the private sphere and discourage its public displays). Yet, there are reasons to expect that for those who remain religious, modernising forces could have *the opposite effect*: modernisation increases women's exposure to contacts outside of their families through higher education and employment, and this could put women, especially younger, urban, and single women, at a greater risk of abandoning their traditional mores and restraint, or even just *to be believed* to be doing so. This increased "risk and temptation" in the environment could induce women who care about their reputation for piety in their community, to veil or to use stricter types of veiling.

The motivations could be twofold. First, veiling could be a strategy directed towards the self, and used as a self-binding device against temptation (Elster, 1979) – veiling would be at once a safeguard of women's modesty outside the home and a deterrent against ill-intentioned men's approaches. Second, veiling could be directed towards others as a strategy to communicate one's persisting piety in the face of modernisation's challenges. The more women interact in risky and high-temptation environments the more opportunities they have to break religious norms, and thus the greater is the effort they need to employ to reassure their Muslim community that they remain pious and honourable.

These strategic uses of veiling are central to two theoretical contributions, by David Patel (2012) and Jean-Paul Carvalho (2013). Patel models veiling as a *signal* that conveys information about women's religiosity to their community, in particular to potential husbands. Depending on the environment in which women interact, more conservative and constraining veils – that is, "costlier" actions – might be needed to reliably signal their piety and separate them from deceptive signallers. In the signalling framework, the signallers do something that reveals with some probability their true type, in this case whether they are pious and how intensely so.

Carvalho, in addition to signalling, models veiling as a *commitment* strategy which limits the opportunity and the temptation to break religious norms. In the commitment framework, women take actions to bind themselves so that even if they were inclined to misbehave they could not easily do so. When these actions are observable, as veiling is, they also inform the community of the propriety of the women. In the commitment approach, similarly to signalling, veiling is not necessarily a binary decision but has a continuous "strategy space" – the higher is the temptation in the environment the more conservative veils would be used.

Both self- and other-directed strategic motivations, whether of the signalling or the commitment variety, predict that the demand for veiling will be highest among religious women who interact in risky and high-temptation environments. Assuming that the risk and temptation in the environment increases as modernising forces increase, the commitment and signalling approaches predict that among religious women, the intensity of veiling should be *higher* the more they are exposed to modernising forces. Hence, we expect that highly religious women who are more educated, employed, earn a higher income, unmarried, younger, live in urban areas, can be predicted to veil more. This set of predictions constitutes our second hypothesis (H2).

H1 and H2 seem in contradiction. We argue, however, that they are complementary. The crucial twist is that H2 is conditional on *high religiosity*, thus refers not to the main effects (in

the statistical sense) of the variables, but to their interactions with religiosity. If only the classical theories hold, we should find that the strictness of veiling will decrease with the modernising factors across *all* levels of religiosity. If the strategic theories also hold, we should find that the modernising factors will *increase* the intensity of veiling among the highly religious.

Both signalling and commitment are communication strategies aimed at inducing receivers to act in a way that benefits the signallers. These benefits are most obvious on the marriage market in which piety is a valuable asset. Women who can reliably signal this asset have a greater chance to marry and marry a wealthier husband. Singerman (1997), for example, reports that in Egypt "examination of a young man or woman's moral character and suitability for marriage begins before the engagement is publicly announced and continues until the consummation of the marriage" (p. 79). Moreover, "one of the compliments a young woman can receive from members of the community is that she possesses *'il-Hishma* or modesty. [...] this word describes women who dress modestly and do not flirt or engage in casual conversation with young men" (p. 94). In addition, women's reputation affects not only their chances of marriage, but also reflects on the reputation of their whole family (p. 80).

Anthropological studies and in-depth interviews (MacDonald, 2006; Afshar 2008; Hoodfar, 1997:197; Maclead, 1992) lend support to a strategic use of veiling as a means to communicate women's piety. They show that in addition to complying with religious obligations the veil would be a means for women to mitigate community gossip and parental control, and to integrate in the economic and daily life outside their families while preserving their pious reputation. For example, Hoodfar (1997) reports that "[veiling] carried the notion of modernity without compromising the traditional and Islamic norms and values of modesty. [...] Since [veiled] women appear to follow the Islamic code, they can establish much more egalitarian relations with their male colleagues or clients without being accused of seduction" (p. 197).

Patel's and Carvalho's models seem to be supported by these ethnographic accounts of veiling, but what we present below is the first systematic test.

Neighbourhood effects

The strategic (and classical) theories of veiling yield further interesting predictions about neighbourhood effects.

Social integration theory predicts that a woman's decision of whether and how strictly to veil should also be positively affected by how many and how strictly other women in her community veil. This effect could be due partly to a tendency to conform and partly to the cost in terms of social disapproval of breaking a religious norm, both of which grow as the strength of religious norms grows. If most women veil uniformly (this refers to *variation* in the environment) and strictly (this refers to *average* behaviour in the environment) in the relevant reference group – the whole population in Muslim countries and the Muslim co-ethnic minority in Western countries – a woman can infer that religious norms are widespread and well enforced, and inappropriate behaviours are monitored and sanctioned. In such neighbourhoods where the average veiling is higher and veiling variation is lower, we can expect that veiling will be higher (H3a). If modernisation weakens religious norms, we should then expect a decrease in veiling also via neighbourhood effects (i.e., by lowering average veiling and increasing veiling variance).

Social integration theory further predicts that in Western countries a neighbourhood's ethnic composition also matters: where natives numerically dominate, compared to areas in which natives are few, Muslim religious norms would be eroded. Similarly, among Muslim immigrants with more contacts with natives the adherence to religious norms should weaken (Fleischmann and Phalet, 2012; Maliepaard and Phalet, 2012; Bruenig & Fleischmann, 2015).

Therefore, in the Western context, veiling should *decrease* the larger is the share of natives in a woman's neighbourhood, and the higher the number of friends she has among natives (H3b).

At the same time, however, neighbourhood characteristics also affect the risk and temptation in the environment, and they too could have the opposite effect for highly religious women. Where religious norms are stronger, there are fewer opportunities and a lower motivation to break religious norms due to closer community monitoring and a higher likelihood of sanctions. According to the theories of veiling as a strategic choice (Patel, 2012; Carvalho, 2013), in such neighbourhoods highly religious women can feel more relaxed and veil less strictly. Conversely, where religious norms are weaker and risk and temptations in the environment are higher, religious women should veil more frequently and strictly. We thus expect an interaction between neighbourhood characteristics and religiosity: the positive effect of average veiling and the negative effect of veiling variation on veiling will decrease as religiosity increases (H4a). By the same logic, where Muslims are a minority, as the number of both non-Muslim natives and friends increase, religious norms should weaken and the risk and temptation in the neighbourhood should increase: as a result, highly religious women should veil more frequently and strictly (H4b).

One may also expect differences between Muslim-majority and Muslim-minority countries. In the latter, the fear of getting discriminated or stigmatized (Helbling, 2014) increases the cost of veiling, and, thus, its credibility as a signal. This would be another reason why the presence of natives may decrease veiling among the less religious but increase it among the highly religious immigrants. Additionally, the predicted positive effect of living in an urban area (as opposed to rural) may be stunted in Muslim-minority countries as immigrants concentrate in urban areas where community control is stronger. We will briefly return to such potential differences after presenting our results.

Data and Method

We use three datasets. Two datasets contain information on veiling among Turkish women in two countries: one from Belgium, in which Muslim are a minority, and the other from Turkey itself; Turkey represents an interesting case for the study of veiling being a relatively secular country but with a Muslim majority. The Belgian dataset is from the Migration History and Social Mobility survey (MHSM, conducted in 1994-6), which uses a representative clustered random sample of municipalities with at least 100 Turkish or Moroccan men (Lesthaeghe, 2000). To facilitate comparison with the Turkish dataset, we use only female Turkish respondents (N=850). The Turkish survey was conducted in 2007 (N=2.639) by KONDA with a representative stratified random sample (KONDA, 2007).

The third dataset is the PEW World Muslims Survey, conducted in 2011 to 2012, in 25 Muslim countries in Africa, Asia, the Middle East, and Europe, with nationally representative samples in most countries (N=~16.000, PEW, 2013). When we analyze the PEW data, we will first restrict our attention to a subset of countries that at one point or other of their history have experienced some secular movement (see Table 3), where women have been exposed not just to religious customs and education, and are thus more likely to perceive veiling as a decision rather than an inescapable garb. From this subset we also exclude war torn countries, i.e. Palestine, Iraq, and Afghanistan; and Iran where veiling is compulsory. After analysing this subset, we will then provide results with the full set of countries. This will allow us to ascertain whether our findings generalize to other countries in the Muslim world. Further details of the datasets are given in the Supplementary Material.

Measures

The operationalization of some variables differs slightly depending on the survey. For example, the Belgian survey does not include veiling behaviour but the attitude toward veiling.[3] However, each survey offers us information missing in another. The Belgian survey provides an

opportunity to test the influence of the presence of non-Muslim natives on veiling attitude. PEW survey records veiling sub-optimally as explained below, but is the survey of Muslim religious behaviour with the largest geographical coverage. Combined, the three surveys allow reasonable tests of all our hypotheses over a vast and diverse geographical reach.

Below we describe the variables whose measures are not straightforward, namely veiling, religiosity, and aggregate measures of veiling. Supplementary Material provides details of how we measure the other variables—education, work, income, marital status, age, urbanisation, number of natives in neighbourhood, and native friends.

Veiling

The Turkish survey offers the most precise and robust measure of veiling: it asks not only whether a woman veils outside home but also in which of four forms of increasing strictness: no-veil, headscarf, turban, and chador. The Belgium dataset measures attitudes toward veiling with the question: "Muslim women should cover their head when outside home" (1=completely disagree to 6=completely agree). In the PEW dataset, the interviewer records whether the respondent was veiled during the interview, using four categories: no-veil, hijab (similar to turban), niqab (similar to chador), and burqa. The PEW measure is likely to be an underestimate because a woman who veils in public may not veil (the same extent) during the interview, in particular given that the interview was conducted inside the respondent's home and the interviewer was a woman, as it seems to have been typically the case. We will revisit this issue in the results section.

Religiosity

We measure religiosity with a number of items.[4] In the Turkish survey, we could use five items: self-reported religiosity plus four items asking how often a respondent performs *namaz*, fasts, prays, and reads the Quran. In the Belgian survey we measure religiosity with three items asking

whether “religion plays an important role in life”, whether the respondent fasts, and the frequency of Mosque attendance. In the PEW survey, we measure religiosity with four items: frequency of prayer, reading the Quran, mosque attendance; and self-reported religiosity. A Confirmatory Factor Analysis (CFA) of religiosity for the three surveys for which a latent religiosity measure is constructed indicates that our measures are good (Supplementary Material presents the CFA).

Aggregate measures of veiling

In each of the three surveys we calculate the average and the standard deviation of the variable ‘veiling’ as defined above per neighbourhood. There is a methodological discussion on whether one can use aggregate measures of the dependent variable, especially the mean, to predict the dependent variable itself.[5] Based on this discussion, when calculating those averages (and standard deviations) we exclude the subject herself because otherwise there would be an artificial relationship between veiling of a respondent and the average veiling in her neighbourhood. Excluding the subject does not fully solve the potential spuriousness of this relationship. For example, exogenous shocks that influence veiling in a neighbourhood, such as an Islamic mayor, could affect veiling of both a particular respondent and the other women in the neighbourhood. This issue, we believe, is less problematic in our case, for we are not so much interested in the association between average veiling and veiling of a respondent *per se*, as in the *interaction* between individual religiosity and the average veiling, which does not suffer from potential spuriousness to the same extent. We will revisit the issue of causal inference in the conclusions.

Method

We perform our statistical analyses within the Structural Equation Modelling (SEM) framework employing the software Mplus-6 (Munthen and Munthen, 1998-2010). These means offer us specific advantages. First, we can deal better with measurement error by treating religiosity as a

latent variable measured by several items rather than constructing a factor score and treating the factor score as an observed variable. Next, some of the indicators of religiosity are categorical and Mplus allows categorical items to load on latent variables. Third, our hypotheses involve interactions of the latent variable, religiosity, with observed variables, such as education. Fitting models with latent interactions has been a challenge.[6] Recent developments in Mplus have made latent interactions easier to handle.

For handling missing data we used different solutions depending on the survey (Allison, 2001). For the Turkish data, we do list-wise deletion because the missing data constitute only 4% of all cases. For the Belgian and PEW data, in which missings constitute about 15% and 18% of all cases, we imputed missings with the Expectation-Maximisation algorithm (EM) and Multiple Imputation, respectively. We also performed a sensitivity analysis comparing list-wise deletion and EM imputation for the Belgian data, and results were effectively the same.

Results

Descriptive analysis

In Turkey, 67% of women veil in some form (Table 1).[7] The most common form is the less restrictive headscarf, and then turban. Only 1% of Turkish women wear the chador. In Belgium, 60% (4+29+26) of Turkish women agree that women should cover their heads when outside the home. The average positive attitude toward veiling among Turkish immigrants in Belgium is thus very similar to the average number of women who veil in Turkey. The Turkish and Belgian samples are also very similar in terms of education, age, and occupational status. 56% of the Belgian sample had native Belgian friends.

In the PEW survey ~56% of women veiled in some form during the interview. The more extreme forms, niqab and burqa, were rather exceptional most likely because of how veiling was recorded. Religiosity indicators are not directly comparable to the other surveys since the PEW

items have more response categories (see Supplementary Material). Compared to the other two, the PEW sample is slightly older, less urbanized, and include more single women.

[Table-1-about-here]

Tests of Hypotheses

We ran eight ordinal-probit regressions predicting veiling on our three datasets: four models include only the main effects, the other four include the interactions with religiosity (Table 2 and 3). Because our hypotheses involve a number of variables, we jointly test their coefficients.

The results strongly support H1 in all datasets (see Table 4 for details). When considering single coefficients, in Turkey only the effect of age has a different direction than predicted, which, however, becomes insignificant once the interactions with religiosity are included (Model 2) (we return to the effect of age below when we present additional analyses). In Belgium, all coefficients are in the expected direction, except urbanization, as we conjectured at the end of the theory section. In the PEW data, all coefficients estimated for both the subset (M5) and for all countries (M7), are in the predicted direction.

The results strongly support H2 in Turkey and in the Muslim world, but interestingly not in Belgium (see Table 4). Interactions with latent religiosity are generally in the direction predicted by the strategic theories and are jointly statistically significant in Turkey and in the Muslim world both in the smaller set and in all 25 countries. In fact, the results with the subset and with all countries are very similar, indicating that the observed patterns are general in the Muslim world. These results show that, despite the fact that in the PEW data the *level* of veiling could be underestimated due to how it was recorded, the association of veiling with other variables holds remarkably well. The weakness of the measurement of veiling in the PEW survey should make the veiling measure more noisy in a direction that goes against H2, for women who are recorded as not veiling may in fact veil in public; thus the fact that we find strong effects, consistent with our other results, is reassuring. There is also an empirical way of evaluating the

impact of the measure shortcoming: Supplementary Material shows that once we replicate the analyses using the PEW data on the Turkey cases only, we obtain results very similar to the ones we obtain from the Turkish data.

We will discuss possible reasons why H2 is not supported in Belgium in the concluding section.

A graphical representation of the interaction effects (Figure 1) helps us with the substantive interpretation of the results: for an averagely religious woman in Turkey the latent propensity to veil decreases by about 0.12 units for a year increase in education; but that effect changes with religiosity: a single standard deviation increase in religiosity neutralizes the effect of education on the latent propensity to veil [(-0.12) + (0.45×0.24)=-0.012], and an increase of two standard deviations in religiosity switches the sign of the effect of education. As for occupation, for an averagely religious woman having a job decreases her propensity to veil by about 0.42 points (equivalent to four years of education), but a single standard deviation increase in religiosity turns the effect of job into *positive* and quite substantial (~0.33). All other interaction effects can be interpreted in the same way using Figure 1.

As predicted, the average veiling in one's area is positively associated with the propensity to veil for the averagely religious women (H3a), while highly religious women seem much less responsive to the prevalence of veiling as this, we conjecture, makes the environment less threatening (H4a). (Figure 1 shows effect sizes and Table 4 statistical tests). On the other hand, greater variation in veiling has either a negative or non-existent effect for the averagely religious women (H3a), while for the highly religious women it increases veiling (H4a).

To grasp what exactly variation vs. uniformity in veiling means imagine a case in which half of the population does not veil at all and the other half wears the burqa. Compare this with the case in which all women veil and wear the hijab. The average veiling is the same in both

cases, but the variation in veiling differs. The averagely religious woman will not veil in the first case, and wear the hijab in the second case. The highly religious woman, by contrast, will wear the burqa in the first case and the hijab in the second case. By increasing the uncertainty in the environment, variation seems to push the highly religious to the extreme.

In Belgium, H3b is strongly supported: the number of Belgian friends and of native Belgians in one's neighbourhood both decrease veiling substantially and significantly. We also find support for H4b: while the number of natives in one's neighbourhood and having native friends decrease veiling for the averagely religious, both of them increase veiling among the highly religious (see Figure 1).

[Table-2-about-here]

[Table-3-about-here]

[Table-4-about-here]

[Figure-4-about-here]

Additional analysis: Types of veiling

The models above rest on the proportional odds assumption (Long, 1997:ch5), which implies that all three ordered dichotomization of veiling (no-veil vs. headscarf, turban, and chador; no-veil and headscarf vs. turban and chador; no-veil, headscarf and turban vs. chador), would yield the same coefficients. For the Belgian and PEW data this assumption seems unproblematic (see Supplementary Material). But for the Turkish data we fitted additional models for different dichotomizations of the veiling variable to find out which form of veiling conforms more with our predictions, and to address the potentially problematic proportional odds assumption (respondents who wear the chador are too few to fit separate models for it).

Interestingly, the results on the headscarf (Table 5) are consistent with the classical theories of religion–H1 is supported by Model 9 and 10. However, except income, none of the

interactions is statistically significant. By contrast, when the turban is contrasted with 'no-veil and headscarf' (Models 11 to 15), the interaction terms are significant. Moreover, education, occupational status, and income themselves without interactions with religiosity, are not always good predictors of the turban. A particularly interesting finding is that while age is positively associated with the headscarf, it has a negative effect on turban. This is probably why the main effect of age is insignificant in Model 2.[8] We return to these results in the next section.

[Table-5-about-here]

Discussion and conclusions

Our findings support remarkably well, across many different countries and data sources, the predictions of the theories of veiling as both an expression of religious beliefs and a strategic choice. While the forces of modernization (education, income, urbanization, contact with non-Muslim Europeans, etc.) *decrease* the propensity of veiling among averagely religious women, by subjecting highly religious women to riskier environments, especially young and single women, they *increase* the propensity of veiling. These findings show that, contrary to the anecdotal accounts from which we began, as a *general trend* veiling decreases as modernisation increases. However, the findings also imply that in *some* societies in which religiosity remains high enough, in line with our starting puzzle, overall veiling could in fact increase (rather than remaining constant) as a result of modernisation.

These results show that for the averagely and less religious the classical theories of religion, developed mostly in reference to a Christian context, generalize to the Muslim context. To account for the veiling behaviour of the highly religious, however, the commitment and signalling theories are needed as veiling does not seems to be a mere expression of religiosity but the result of women's strategic decision. The strategic nature of veiling is also apparent when

one considers the neighbourhoods effects: the lower the veiling prevalence and the higher the multiplicity of religious dress in a neighbourhood, the more relaxed the veiling of the averagely religious, but the stricter the veiling among the highly religious.

Compared to Muslim countries, there are interesting peculiarities in Belgium, our only case in which Muslims are a minority. Here the most important interaction effects of religiosity are with variables that capture contacts with native-Belgians, i.e. the number of Belgians in one's neighbourhood and whether one has native Belgian friends. Other variables, such as education, urbanization, etc. do not interact with religiosity in predicting veiling. This could be due to the less precise measurement of veiling in the Belgian survey, but it could also be because where Muslims are a minority inter-religious contact is a more significant risk and temptation factor for Muslims than that measured generically by education or occupational status. The latter conjecture is consistent with research which has shown that contact with natives has profound effects on Muslim immigrants' religious behaviour (Bruenig & Fleischmann, 2015; Maliepaard & Phalet, 2012).

Since the mid-2000s, in Turkey, the turban has become a sign of politicization of religion, and of free religious expression whereas the headscarf resembles a traditional form of religiosity (Saktanber and Corbacioglu, 2008). Our additional results reflect this change: we find that the use of the headscarf is very well predicted by the classical theories of religion, but it does not seem to serve strategic functions, which are instead served by the turban. The turban rather than headscarf seems to be the choice of the highly religious urban women who want to communicate their piety when exposed to modernising forces.

The strategic theories we test in this paper assume that veiling is a personal choice. However, veiling is often seen as a decision made by family or community on behalf of women rather than by women themselves, in other words as a result of patriarchal control (Shirazi and

Mishra, 2010). One could therefore object that since there is little room for women to choose their outfit, strategically or otherwise, our test would not be meaningful. Yet, even if the ultimate decision makers were not women themselves, one could argue that the theories still hold. It would then be the family who encourage veiling for strategic reasons, using their daughters to communicate their religious propriety. Our datasets do not include information on pressure within the family to veil, so we cannot pursue this empirically. But, interestingly, the Western narrative of veiling as women's subjugation is not supported by a number of ethnographic studies which show that veiling is often a personal choice not forced by parents or community (Afshar, 2008; Koyuncu-Lorasdağı, 2009; Bilge, 2010). Moreover, our findings suggest that among the highly religious women, veiling *increases* with education, income, employment, urbanity, among women that is who should be more resilient to family pressure.

We would now like to address the issue of causality. In our empirical strategy we measure our concepts as rigorously as possible. For example, we measure religiosity, our core independent variable, as a latent variable, which handles measurement error better than the traditional method of constructing a sum score. Moreover, we rely on three large scale datasets from very different contexts, and draw implications from the theories over a wide array of distinct outcomes, thus the remarkable convergence of our results in support of the predictions is reassuring. Nonetheless, we cannot rule out the typical drawbacks of cross-sectional analysis, reverse causality and endogeneity, hence our statistical evidence must be treated as associational not causal. One could argue that veiled women are more likely to get less education, opt out of the labour market, avoid big cities, and environments with low levels of veiling, shy away from having contacts with non-Muslims and so on. In future research stronger validation could be sought in controlled designs, such as longitudinal studies,[9] or taking advantage of exogenous 'shocks', legal or political, that approximate the conditions of a natural experiment; or by testing

the theories' implications on comparable behaviours in the same religion, such as beards for men, or on similar behaviours in other religions. We should stress, however, that while the conjectures of both reverse causality and endogeneity are plausible in theory, in our case they work *against* the hypotheses derived from strategic motivations (H2 and H4): they would bias our estimates in the opposite direction of that which we hypothesize, thus effectively imposing a more stringent test.

In addition to their scholarly interest, our findings have implications for Muslim integration and cultural policy in Europe. The massive inflow of Muslim immigrants to Western countries and the rise of violent Islamist groups have made Muslim minorities a target of hostility and discrimination (Maliepaard, Lubbers, and Gijsberts, 2010; Adida et al., 2016). Veiling has come to visually symbolize these tensions and some forms been banned in Belgium, Denmark, France, Italy, the Netherlands, Switzerland and elsewhere (Helbling, 2014). Our results suggest, in fact, that in Europe veiling could be a sign of *integration* among the highly religious: as they have more native friends and live in areas dominated by natives, highly religious women tend to veil more, perhaps to keep their pious reputation while being integrated. Banning or shunning some forms of veiling would deprive them of a means that, contrary to populist cant, allow them more opportunity for integration rather than marking their differences.[10] Not all that lies behind the veil is to be feared.

At the same time, banning the veil is likely to cause information inefficiencies. When no one veils because of an imposition it would simply take a greater effort for a woman who wants to signal her piety and her norm abidance, to do so; she will have to seek alternative ways, which may be more costly, less reliable or cumbersome, and ultimately force her to stay at home.[11] The opposite extreme of imposing the adoption of the veil, paradoxically, could have the same effect by making veiling uninformative: a veil would stop being taken as the genuine expression of a woman's religiosity as it could simply be the outcome of complying with the law.[12] This would,

in turn, destroy the signalling value of the veil, which would, again, force the highly religious to seek alternative ways of signalling their piety.

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[1] The traditional *headscarf* covers the head leisurely leaving some hair visible, the *turban* (aka hijab) hides both the head and the hair. The *chador* (aka niqab) is a large piece of cloth shrouding the whole body, leaving only the face visible, the most extreme form, the *burqa*, covers the face too. The Arabic word Hijab means curtain but also refers to a specific, less conservative style, similar to the Turkish turban. For other Middle-Eastern styles see: http://www.nytimes.com/2016/05/04/world/what-in-the-world/burqa-hijab-abaya-chador.html?_r=0. Most Western scholars of religion disregard these different forms and measure veiling as a binary variable (e.g. the 2006 Dutch SIM data).

[2] Explaining why *some* women remain highly religious despite modernization is beyond this paper's scope. We assume that this is the case (and also confirm with the data, see e.g., Online Supplementary Material 9 for a simple demonstration). No society goes (or has so far gone) completely secular even after reaching the most advanced levels of modernisation.

[3] Dutch-SIM dataset measures both veiling intention and veiling (as a binary variable). Correlation between the two is 0.56 ($p < 0.01$). Supplementary Material shows the distribution of veiling intention across veiled and unveiled women and that intention is a good indicator of behaviour.

[4] See Voas (2007) on measuring religiosity.

[5] See Angrist & Pischke (2008, ch4) and Kuppens & Yzerbyt (2014).

[6] See Marsh, Wen, and Hau (2006).

[7] These figures slightly differ from the ones reported in KONDA (2007) because we use only female respondents whereas KONDA estimates also include men whose wives veil.

[8] These additional models break down the dataset into smaller subgroups. Hence, statistical power is lower than that in Model 1 and 2.

[9] The Belgian survey is somewhat old (1994-1996) and period effects could explain why we find no support for H2 in Belgium. We conjecture the value of veiling as a strategic device would grow as community segregation and discrimination increase, which is most likely to have occurred in Europe from the late 1990s onward (Adida, Laitin, and Valfort 2016). Such dynamics could be captured by longitudinal studies.

[10] Meyersson (2010) presents evidence that in Turkey the rule by an Islamic party increases the educational and occupational opportunities of Muslim women, in particular "the pious and poor".

[11] See Carvalho's discussion of the consequences of a ban (2013:361).

[12] See Aksoy & Gambetta (2015).

Table 1. Descriptives.

	Turkey (N=2.639)			Belgium (N=850)			PEW Muslim World (N=15.826)	
	Mean	S.D.		Mean	S.D.		Mean	S.D.
Veiling			Wom. should veil			Veiling		
No-veil	.330		Str. disagree	.168		No-veil	.451	
Headscarf	.504		Disagree	.186		Hijab	.482	
Turban	.155		Som. disagree	.054		Niqab	.043	
Chador	.012		Som. agree	.041		Burqa	.024	
			Agree	.292				
			Str. agree	.258				
Religiosity			Religiosity			Religiosity		
Self-report	2.730	.654	Self-report	5.061	1.161	Self-rep.	2.591	.682
Namaz	2.361	.719	Mosque	3.858	1.089	Mosque	1.728	1.887
Fast	2.799	.505	Fast	.94				
Pray	2.775	.458				Pray	4.443	2.214
R. Quran	1.974	.822				R. Quran	3.442	1.382
			Belg. friends	0.56				
			Belg. in nbrhood	2.799	.969			
Income	.823	.751				Inc (z-scr)	-.032	1.011
Age (3 categor. 1=18/28, 2=29/43, 3= ≥44)	2.030	.806	Age	29.750	8.206	Age	36.704	13.615
Education	6.276	3.762	Education	6.510	5.079	Edu (z-scr)	-.090	.992
Urban	.701		Popul. (100k)	2.487	1.577	Urban	.534	
Single	.163		Single	.031		Single	.305	
Work	.220		Work	.208				
Mean(veil)	1.835	.415	Mean(veil)	3.610	.727	Mean(veil)	1.639	.371
SD(veil)	.534	.267	SD(veil)	1.878	.290	SD(veil)	.531	.199

Table 2: Ordinal probit SEM models predicting veiling in Turkey and in Belgium.

	Turkey		Belgium	
	M1	M2	M3	M4
		Structural Part		
Main effects				
(R) Religiosity (Latent)	3.138** (.233)	5.175** (.940)	2.342** (.367)	2.410* (1.105)
Education	-.107** (.019)	-.118** (.021)	-.858** (.196)	-.948** (.259)
Work	-.546** (.156)	-.420* (.182)	-.494* (.205)	-.692** (.198)
Income	-.208* (.087)	-.319* (.129)		
Single	-.846** (.209)	-.752** (.253)	-.920** (.284)	-.917** (.346)
Age	-.264** (.088)	-.109 (.092)	.002 (.008)	.009 (.013)
Urban	-.138 (.108)	-.264* (.121)	.206* (.081)	.147 (.137)
# Belgians around			-.117 (.073)	-.084 (.097)
Belgian friend			-.797** (.153)	-.973** (.199)
M.(veil)	2.079** (.185)	2.460** (.218)	.681** (.179)	1.182** (.358)
S.D.(veil)	.479** (.227)	.313 (.234)	-.561* (.261)	-.195 (.729)
(Latent) interactions				
R×educ		.240** (.064)		-.439 (.542)
R×work		1.620** (.548)		-.136 (.815)
R×inc		1.500** (.453)		
R×single		1.597 (.984)		-.432 (1.087)
R×age		-.565** (.223)		-.037 (.040)
R×urban		.896* (.359)		.575 (.497)
R×# Belgians around				.666* (.308)
R×Belgian friend				1.651** (.553)
R×m(veil)		-1.336* (.536)		.911 (1.461)
R×sd(veil)		2.922** (.715)		6.410** (2.366)
Intercept				
t1	-.194 (.301)	.167 (.331)	-1.829** (.341)	-3.042** (.384)
t2	3.497** (.323)	4.201** (.377)	-.256 (.275)	-1.057** (.347)
t3	6.986** (.394)	7.823** (.477)	.144 (.266)	-.579 (.367)
t4			.432+ (.256)	-.238 (.356)
t5			2.533** (.402)	2.369** (.683)
		Measurement Part		
Item loadings on R				
Self-report	1.000[a] (.000)	1.000[a] (.000)	1.000[a] (.000)	1.000[a] (.000)
Fast	5.389** (.392)	5.424** (.401)	3.973** (1.029)	3.555** (.915)
Namaz	7.098** (.510)	6.938** (.488)		
Pray	4.253** (.317)	4.149** (.313)		
Quran	2.862** (.181)	2.769** (.182)		
Mosque			-.830** (.097)	-.804** (.075)
Variance of R	.207** (.016)	.207** (.016)	.376** (.066)	.317** (.043)
-LL	10917.44	10793.13	3821.83	3800.41
N	2499	2499	850	850

**p(2-sided)<0.01, *p(2-sided)<0.05, +p(2-sided)<0.1, [a]loading constrained to 1 for identification. Standard errors are in parentheses. In all models, standard errors are robust with respect to non-normality and clustering at the neighbourhood level. Disturbance variances and intercept/thresholds of items in the measurement part are suppressed for brevity. All continuous variables are centred. The mean of the latent religiosity variable is constrained to be zero for identification, thus it is cantered by default. See Online Supplementary Material SM8 for robustness checks.

Table 3: Ordinal probit SEM models predicting veiling in the Muslim world.

	PEW (subset of countries[b])		PEW (all countries[c])	
	M5	M6	M7	M8
		Structural Part		
Main effects				
(R) Latent Religiosity	.348** (.069)	.495** (.134)	.337** (.064)	.414** (.090)
Education	-.095* (.044)	-.100* (.046)	-.160** (.049)	-.191** (.052)
Income	-.027 (.037)	-.026 (.030)	-.009 (.034)	-.024 (.030)
Single	-.139* (.071)	-.143* (.073)	-.175* (.080)	-.210** (.079)
Age	.019** (.003)	.019** (.003)	.019** (.003)	.021** (.003)
Urban	-.126+ (.066)	-.126+ (.068)	-.257** (.079)	-.279** (.084)
M.(veil)	2.444** (.184)	2.525**(.192)	3.036** (.271)	3.105** (.300)
S.D.(veil)	-0.909** (.204)	-.988** (.202)	-.701** (.218)	-.810** (.277)
Latent interactions				
R×educ		.094* (.048)		.089* (.041)
R×inc		.030 (.048)		.032 (.029)
R×single		.203** (.060)		.127** (.029)
R×age		.004 (.003)		-.002 (.002)
R×urban		.088 (.092)		.149** (.046)
R×m(veil)		-.450+ (.238)		-.592** (.155)
R×sd(veil)		.984* (.427)		.734* (.288)
Intercept				
t1	.358* (.153)	.437* (.173)	-.497** (.106)	-.007 (.324)
t2	3.530** (.237)	3.621** (.229)	3.294** (.299)	3.775** (.389)
t3	4.501** (.207)	4.593** (.201)	4.440** (.336)	4.922** (.447)
Item loadings on R				
Self-report	.154** (.023)	.155** (.023)	1.079** (.121)	1.081** (.121)
Mosque	.760** (.081)	.768** (.080)	.606** (.107)	.605** (.107)
Pray	1.000[a] (.000)	1.000[a] (.000)	1.000[a] (.000)	1.000[a] (.000)
Quran	.677** (.070)	.685** (.068)	.703** (.077)	.702** (.076)
Variance of R	1.217** (.182)	1.198** (.182)	2.261** (.525)	2.258** (.525)
-LL	49473.115	49449.674	113618.196	113504.490
N	6989	6989	15826	15826

**p(2-sided)<0.01, *p(2-sided)<0.05, +p(2-sided)<0.1; [a]loading constrained to 1 for identification, country fixed effects are controlled in the model (see the Supplementary Material for those fixed effects); [b]subset includes Algeria, Bangladesh, Egypt, Indonesia, Jordan, Lebanon, Malaysia, Tunisia, Turkey, Pakistan; [c]in addition to the previous subset, Afghanistan, Albania, Azerbaijan, Bosnia, Iran, Iraq, Kazakhstan, Kosovo, Kyrgyzstan, Niger, Palestine, Russia, Tajikistan, Thailand, Uzbekistan included. Standard errors are in parentheses. In all models, standard errors are robust with respect to non-normality and clustering at the neighbourhood level. Disturbance variances and intercept/thresholds of items in the measurement part are suppressed for brevity. All continuous variables are centred. See Online Supplementary Material SM8 for robustness checks.

Table 4. Results of joint tests of coefficients involved in the hypotheses.

	Coefficients tested (predicted sign)	Turkey (KONDA)	Belgium[a] (MHSM)	World Muslims[b] (PEW subset)	World Muslims[b] (PEW all)
Veiling as an expression of religious beliefs (classical theories)					
H1	Education (-), Work (-), Income (-), Single (-), Age (+), Urban (-)	$\chi^2(6) = 125.31$**	$\chi^2(5) = 80.67$**	$\chi^2(5) = 26.48$**	$\chi^2(5) = 29.94$**
Veiling as a strategic choice (commitment and signalling theories)					
H2	Religiosity × (Education (+), Work (+), Income (+), Single (+) Age (-), Urban (+))	$\chi^2(6) = 83.44$**	$\chi^2(5) = 3.96$	$\chi^2(5) = 21.02$**	$\chi^2(5) = 41.68$**
Neighbourhood effects (predicted by classical theories)					
H3a	Mean(veil) (+), S.D.(veil) (-)	$\chi^2(2) = 165.26$**	$\chi^2(2) = 43.63$**	$\chi^2(2) = 195.10$**	$\chi^2(2) = 177.01$**
H3b	Belgians around (-), Belgian friends (-)	N.A.	$\chi^2(2) = 29.29$**	N.A.	N.A.
Neighbourhood effects (predicted by commitment and signalling theories)					
H4a	Religiosity × [Mean(veil) (+), S.D.(veil) (+)]	$\chi^2(2) = 20.25$**	$\chi^2(2) = 10.39$**	$\chi^2(2) = 27.37$**	$\chi^2(2) = 6.20$*
H4b	Religiosity × (Belgians around (+), Belgian friends (+))	N.A.	$\chi^2(2) = 9.68$**	N.A.	N.A.

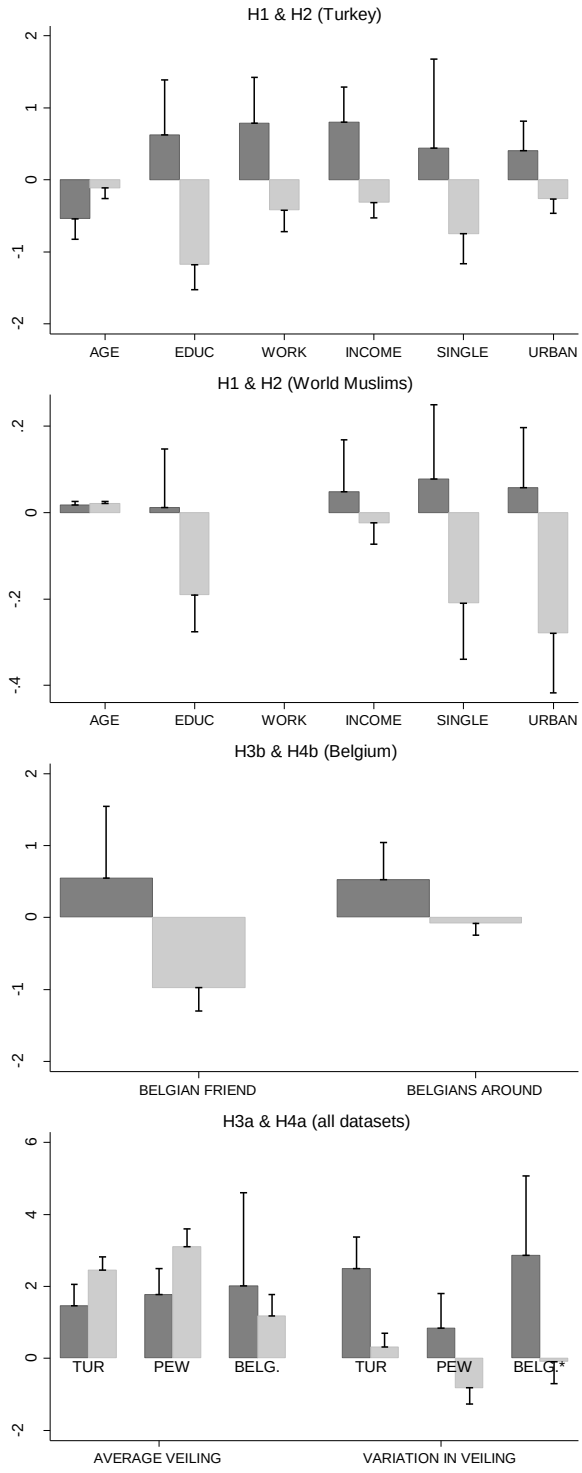
**p(2-sided)<0.01; *p(2-sided)<0.05; [a]*income* missing in the dataset; [b]*work* is missing in the dataset.

Table 5. Binary logistic regression models predicting different types of veiling in Turkey.

	No veil/H.scarf		No veil/Turban		No veil + H.Scarf / Turban	
	M9	M10	M11	M12	M13	M14
(R) Latent	3.885**	4.527*	5.518**	6.204*	2.433**	3.084**
Religiosity	(.376)	(1.964)	(.686)	(2.675)	(.248)	(1.034)
Education	-.269**	-.266**	-.181**	-.148**	.039	.010
	(.030)	(.036)	(.042)	(.054)	(.027)	(.031)
Work	-.622**	-.527*	-.523+	-.965**	-.205	-.270
	(.215)	(.236)	(.271)	(.344)	(.235)	(.265)
Income	-.483**	-.558**	.045	-1.062+	.145	-.008
	(.128)	(.164)	(.159)	(.549)	(.102)	(.197)
Single	-1.291**	-1.33**	-.957**	-.813*	-0.309	-.248
	(.265)	(.257)	(.344)	(.394)	(.217)	(.243)
Age	.377**	0.382**	-.480*	-.567*	-.660**	-.692**
	(.128)	(.146)	(.192)	(.239)	(.117)	(.136)
Urban	-.844**	-.808**	-.603*	-.892**	.090	.088
	(.228)	(.281)	(.283)	(.319)	(.192)	(.207)
M.(veil)	2.513**	2.538**	3.141**	3.500**	2.045**	2.342**
	(.292)	(.339)	(.367)	(.488)	(.296)	(.325)
S.D.(veil)	-1.662**	-1.53**	.791	1.155*	1.913**	1.784**
	(.384)	(.417)	(.571)	(.587)	(.433)	(.429)
R×educ		.000		-.203		.141**
		(.157)		(.232)		(.068)
R×work		1.190		3.006*		1.502*
		(.855)		(1.205)		(.690)
R×inc		1.137+		4.695**		1.223+
		(.638)		(1.783)		(.713)
R×single		-1.066		-2.166		-.096
		(.892)		(1.274)		(.847)
R×age		-.262		.239		.289
		(.558)		(.800)		(.269)
R×urban		.245		.972		-.130
		(1.050)		(1.167)		(.497)
R×m(veil)		-.423		-.871		-1.347*
		(.952)		(1.304)		(.684)
R×sd(veil)		.993		.115		1.295
		(1.465)		(2.114)		(.908)
Intercept						
t1	0.988*	1.097+	2.375**	2.637**	-.004	-.004
	(.476)	(.575)	(.577)	(.688)	(.020)	(.020)
t2						
t3						
-LL	8352.08	8346.50	5222.33	5207.83	12227.91	12207.2
N	2073	2073	1227	1227	2469	2469

**p(2-sided)<0.01, *p(2-sided)<0.05, +p(2-sided)<0.1. Standard errors are in parentheses. In all models, standard errors are robust with respect to non-normality and clustering at the neighbourhood level. Measurement part of the model is suppressed for brevity.

Figure 1. Interactions: effects of variables on the latent propensity to veil for averagely religious (light bars) and highly religious (dark bars, latent religiosity scores 1.64 standard deviations above the mean) women. For Turkey the effect of education refers to 10-years of education; for Belgium only significant interactions are included; PEW effects are based on all countries.



Dark bars: hi religious; light bars: avg. religious; +90% CI; *rescaled

Supplementary Material to "Behind the Veil: the strategic use of religious garb"

SM1: Datasets

The Belgium dataset is from the Migration History and Social Mobility survey (MHSM) conducted from 1994 to 1996. It uses a representative clustered sample in which municipalities were randomly selected from all municipalities with at least 100 Turkish or Moroccan men.[1] To facilitate comparison with the Turkish datasets, we use only female Turkish respondents. This gives us a sample of 850 respondents from 26 Belgian municipalities.

The survey from Turkey were conducted in September 2007 by KONDA. It employs a representative stratified random sample based on the 2000 General Census. Districts, provinces, neighbourhoods, and villages have been randomly sampled. 18 respondents were sampled and interviewed from each neighbourhood and village, subject to age and gender quotas which resulted in 5.291 respondents, of whom 2.639 were female.[2]

The PEW World Muslims Survey is conducted between October 2011 and November 2012 in 26 Muslim countries in Africa, Asia, the Middle East and Europe. These countries are Afghanistan, Albania, Algeria, Azerbaijan, Bangladesh, Bosnia and Herzegovina, Egypt, Indonesia, Iran, Iraq, Jordan, Kazakhstan, Kosovo, Kyrgyzstan, Lebanon, Malaysia, Morocco, Niger, Pakistan, Palestinian Territories, Russia, Tajikistan, Thailand, Tunisia, Turkey, and Uzbekistan. Unfortunately, variable education is completely missing in Morocco due to administrative error (see PEW 2013). Hence, we have to exclude Morocco from our analyses, resulting a total of 25 countries. The survey includes more than 30.000 face-to-face interviews, about 16.000 of which with women. The survey uses stratified area probability sampling which results in nationally representative samples in most countries.

1 For details, see Lesthaeghe (2000).
2 For details, see KONDA (2007).

SM2: Independent Variables

Education

Education is measured as number of years spent in education in the Turkish and the Belgian surveys. In the Belgium dataset, some respondents receive education both in the country of origin and in the country of destination. For such cases, the highest one is chosen. Following Smiths, Ruiter, and van Tubergen (2010), the number of years in education is reduced (1 or 2 years depending on the level) in case the respondent did not receive a diploma.

In the PEW dataset education is measured, depending on the country, in six to 12 categories higher categories representing increasing years of education. To have a comparable measure of education, we convert these education scores to country specific z-scores by standardizing them per country. Unfortunately, education is missing in Morocco due to administrative error (see PEW 2013). Hence, we have to exclude Morocco from our analyses.

Work

For the Turkey and the Belgian surveys, a dummy variable codes if the respondent has been working at the time of the survey, either in a temporary or permanent position, with a part-time or full-time contract (1= works, 0=does not work). The PEW dataset does not include employment status.W

Income

Income is often, as here, a problematic variable. A coarse measurement of household income with five response categories is included in the Turkish survey. We recoded these five categories into category midpoints (in 1000 Turkish Liras per month), where the highest category (above 3.000 TL a month) received a value of 5. For simplicity, we treat this variable as a continuous variable. Unfortunately, the Belgian survey does not have an income variable, thus we could not include this variable for the Belgian analyses.

The PEW World Muslims survey measures income, depending on the country, in six to 17 categories with increasing increments of income. As with education, we convert these income categories into country specific z-scores by standardizing income per country.

Marital status

A dummy variable codes if a respondent is single or not.

Age

Age is measured in three categories in Turkey (1=18-28, 2=29-43, 3=44 and above). We simply treat this variable a continuous. The Belgian and PEW surveys include age in years.

Urbanization

Urbanization is measured in the following way. In the Turkish and PEW surveys, the city of the respondent is not given. However, the surveys do include dummy variables coding if the respondent lives in an urban area as opposed to a rural area (1=urban, 0=rural). We use these dummies. The Belgian survey includes the municipality of the respondent. We obtained data on the current population of the respondents' municipality from the Directorate-general Statistics Belgium. Although this variable codes the current population of the municipalities and the survey is conducted in 1994-1996, the correlation between current populations and populations in 1990s would be more than 0.99.

Number of Belgians in one's neighbourhood

In the Belgian dataset respondents are asked about the existence of native Belgians in one's immediate neighborhood. The answer categories are: "1=none", "2=a few", "3=about half", and "4=predominantly". We treat this variable as continuous.

Belgian friends

The Belgian survey asks if a Turkish women has native Belgian women in her friend circle. This is a binary measurement where 0 indicates no Belgian friends and 1 indicates *at least one* Belgian friend.

SM3: Confirmatory Factor Analysis of Religiosity

In the Turkish survey, we use five indicators of religiosity. The first item directly asks how a respondent defines her religiosity with an ordinal response category (1= not a believer, 2=not a believer in religious obligations, 3= believer but not-practicing, 4=religious trying to fulfil religious obligations, 5=religious fulfilling all religious obligations). For this item we combined the first with the second category of the self reported religiosity measure due to very low number of respondents who answered with the first category. The other four items that measure religiosity ask how often a respondent performs *namaz*, fasts, prays, and reads the Quran (1=regularly, 2=sometimes, 3=never). In the Belgian dataset we measure religiosity with three items: one question asking if "religion plays an important role in life" (1=strongly agree to 6=strongly disagree), a question asking if the respondent fasts (1=yes, 0=no), and one asking the frequency of Mosque attendance (1=never to 5=everyday). In the PEW survey, we measure religiosity with four items comprising frequency of prayer (after reverse coding, 6=several times a day to 0=never), frequency of reading the Quran (5=every day to 0=never), frequency of mosque attendance (0=never to 6=more than once a week), and self-reported importance of religion in one's life (0=not at all important to 4=very important).

In the Turkish survey, a CFA with five items loading on the latent religiosity variable yields a satisfactory fit (Chi-sq(5)=9.36, p(2-sided)=0.09; both CFI and TLI are larger than 0.99; the lowest R-square for the items is 0.39). In the Belgian dataset, religiosity is measured with three items with fasting as a dummy indicator. A CFA with three items and a single latent variable is saturated, that is, bound to fit data perfectly (Kline 2005). For the PEW World Muslims Survey a CFA with four items measuring latent religiosity also yields a good fit (Chi-sq(4)=10.868, p(2-

sided)=0.004; both CFI and TLI larger than 0.99, RMSEA=0.017) . Note that in the PEW dataset a significant Chi-square is almost inevitable due to the large sample size (N=15.826). Other fit measures such as CFI and TLI all indicate good fit. The standard deviation of the latent religiosity variable is about 0.45 in Turkey and 0.56 in Belgium and 0.84 in the Muslim World.

SM4: Comparison of KONDA and PEW data in Turkey

In the PEW dataset, the interviewer records after the interview whether the respondent veils and if so to what extent in four categories. This is potentially problematic because a woman who veil herself in public may not be veiled (or not veiled to the same extent) during the interview, in particular if the interview was conducted inside the respondent's home and the interviewer was a woman, as it seems to have been typically the case. When the gender of the interviewer was recorded in the PEW dataset (in 1.181 cases out of 38.803 total men and women respondents combined), the gender of interviewer and of the interviewee always matched, raising our concern further. PEW itself acknowledge this issue and share the veiling variable only upon request and with the caveat that the variable may not be appropriate for drawing conclusions on the public veiling status of respondents. There is an empirical way in which we can further evaluate the impact of the measure shortcoming. PEW dataset includes Turkey, too. We can, thus compare the interviewer's observed veiling variable in the Turkish sample of PEW with the direct veiling measure we have in the 2007 KONDA dataset. In the latter, 67% of respondents veil (95% CI: 65%-69%), while in the PEW dataset only 51% of women in Turkey were recorded as veiled during the interview (95% CI: 48%-55%). While this difference is in itself quite significant, once we replicate the analyses using the PEW data on the Turkey cases only, we obtain results very similar to the ones we obtain from the KONDA data.

Table S1 reports the regression coefficients and suppresses other parameters for brevity. Results show that almost all of the main effects are significantly influencing veiling propensity, in the expected direction, supporting the classical hypotheses. Among the interaction effects, the

interactions of latent religiosity with income, urbanity, average veiling, and variance of veiling are statistically significant as predicted by the signalling theory, and the interaction involving single is in the expected direction albeit insignificant. These results partially replicate the KONDA results.

TABLE S1: Predicting Veiling in Turkey using PEW World Muslims Survey. Ordinal Probit regression (1=respondent did not cover her head or face, 1=covered her head, 2=covered her head and face, 3=covered her head, face, and eyes). Significant effects (p-2sided<0.1) in bold.

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
VEILING (INTERACTIONS)				
R*INCOME	**0.208**	**0.122**	**1.707**	**0.088**
R*EDUC	-0.026	0.016	-1.594	0.111
R*URBAN	**0.375**	**0.226**	**1.656**	**0.098**
R*SINGLE	0.072	0.220	-0.326	0.745
R*AGE	0.001	0.005	0.279	0.780
R*MEAN(V)	**-1.801**	**1.091**	**-1.651**	**0.099**
R*SD(V)	**2.549**	**0.804**	**3.169**	**0.002**
VEILING (MAIN EFFECTS)				
R (religiosity)	0.147	0.344	0.427	0.669
INCOME	-0.290	0.179	-1.622	0.105
AGE	**0.014**	**0.006**	**2.300**	**0.021**
EDUC	**-0.139**	**0.035**	**-3.966**	**0.000**
URBAN	**-0.449**	**0.271**	**-1.656**	**0.098**
SINGLE	**-0.674**	**0.225**	**2.989**	**0.003**
MEAN(V)	**2.143**	**0.799**	**2.682**	**0.007**
SD(V)	-1.528	1.003	-1.524	0.128
Variances				
R	**1.621**	**0.718**	**2.258**	**0.024**

SM5: Proportional odds assumption

This assumption implies that in an ordinal-logistic regression every ordered dichotomization of the four forms of veiling (e.g., no-head-cover, headscarf, turban, and chador), would yield the same coefficients. For three out of our four datasets this assumption is not problematic given the nature of the measures of veiling

In the Belgium case the dependent variable is an ordinal attitude measure and several alternative specifications of those models, such as a transformed linear or binary regression instead of ordered logit, provide effectively identical results. In the PEW World Muslims survey there are very few women who wear the extreme forms of veil (see Table 1): less than 7% of women wear the niqab and the burqa. Hence, a binary logistic regression collapsing all veiling categories yields almost identical results as the ones we reported.

The assumption is however potentially problematic in the Turkish dataset. To test this assumption one should ideally fit three different models (all categories vs. chador; no-head-cover +

headscarf vs. turban + chador; no-head-cover vs. headscarf + turban + chador), with the same main effects and latent interactions as in M2, and test whether all coefficients across these four models are equal. We tried this procedure, but some of these models failed to converge for numerical reasons as fitting models with latent interactions is computationally demanding. Consequently, in the paper we report separate analyses of different veiling types (Table 5).

SM6: PEW World Muslims Survey country fixed effects

Table S2 and S3 below presents country fixed-effects which are omitted in M7 and M8 in Table 3 for brevity as well as other model parameters which are included in Table 3.

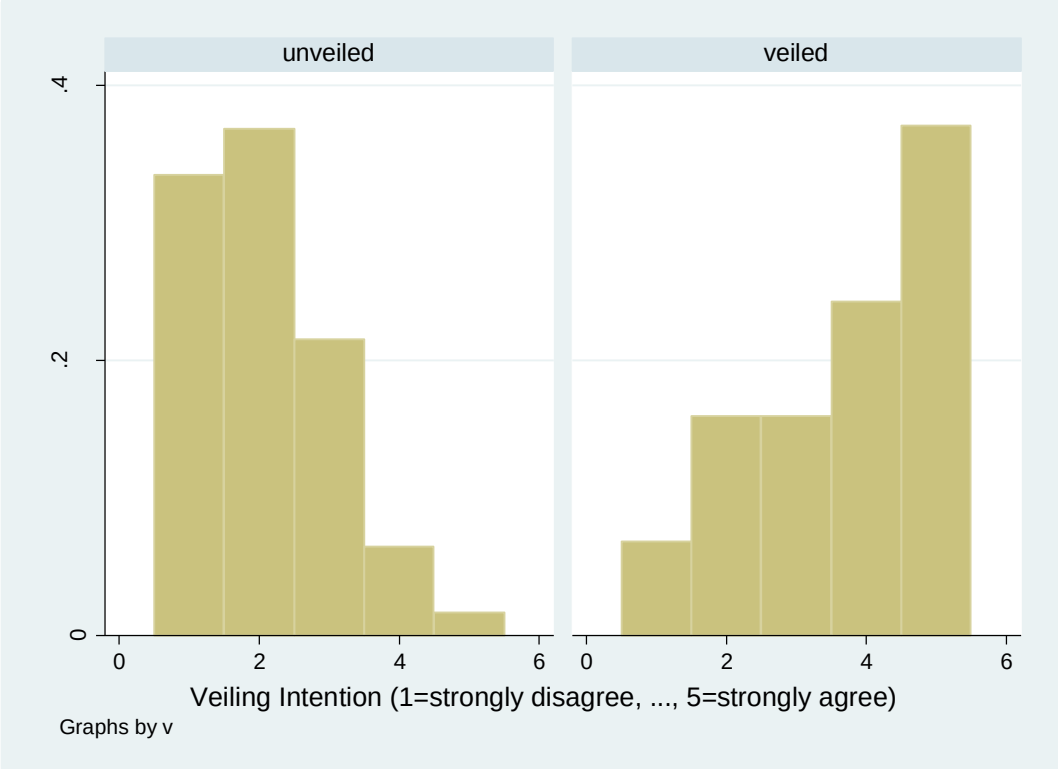
TABLE S2: Predicting Veiling in the PEW World Muslims Survey (subset of countries) (N=6.989).

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
Item Loadings on Religiosity				
R_PRAY	1.000	0.000	999.000	999.000
R_QURAN	0.685	0.068	10.040	0.000
R_SELF	0.155	0.023	6.723	0.000
R_MOSQ	0.768	0.081	9.454	0.000
Veiling on latent variables				
R	0.495	0.134	3.707	0.000
RINC	0.030	0.048	0.613	0.540
REDU	0.094	0.048	1.982	0.048
RURB	0.088	0.092	0.951	0.342
RMAR	-0.203	0.060	-3.399	0.001
RAGE	0.004	0.003	1.376	0.169
RSUM	-0.450	0.238	-1.893	0.058
RSDV	0.984	0.427	2.305	0.021
Veiling on observed variables				
AGE	0.019	0.003	6.563	0.000
EDUC	-0.100	0.046	-2.172	0.030
URB	-0.126	0.068	-1.849	0.065
MARRIED	0.143	0.073	1.966	0.049
SUMMV	2.525	0.192	13.152	0.000
SDV	-0.988	0.202	-4.889	0.000
INCOME	-0.026	0.039	-0.674	0.501
Country Fixed Effects (Reference country=INDONESIA)				
ALG	1.045	0.210	4.983	0.000
BAN	0.836	0.187	4.465	0.000
EGY	0.857	0.202	4.252	0.000
JOR	0.717	0.173	4.134	0.000
LEB	0.782	0.231	3.391	0.001
MAL	0.607	0.173	3.515	0.000
TUN	0.555	0.166	3.345	0.001
TUR	0.918	0.198	4.633	0.000
PAK	0.647	0.260	2.491	0.013
Intercepts				
R_PRAY	4.920	0.098	50.371	0.000
R_QURAN	3.858	0.065	59.568	0.000
R_SELF	2.778	0.024	115.460	0.000
R_MOSQ	2.261	0.181	12.498	0.000
Thresholds				
V$1	0.437	0.173	2.528	0.011
V$2	3.621	0.229	15.834	0.000
V$3	4.593	0.201	22.855	0.000
Variances				
R	1.198	0.182	6.584	0.000
Residual Variances				
R_PRAY	1.944	0.173	11.229	0.000
R_QURAN	0.763	0.059	13.039	0.000
R_SELF	0.235	0.026	9.095	0.000
R_MOSQ	3.128	0.161	19.470	0.000

TABLE S3: Predicting Veiling in the PEW World Muslims Survey (all countries) (N=15.826).

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
Item Loadings on Religiosity				
R_PRAY	1.000	0.000	999.000	999.000
R_QURAN	0.702	0.076	9.274	0.000
R_SELF	1.081	0.121	8.907	0.000
R_MOSQ	0.605	0.107	5.640	0.000
Veiling ON Latent Variables				
R	0.414	0.090	4.581	0.000
RINC	0.032	0.029	1.108	0.268
REDU	0.089	0.041	2.201	0.028
RURB	0.149	0.046	3.200	0.001
RMAR	-0.127	0.029	-4.377	0.000
RAGE	-0.002	0.002	-0.908	0.364
RSUM	-0.592	0.155	-3.827	0.000
RSDV	0.734	0.288	2.544	0.011
Veiling ON Observed Variables				
AGE	0.021	0.003	6.778	0.000
EDUC	-0.191	0.052	-3.665	0.000
URB	-0.279	0.084	-3.302	0.001
MARRIED	0.210	0.079	2.648	0.008
SUMMV	3.105	0.300	10.344	0.000
SDV	-0.810	0.277	-2.921	0.003
INCOME	-0.024	0.030	-0.803	0.422
Country Fixed Effects (Reference country=TURKEY)				
AFG	0.073	0.181	0.406	0.685
ALB	-2.008	0.271	-7.422	0.000
ALG	0.029	0.119	0.242	0.809
AZE	-1.574	0.204	-7.729	0.000
BAN	-0.245	0.059	-4.143	0.000
BOS	-0.981	0.168	-5.841	0.000
EGY	-0.160	0.114	-1.401	0.161
IDN	-1.190	0.171	-6.951	0.000
IRN	0.035	0.192	0.182	0.856
IRQ	0.103	0.136	0.759	0.448
JOR	-0.401	0.095	-4.240	0.000
KAZ	-0.657	0.206	-3.181	0.001
KOS	-1.425	0.164	-8.674	0.000
KYR	-0.303	0.092	-3.288	0.001
LEB	-0.148	0.042	-3.538	0.000
MAL	-0.387	0.074	-5.217	0.000
NIG	-0.190	0.116	-1.636	0.102
PAK	-0.369	0.062	-5.967	0.000
PAL	-0.103	0.085	-1.206	0.228
RUS	-0.020	0.070	-0.285	0.776
TAJ	0.117	0.157	0.744	0.457
THA	-0.483	0.088	-5.478	0.000
TUN	-0.470	0.091	-5.147	0.000
UZB	0.196	0.119	1.644	0.100
Intercepts				
R_PRAY	4.439	0.250	17.782	0.000
R_QURAN	3.426	0.172	19.941	0.000
R_MOSQ	1.726	0.232	7.443	0.000
Thresholds				
R_SELF$1	-5.524	0.283	-19.501	0.000
R_SELF$2	-3.403	0.260	-13.095	0.000
R_SELF$3	-1.132	0.274	-4.136	0.000
V$1	-0.565	0.135	-4.174	0.000
V$2	3.231	0.297	10.864	0.000
V$3	4.380	0.347	12.626	0.000
Variances				
R	2.258	0.525	4.300	0.000
Residual Variances				
R_PRAY	2.651	0.355	7.466	0.000
R_QURAN	0.806	0.075	10.778	0.000
R_MOSQ	2.733	0.248	11.036	0.000

SM7: Distribution of veiling intention among the veiled and unveiled women (SIM-2006 data)



SM8: Robustness of the results with respect to excluding neighbourhoods with small number of observations.

PEW world Muslims survey:

In the PEW world Muslims survey, the number of cases per neighbourhood has a mean of 158.35 and standard deviation of 137.53. Figure SM8A shows the distribution of N per neighbourhood in the PEW data. There are only eight neighbourhoods with an N smaller than 10. As Table SM8A and SM8B show below, excluding those neighbourhoods with N < 10 or even with N < 30 does not change the results in any substantial way.

KONDA:

In the 2007 KONDA survey, the number of cases per neighbourhood has a mean of 9.17 and standard deviation of 1.44. Note than KONDA surveyed, on average, 18 respondents per

neighbourhood. Because we use only female respondents, the average number of respondents per neighbourhood decreases to ~9. Figure SM8B shows the distribution of N per neighbourhood in the KONDA survey. The majority of neighbourhoods has 9 respondents. As Table SM8C shows below, excluding those neighbourhoods with N < 9 does not change the results in any substantial way. (We did not exclude neighbourhoods with N = 9 because if we did so, we would lose the majority of cases.)

Belgian survey:

In the Belgian survey, the number of cases per neighbourhood has a mean of 86.48 and a standard deviation of 39.50. Figure SM8C shows the distribution of N per neighbourhood. As Table SM8D and SM8E respectively show below excluding neighbourhoods with N < 10 and with N < 30 do not change the results in any substantial way.

Summing up, in none of the datasets excluding small neighbourhoods affects the results in any unexpected way.

Figure SM8A. N per neighborhood in the PEW World Muslims Survey.

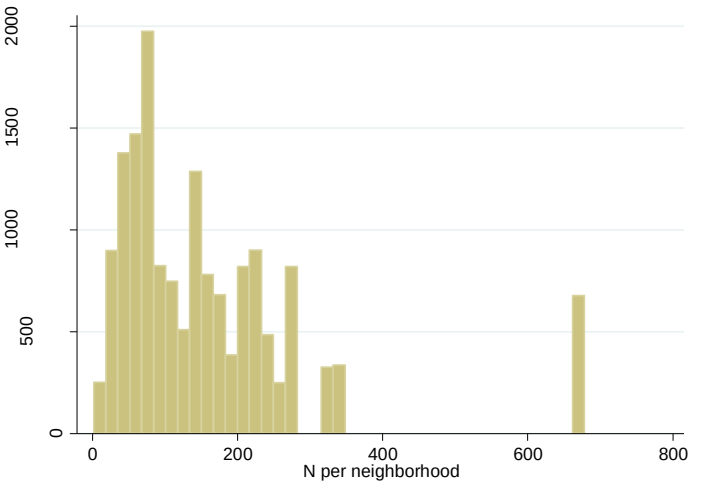


Figure SM8B: N per neighborhood in the 2007 KONDA survey.

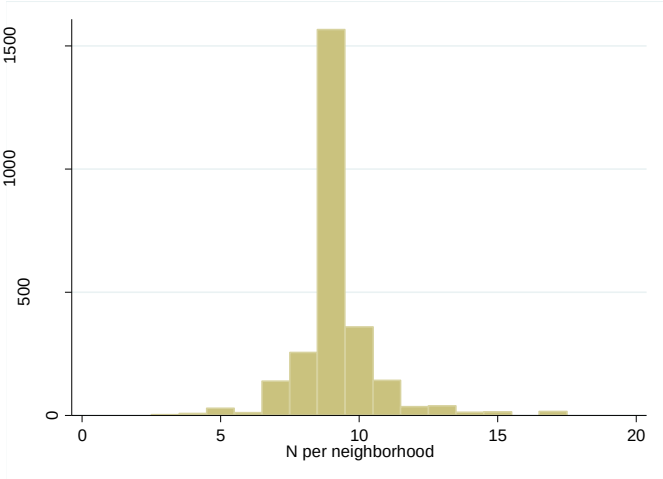


Figure SM8C: N per neighborhood in the Belgian HSMS survey.

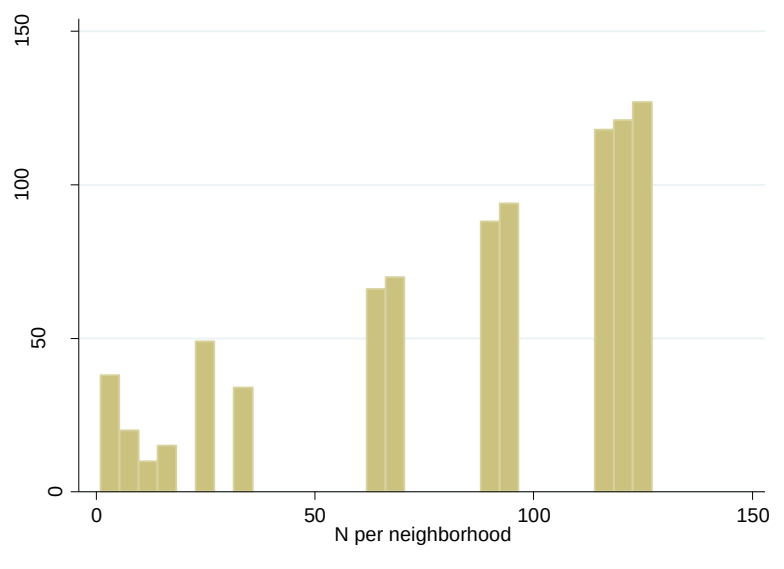


Table SM8A: PEW results excluding neighbourhoods with N < 10.

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
Item loadings on Religiosity				
R_PRAY	1.000	0.000	999.000	999.000
R_QURAN	0.662	0.070	9.448	0.000
R_SELF	0.259	0.026	10.040	0.000
R_MOSQ	0.585	0.104	5.629	0.000
Veiling on latent variables				
R	0.393	0.081	4.830	0.000
RINC	0.033	0.029	1.163	0.245
REDU	0.086	0.042	2.042	0.041
RURB	0.161	0.048	3.362	0.001
RMAR	-0.140	0.033	-4.289	0.000
RAGE	0.000	0.002	-0.248	0.804
RSUM	-0.535	0.122	-4.378	0.000
RSDV	0.714	0.268	2.661	0.008
Veiling on observed variables				
AGE	0.020	0.003	6.702	0.000
EDUC	-0.172	0.055	-3.144	0.002
URB	-0.276	0.088	-3.145	0.002
MARRIED	0.209	0.087	2.416	0.016
SUMMV	3.060	0.340	8.996	0.000
SDV	-0.795	0.269	-2.955	0.003
INCOME	-0.034	0.032	-1.072	0.284
Country fixed effects				
C1	1.368	0.287	4.759	0.000
C2	-0.708	0.269	-2.634	0.008
C3	1.354	0.213	6.365	0.000
C4	-0.501	0.210	-2.389	0.017
C5	0.993	0.132	7.545	0.000
C6	0.355	0.163	2.179	0.029
C7	1.092	0.198	5.512	0.000
C9	1.308	0.290	4.505	0.000
C10	1.383	0.246	5.634	0.000
C11	0.897	0.126	7.106	0.000
C12	0.609	0.214	2.848	0.004
C13	-0.177	0.159	-1.116	0.264
C14	0.938	0.133	7.059	0.000
C15	1.111	0.141	7.857	0.000
C16	0.863	0.118	7.339	0.000
C18	1.118	0.179	6.246	0.000
C19	1.001	0.097	10.273	0.000
C20	1.241	0.175	7.093	0.000
C21	1.197	0.146	8.200	0.000
C22	1.456	0.270	5.391	0.000
C23	0.814	0.129	6.335	0.000
C24	0.799	0.091	8.822	0.000
C25	1.233	0.140	8.842	0.000
C26	1.466	0.213	6.880	0.000
Intercepts				
R_PRAY	4.465	0.250	17.867	0.000
R_QURAN	3.467	0.166	20.856	0.000
R_SELF	2.600	0.063	41.203	0.000
R_MOSQ	1.766	0.242	7.309	0.000
Thresholds				
V$1	0.638	0.176	3.619	0.000
V$2	4.463	0.373	11.968	0.000
V$3	5.604	0.427	13.127	0.000
Variances				
R	2.365	0.542	4.366	0.000
Residual Variances				
R_PRAY	2.493	0.366	6.809	0.000
R_QURAN	0.829	0.069	11.993	0.000
R_SELF	0.296	0.031	9.412	0.000
R_MOSQ	2.797	0.246	11.389	0.000

Table SM8B: PEW results excluding neighbourhoods with N < 30.

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
Item loadings on religiosity				
R_PRAY	1.000	0.000	999.000	999.000
R_QURAN	0.668	0.075	8.932	0.000
R_SELF	0.261	0.027	9.536	0.000
R_MOSQ	0.584	0.110	5.307	0.000
Veiling on latent variables				
R	0.414	0.088	4.717	0.000
RINC	0.046	0.030	1.532	0.125
REDU	0.093	0.046	2.027	0.043
RURB	0.146	0.050	2.893	0.004
RMAR	-0.147	0.035	-4.196	0.000
RAGE	0.000	0.002	-0.060	0.953
RSUM	-0.569	0.132	-4.314	0.000
RSDV	0.740	0.292	2.540	0.011
Veiling on observed variables				
AGE	0.020	0.003	6.485	0.000
EDUC	-0.166	0.056	-2.949	0.003
URB	-0.273	0.084	-3.240	0.001
MARRIED	0.200	0.087	2.296	0.022
SUMMV	3.166	0.356	8.905	0.000
SDV	-0.788	0.294	-2.683	0.007
INCOME	-0.038	0.034	-1.109	0.268
Country fixed effects				
C1	1.283	0.293	4.384	0.000
C2	-0.629	0.290	-2.171	0.030
C3	1.295	0.218	5.953	0.000
C4	-0.441	0.226	-1.953	0.051
C5	0.984	0.141	6.972	0.000
C6	0.401	0.174	2.300	0.021
C7	1.029	0.200	5.151	0.000
C9	1.272	0.309	4.124	0.000
C10	1.329	0.254	5.232	0.000
C11	0.874	0.132	6.621	0.000
C12	0.686	0.232	2.953	0.003
C13	-0.119	0.170	-0.704	0.481
C14	0.965	0.149	6.468	0.000
C15	1.064	0.148	7.191	0.000
C16	0.855	0.127	6.737	0.000
C18	1.065	0.182	5.840	0.000
C19	1.009	0.108	9.380	0.000
C20	1.213	0.184	6.600	0.000
C21	1.276	0.166	7.687	0.000
C22	1.386	0.287	4.834	0.000
C23	0.795	0.136	5.844	0.000
C24	0.819	0.097	8.448	0.000
C25	1.240	0.152	8.143	0.000
C26	1.419	0.227	6.250	0.000
Intercepts				
R_PRAY	4.485	0.251	17.894	0.000
R_QURAN	3.464	0.165	21.037	0.000
R_SELF	2.602	0.063	41.252	0.000
R_MOSQ	1.752	0.244	7.184	0.000
Thresholds				
V$1	0.623	0.186	3.356	0.001
V$2	4.429	0.383	11.567	0.000
V$3	5.586	0.441	12.669	0.000
Variances				
R	2.284	0.539	4.239	0.000
Residual Variances				
R_PRAY	2.492	0.371	6.714	0.000
R_QURAN	0.841	0.074	11.418	0.000
R_SELF	0.300	0.032	9.286	0.000
R_MOSQ	2.794	0.250	11.195	0.000

Table SM8C: KONDA results excluding neighbourhoods with N < 9.

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
Items loading on religiosity				
RX	1.000	0.000	999.000	999.000
R1	7.241	0.611	11.853	0.000
R2	5.485	0.444	12.353	0.000
R5	4.162	0.344	12.086	0.000
R6	2.856	0.214	13.321	0.000
Veiling on latent variables				
R	5.659	1.010	5.605	0.000
RINC	1.849	0.428	4.325	0.000
REDU	0.236	0.073	3.242	0.001
RURB	0.631	0.403	1.567	0.117
RWOR	1.138	0.580	1.961	0.050
RSIN	1.707	1.029	1.660	0.097
RSUM	-1.635	0.584	-2.801	0.005
RSDV	3.031	0.784	3.868	0.000
RAGE	-0.529	0.238	-2.227	0.026
Veiling on observed variables				
AGE	-0.080	0.102	-0.792	0.429
EDU	-0.115	0.023	-4.996	0.000
HINC	-0.407	0.135	-3.016	0.003
URB	-0.267	0.130	-2.045	0.041
WORK	-0.416	0.201	-2.066	0.039
SIN	-0.619	0.275	-2.247	0.025
SUMMV	2.446	0.236	10.358	0.000
SDV	0.520	0.248	2.097	0.036
Intercepts				
RX	2.730	0.023	121.167	0.000
Thresholds				
V$1	0.219	0.362	0.604	0.546
V$2	4.294	0.418	10.263	0.000
V$3	7.755	0.511	15.183	0.000
R1$1	-3.806	0.260	-14.645	0.000
R1$2	-0.008	0.150	-0.055	0.956
R2$1	-5.074	0.281	-18.052	0.000
R2$2	-3.066	0.200	-15.361	0.000
R5$1	-5.455	0.241	-22.663	0.000
R5$2	-2.027	0.164	-12.395	0.000
R6$1	-0.808	0.100	-8.042	0.000
R6$2	0.887	0.092	9.634	0.000
Variances				
R	0.198	0.017	11.560	0.000
Residual Variances				
RX	0.216	0.017	12.499	0.000

Table SM8D: Belgium results excluding neighbourhoods with N < 10.

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
Items loading on religiosity				
R2	1.000	0.000	999.000	999.000
ORUC	4.216	1.077	3.914	0.000
MOSQUE	-0.821	0.079	-10.377	0.000
Veiling on latent variables				
R	3.411	1.192	2.861	0.004
RNAT	0.729	0.362	2.013	0.044
RBFR	1.630	0.574	2.837	0.005
REDU	-0.692	0.465	-1.487	0.137
RWOR	-0.582	0.946	-0.615	0.538
RMV	1.990	1.314	1.515	0.130
RAGE	-0.076	0.033	-2.319	0.020
RMAR	0.162	0.932	0.174	0.862
RPOP	0.400	0.462	0.866	0.386
RSDV	9.866	2.443	4.039	0.000
Veiling on observed variables				
EDUC	-1.039	0.271	-3.831	0.000
WORK	-0.755	0.185	-4.070	0.000
MARRIED	1.003	0.405	2.477	0.013
MV	1.433	0.287	5.002	0.000
BFRIEND	-1.023	0.199	-5.133	0.000
AGE	0.019	0.014	1.333	0.182
POP	0.069	0.115	0.597	0.551
NATIVES	-0.001	0.132	-0.005	0.996
SDV	-0.413	0.695	-0.595	0.552
Intercepts				
R2	5.063	0.130	39.090	0.000
MOSQUE	3.840	0.077	50.147	0.000
Thresholds				
ORUC$1	-4.746	0.730	-6.499	0.000
V$1	-3.189	0.246	-12.963	0.000
V$2	-1.141	0.372	-3.067	0.002
V$3	-0.639	0.409	-1.562	0.118
V$4	-0.300	0.402	-0.748	0.455
V$5	2.513	0.852	2.950	0.003
Variances				
R	0.309	0.050	6.223	0.000
Residual Variances				
R2	1.058	0.121	8.755	0.000
MOSQUE	0.990	0.085	11.581	0.000

Table SM8E: Belgium results excluding neighbourhoods with N < 30.

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
Loadings on religiosity				
R2	1.000	0.000	999.000	999.000
ORUC	4.452	1.109	4.016	0.000
MOSQUE	-0.840	0.065	-12.879	0.000
Veiling on latent variables				
R	3.498	0.985	3.550	0.000
RNAT	0.432	0.355	1.218	0.223
RBFR	1.321	0.689	1.918	0.055
REDU	-1.059	0.329	-3.217	0.001
RWOR	-0.097	0.985	-0.098	0.922
RMV	-3.918	3.181	-1.232	0.218
RAGE	-0.076	0.041	-1.853	0.064
RMAR	0.197	1.003	0.196	0.844
RPOP	2.764	1.376	2.009	0.044
RSDV	6.268	2.518	2.489	0.013
Veiling on observed variables				
EDUC	-1.095	0.258	-4.239	0.000
WORK	-0.604	0.197	-3.061	0.002
MARRIED	1.044	0.395	2.642	0.008
MV	0.966	0.832	1.162	0.245
BFRIEND	-0.996	0.269	-3.705	0.000
AGE	0.023	0.014	1.576	0.115
POP	0.302	0.325	0.928	0.354
NATIVES	-0.121	0.110	-1.097	0.272
SDV	-0.725	0.667	-1.087	0.277
Intercepts				
R2	5.037	0.145	34.828	0.000
MOSQUE	3.837	0.086	44.779	0.000
Thresholds				
ORUC$1	-4.805	0.727	-6.611	0.000
V$1	-3.081	0.266	-11.596	0.000
V$2	-0.967	0.453	-2.137	0.033
V$3	-0.454	0.465	-0.977	0.329
V$4	-0.127	0.435	-0.293	0.770
V$5	2.868	0.845	3.393	0.001
Variances				
R	0.302	0.049	6.151	0.000
Residual Variances				
R2	1.078	0.134	8.018	0.000
MOSQUE	0.950	0.083	11.439	0.000

SM9: Percentage veiling among highly religious versus highly religious and highly educated.

Here, using the PEW data (which is the largest dataset we have) we demonstrate, in a descriptive way, the association between one of the indicators of modernity, namely education, with veiling among highly religious women. As opposed to the analyses we present in the main manuscript, the analysis here is descriptive because of the following reasons. Firstly, here we will only show some bi-variate associations which do not control for other relevant variables such as income or age. Secondly, in our analyses in the main manuscript we treat religiosity as a latent variable. Because a latent variable is, by definition, unobserved, in this simple analysis we cannot identify highly religious women using their latent religiosity. Instead, we identify highly religious women based on their scores on *observed* variables. That is, we select women who answered the items used to measure religiosity with the highest possible response categories. These items are the self-reported importance of religiosity in one's life, and frequencies of prayer, mosque attendance, and reading the Quran. We identify highly religious women in four alternative ways, corresponding to these four items and present results separately for each of these four alternatives. Table SM9 presents the distribution of veiling among highly religious women, and highly religious women who are also highly educated (standardized education scores > 2).

Firstly, even among the highly religious women (irrespective of what item is used to identify the highly religious) there is considerable variance in veiling behaviour. That is, a considerable proportion (between 34% and 39%) of highly religious women do not veil. Secondly, highly religious *and* highly educated women veil more: conditional on high religiosity, the proportion of women who do not veil is consistently lower, and who veil is consistently higher among the highly educated (see dark columns). Interestingly, moreover, highly educated and highly religious women seem to use the most extreme form of veil (i.e. the burqa) more often than highly religious women.

Shortly, despite being highly descriptive (and with the aforementioned caveats in mind), these results demonstrate our core findings we present in the main manuscript.

Table SM9: Veiling among highly religious versus highly religious and highly educated women.

	R(self-rep.) = 3		**R(freq. pray) = 6**		**R(freq. Quran) = 4**		**R(freq. mosque) = 5**	
	All	educ > 2	All	educ > 2	All	educ > 2	All	educ > 2
% No-veil	38.27	34.84	34.44	33.85	39.31	35.23	36.40	29.73
% Hijab	54.46	57.47	57.75	60.51	53.27	56.82	54.36	59.46
% Niqab	4.43	3.62	4.98	2.56	4.54	3.41	5.72	5.41
% Burka	2.84	4.07	2.83	3.08	2.88	4.55	3.52	5.41
N	10,784	221	9,018	195	4,027	88	2,360	37