



Conservative outlook, gender norms and female wellbeing: Evidence from rural Bangladesh

Tanima Ahmed^a, Binayak Sen^{b,*}

^a Department of Economics, American University, 4400 Massachusetts Avenue NW, Washington, DC 20016, USA

^b International Food Policy Research Institute (IFPRI), 1201 Eye Street, NW, Washington, DC 20005-3915, USA



ARTICLE INFO

Article history:

Accepted 15 June 2018

JEL classification:

J16
J21
I10
Z13
O53

Keywords:

Identity
Culture
Gender
Employment
Autonomy
Nutrition

ABSTRACT

Following Identity Theory proposed by Akerlof and Kranton (2000), we conceptualize the interactions between conservative outlook and female wellbeing through influencing gender norms. Conservative households often prefer women to stay home, which correlates to female employment and decision-making autonomy, affecting female physical mobility and female nutrition. Finding a suitable indicator for conservative outlook is difficult as we typically lack household-level ‘value survey’. In the fast modernizing context of rural Bangladesh, wearing *burqa* (veil) is often perceived as an indicator of socially conservative outlook. Using this insight, we process the data from the second wave of the Bangladesh Integrated Household Survey (BIHS) for 2015 to test the statistically robust association between household-level conservative outlook and gender-sensitive wellbeing indicators such as female employment, body mass index, and decision-making autonomy for the population of ever-married females aged 15–49 years old. After controlling for individual, household, and regional characteristics, and using sub-regional fixed effects, our findings suggest that living in conservative households is associated with lower probability of female employment. Females from conservative households are less likely to be in wage work or salaried jobs. The probability of being overweight is also higher for the females in conservative households as compared to non-conservative households.

© 2018 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction: cultural outlook matters

This paper is about whether ‘cultural outlook’ is associated with economic outcomes. It is generally agreed that what cultural views one expressly adheres to belongs to the realm of individual tastes and preferences. Articulation of ‘liberal’ or ‘conservative’ views on a specific cultural issue – within the general biases of social norms and institutions – is often seen as an expression of individual ‘identity’.¹ For instance, a society may be governed by conservative norms that restrict women’s physical mobility, but the individual outlook may be different from society at large and can adopt a view favoring female mobility. The question we want to address is

whether cultural outlook is associated with detectable economic outcomes for the individuals through spillovers and externalities.²

We incorporate identity into a general model of behavior and then demonstrate how identity influences economic outcomes. Specifically, we consider employment, intra-household expenditure and mobility decisions, and nutrition. Identity Theory as articulated by Akerlof and Kranton (2000) incorporates a “person’s sense of self” in the utility function of an individual decision process. “Sense of self” comes from the household, society, and tradition which provides a behavioral prescription for an individual. A conservative or traditional household is more likely to provide a conservative behavioral prescription. A traditional behavioral prescription by the household can negatively affect females’ employment outcomes, health, and empowerment, which overall reduces their ‘capabilities’. Sen (1999) defines capabilities as the ability to live a good life in terms of ‘being and doing’. In this paper, we test the relationship between the conservative or traditional

* Corresponding author.

E-mail addresses: tanima.ahmed@student.american.edu (T. Ahmed), binayak71@yahoo.com (B. Sen).

¹ Liberal and conservative terms are to some extent relative, as they are often differently defined in diverse cultural contexts. Be that it may, the contention of the paper is that views we hold on cultural issues may have economic consequences.

² For an insightful early review of culture’s effect on economic development, see Harrison and Huntington (2000).

outlook of the household and the employment, health, and empowerment of females in Bangladesh.

1.1. Indicator of conservative outlook

Finding a suitable indicator of judging the presence of conservative outlook at the individual/ household level poses a challenge in the absence of household-level ‘value survey’. In this paper, we show the relevance of cultural outlook by examining the economic implications of differing social practices in relation to the observance of *purdah*. These different social practices of *purdah* can be vividly seen in the different physical manifestations of *veiling* ranging from simple head scarf to full-body *burqa*. The choice of *veiling* as an indicator of personal outlook is guided by the consideration that individuals have a certain latitude to the forms of veiling within the general observance of *purdah*.³ While there is no direct requirement to veil in any religious texts, many women choose to do so and in a variety of ways that have nuanced meanings (Amer, 2014). One line of inquiry supports a restrictive definition, whereby observance of *purdah* is achieved by the wearing of the veil, requiring females to cover their skin and conceal their form. It focuses on the “broad set of norms and regulations that promote the seclusion of women and enforce their exclusion from public places and specifies gender-specific labor” (Amin, 1997). Another interpretation of *purdah* draws from the tradition of the legal school (as in case of the Maliki school) which advocates rulings from pragmatism using the principles of *istislah* (public interest) wherever the core religious texts do not provide explicit guidance. The third line of inquiry is that *purdah* can be understood figuratively, as the “veil of the mind,” whereby the subject is asked to lead a life of purity and not required to wear a veil all the time while outside of domesticity. These different gradations of interpretations give rise to different cultural practices with respect to the observance of *purdah* (and *veiling*), allowing us to differentiate the association of cultural outlooks with economic outcomes.

It may be emphasized that the “veil” is a generic term that stands for all external manifestations, from *hijab* (covering of the head and parts of the upper body) to *burqa* (covering of the entire body from head to toes, though not necessarily the face) to full *naqaab* (covering of the entire body from head to toes, including the face, save the eyes). All these forms of veiling are guided by different social customs and individual outlooks that influence the identity of women in traditional societies (Bartkowski & Read, 2003; Davary, 2009). However, the veil can be used for different reasons. Mule and Barthel (1992) identify the veil as a coping strategy for women, as a way of expressing self-esteem and autonomy in a patriarchal society, where, independence of the women is limited. In other contexts, McIntosh and Islam (2010) show that women are more likely to be the female entrepreneurs – with better networking capacity – if they cover their heads, or if their families are supportive. However, the association of the veil as an indicator of conservative identity may vary from the religious-majority to religious-minority countries. Wagner, Sen, Permanadeli, and Howarth (2012) find that in Indonesia, which is a Muslim majority country, women see wearing the veil as a ‘convenient act.’ In India, where Muslims are a minority, the veil is used for the assertion of ‘cultural identity.’ The motivation for wearing a veil may be as important as the act of wearing a veil as an indicator of conservative outlook. In the case of rural Bangladesh, where female participation in manufacturing and other non-agricultural sectors is fast rising it remains an open question whether wearing

veil would be viewed as a convenient act or likely to be interpreted as a dragging factor.

In this paper, we consider a specific form of veil – wearing a burqa – as a proxy for conservative identity at the household level. This is because, as compared to other forms of veil requiring only partial covering of the body, we consider the burqa, which is a long garment that covers women from head to feet to be a *more conservative* form of clothing that is consistent with the orthodox interpretation of *purdah*.

1.2. Relevance of the Bangladesh case study

The choice of Bangladesh for this outlook-outcome study may offer different insights. First, it is a Muslim majority country, but where diverse cultural presence is noticeable. Both Bengali (defining language and culture) and religion (predominantly Islam) played an important role in the making of Bengali Muslim identity and Bengali nationalism in Bangladesh. In such mixed (syncretic) contexts, the association of the conservative practice of *burqa* may be ambiguous. Second, the policy context is also different in Bangladesh. The rural areas of Bangladesh have made considerable progress over the recent decades in female economic advancements and in areas of gender-sensitive human development due to the development activities of Non-Government Organizations (NGOs), as well as supportive social policies of successive regimes. Export-led manufacturing, such as the Ready-Made Garments (RMG) sector, played an important catalytic role in advancing female economic empowerment. This may diffuse the alleged negative association of *purdah* reported elsewhere. The argument is that the ‘form’ of *purdah* can go hand in hand with a new enriched social ‘content’: the tradition is re-invented by modernity. The popularity of *hijab* as a form of *purdah*, especially among urban women, may be viewed in these terms. However, this may not be applicable to the same extent with respect to *burqa* as a form of *purdah*, which remains as a symbol of conservative legacy. Third, there are also opposing trends at work. The incidence of *hijab* has gone up visibly in recent years, which may indicate an increasing trend towards “construction of identity” around traditional norms. We cannot comment on the reason of changing social norms, or whether with rising *hijab* practice women in the future will move later towards the more conservative form of veil ‘*burqa*’. But with rising incidence of *hijab*, whether conservative outlook has any correlation with female well-being and economic empowerment begs scrutiny to anticipate the possible economic implications of such change.

There have been important empirical works in the past, especially in the Bangladesh demography literature, on the norms of *purdah* (see, Kabeer, 1990; Amin, 1997; Hossain and Kabir, 2001; Asadullah and Wahhaj, 2016). These studies broadly point out that the dual pressures of *purdah* and poverty weigh heavily on the lives of rural women. The general conclusion has been to argue for the norms of *purdah* (broadly defined) having *restrictive influences* on women’s labor market participation, empowerment and, consumption. However, none of these studies have explicitly incorporated variables relating to the *purdah* norm as an independent explanatory factor in shaping economic outcomes at the household or individual levels. Besides, the issue is not one of wearing the veil *per se*. The relevance of identity or outlook as the motivating factor underlying the regressive correlation needs to be considered. After all, the veil *per se* may not be associated with barriers to female advancements: the veil may be just the reflection of a preexisting conservative mindset prevailing at the household level (we call it *conservative household outlook*) that fails to see women beyond their traditional reproductive and caregiving roles. Caught in the middle of clashes between tradition and modernity, women may use the symbolism of the veil – in an instrumentalist way – as if

³ Although *purdah* commonly refers to the religious and social practice of female seclusion prevalent among Muslim communities, it can be found in different forms in many non-Muslim communities in South Asia that adhere to the practice of female seclusion.

to impart new meaning to it amidst the threat of conservative backlashes. Seen in this way, wearing the veil may turn out to be a tool of convenience for rural women adapting to new market conditions as they seek new roles as producers or consumers linked with modern sector jobs. In short, there may be radically modern minds acutely alert beneath the veil of the traditional norm of *purdah*. It is thus important to separate out the presence of conservative outlook from its outward manifestations such as the *burqa* or *hijab* and plug that ‘outlook variable’ explicitly into economic analysis. Lacking a household level ‘value survey’ we cannot separately introduce the ‘outlook variable’ into our analysis. However, to the extent, the practice of wearing the *burqa* is reflective of a ‘conservative outlook’ we can quantitatively understand whether such practice has any negative relationship with welfare indicators. None of the past works approached the issue in this manner and explored the *multi-dimensional* associations of household conservatism using a *theoretically informed framework* linking ‘economic outcomes’ with socially ‘conservative outlook,’ which is what we attempt in this paper.

1.3. Contribution of the paper

Based on the existing evidence, our contribution to the literature is threefold. First, using the Akerlof-Kranton (2000) identity-outlook-outcome framework, we test the strength of association between household level conservative outlook and multi-dimensional individual-level outcomes. All women residing in the household, irrespective of their forms of veiling, have been considered in the analysis. Individual outcomes are measured in three important respects: female employment, female decision-making autonomy, and female body mass (nutrition). Second, we use the most recent (2015) data to see whether conservative outlook still matters in rural Bangladesh, as the country moved into the leagues of ‘lower middle income’ (as per the World Bank ranking) and ‘medium human development’ (as per the UNDP ranking).

Third, we use a unique approach to define a household level conservative outlook by considering whether ‘someone in the household’ still takes recourse to the practices of ‘*burqa*’ wearing. However, we cannot address the confounding possibility of bi-directionality between women’s wellbeing outcomes and household conservatism, because women’s labor force participation and autonomy may also reduce household conservatism to a certain extent. On the one hand, women may not seek outside work due to the conservative norm of *purdah*, but on the other hand, norms may also not be binding anymore when women need to go for outside work under the duress of poverty.

The central findings of our paper show that the strict norm of veiling does have a robust negative association with the likelihood of female employment in outside work, especially in non-farm sectors. In addition, it also negatively correlates to women’s health, as it is associated with being overweight.

The paper is organized as follows. After the introductory section that outlines key concepts and approach as well as contextual relevance of the present case-study, Section 2 discusses the conceptual framework, based on the recent advances in the field of ‘identity economics’. Section 3 describes the data and sample, while Section 4 presents the empirical models and results. Finally, Section 5 presents the main conclusions of the paper.

2. Conceptual framework

We follow ‘identity economics’ developed by Akerlof and Kranton (2000) to understand the association of household level

conservative identity on female employment, autonomy, and nutrition. We assume the interaction is taking place between the household with a conservative outlook and the decision of female members living in that household. Bargaining takes place around decisions such as (a) participation in the labor market; (b) household spending; (c) venturing outside of the home (decision on physical mobility), and (d) health-seeking behavior, having effects on women’s nutritional status. If women decide to participate in the labor market, have more autonomy, or seek better health, they bargain to acquire ‘high capability.’

We hypothesize that the ‘conservative outlook’ of a household would constrain the female members living in the household to acquire ‘high capability’ by taking decisions on four types of activities described above. We will test the validity of these priors with actual data. It is generally expected that the conservative household authority would bargain so that the women members of that household stay within the confines of domesticity or be restricted to exclusive caregiving and reproductive roles.

Fig. 1 illustrates the formal game with two social categories: conservative household (mainly implying head or ‘authority’ of a household) and the female household member living in that household. Given the norms in Bangladesh, conservative household follows a traditional behavioral prescription; in a way, conservative household chooses low levels of capability for females living in that household. If everyone follows the conservative prescription, household gains utility V . However, we assume a female member of the household prefers to acquire high capability. If she follows the conservative prescription against her preference, she gets 0 utility. If she follows her preference notwithstanding the behavioral prescription, she can gain maximum utility or pay-off equal to V .

However, this need not be so in the traditional context. Any female who chooses to acquire high capability by going against the current risks of losing self-identity (s), and that reduces her utility or pay-off by I_s . The self-identity is lost in terms of the disapproval from society and the household, and the anxiety one faces due to a choice against societal and household prescriptions.⁴ If the female household member chooses *high capability*, her decision diminishes the pay-off to the conservative household in terms of the household’s potential identity loss by I_H . Nevertheless, if a female member decides to acquire high capability, a conservative household may either elect to respond or not respond to her decision. If the conservative household responds and stops the female member from acquiring high capability, the household incurs a cost of c . For instance, c can be the time the household head or authority spends in dissuading her (or the ‘cost of heated arguments’ the household has to face in the process) from going against the behavioral prescriptions. Irrespective of whether household responds or not, the female member can still decide to acquire high capability but she will lose her utility further by L . L may constitute the time and effort that the rebel female member needs to spend to convince the household in favor of her participation. The term L may also capture the ‘cost of psychological and material conflicts’ that would arise between the conservative household and the female member living in that household. For the conservative household who does not respond but silently suffers the consequences of such decision, there will be some inevitable loss of household’s own identity (I_H) – in its own eye – due to its reluctant consent is given to female member’s decisions rather than stopping her.

⁴ This was evident in the prevalent negative social image of readymade garment workers who came from the rural areas in the 1980s and 1990s. They were subjected to the social labelling of “fallen women” (on this see, Kabeer 2000). In Bangladesh, the term *bajarer meye* (or “woman of the market”) is used to describe a woman of loose morals.

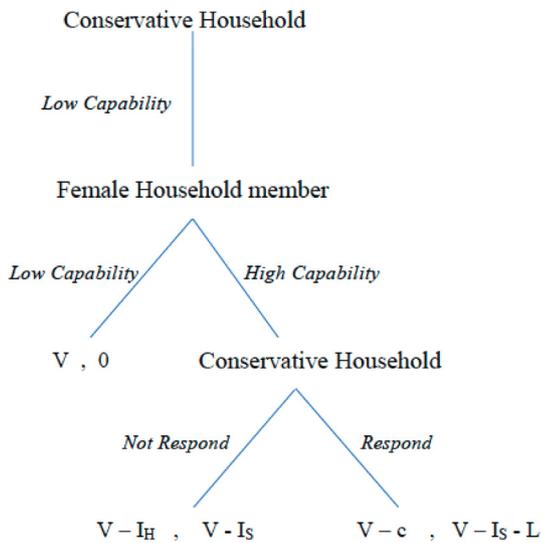


Fig. 1. Game tree of interaction between conservative household and female household member. *Note.* Pay-offs are given as [Conservative household head or authority, Female family member].

The game in Fig. 1 results in four equilibrium outcomes:

- i. Conservative household deters the aspirant female member from acquiring high capability when:

$$c < I_H \text{ and } I_H < V < I_S + L$$

If a female member follows her own preference for high capability, the household head (along with other household members) continue to respond strongly so long as the cost of stopping her from action is less than the loss of their identity measured as I_H . The aspirant female member, in this case, opts to acquire *low capability* because her potential cost of convincing the household and the anxiety from going against household outlook is higher than her likely gain from her decision to acquire high capability.

- ii. Conservative household responds but does not deter female member to acquire high capability when:

$$c < I_0 \text{ and } I_S + L < V$$

In this case, even though conservative household negatively responds to female member's decision for high capability, she does not bow down and decides to acquire high capability against the will of the household. Her loss of social identity and the cost of convincing the conservative household head/ authority is *less* than the gain from following her preference.

- iii. Conservative household does not respond and, female member chooses to acquire high capability when:

$$c > I_H \text{ and } I_S < V$$

The aspirant female member decides to acquire high capability, but the conservative household does not respond. This may happen because the loss of the household identity as I_H is less than the cost c (the conservative household incurs the cost c in trying to stop the female member from acquiring high capability). For the rebel female member, the loss of identity I_S must have been lower than the gain from deciding to acquire high capability and hence, she would continue the path of her preference.

- iv. Female member does not decide to acquire high capability regardless of what conservative household does when:

$$I_S > V$$

Female member will never decide to acquire high capability in any of the above decisions irrespective of the degree of her preference. Such scenario is plausible when her loss of self-identity, and the resultant anxiety, are higher than any potential gains from participation.

Of course, all these pay-off equations can change in altered circumstances when the economic gains become greater than the costs incurred in terms of the erosion of identity. This process gets further stimuli if new images of modern Bangladeshi women – a kind of Bengali “yes, we can” – working with flexible labor skills in farms and factories are also simultaneously fostered in the milieu of a conservative social space. However, new identities form slowly and, substantial economic gains may not trickle down fast enough (due to the stickiness of wages in addition to gender inequities in the distribution of income). Consequently, we expect that a conservative household may still be able to deter its female members from deciding to achieve a high capability. First, the presence of a highly dense community (as in rural Bangladesh) living nearby leads to high risks of identity loss for the conservative household if a female member from that household participates in outside work or achieves her own well-being in a manner that goes against the conventional behavioral prescriptions. Second, the ‘cost of responding’ to the decision of the female worker is also likely to be low in case of traditional ‘joint family’ systems, or in cases where children live with their parents, as is typical in rural Bangladesh. This joint family framework is also likely to add to the ‘cost of convincing’ the household head and thereby increase the value of utility loss (L) for the aspirant female member. In short, both the ‘cost of conflict’ to the aspirant female member for not following the behavioral prescription and the resultant ‘identity loss’ to the conservative household, are expected to be greater than the likely pay-off from participation.

3. Data and sample

In this paper, we use the second wave of Bangladesh Integrated Household Survey (BIHS) conducted in 2015. The BIHS survey is intended to be a nationally representative survey of rural regions of Bangladesh. It collected household, individual, and community-level data using gender-disaggregated and community level questionnaires. Information is collected on household observance of the *purdah* as well as on female well-being indicators at the individual level. This provides a convenient framework to understand the association of household conservatism with female well-being.⁵

Since we are interested in the relationship of *purdah* with female well-being in three broad areas—work, decision making autonomy, and body mass (nutrition). From the survey, we have information on the *purdah* observance for 6383 households. We restrict our analysis to the ever-married females of age 15–49 years.⁶ One household can have multiple members of ever-married females of age 15–49 years.

The household level *purdah* indicators are merged with individual level information contained in different modules relating to ‘household composition,’ ‘anthropometry’ and ‘women’s status.’

⁵ One lacuna of BIHS relates to the exclusion of the urban module. Consequently, we cannot assess any association of conservative outlook on female well-being for urban areas of Bangladesh.

⁶ The choice of this subgroup is consistent with the focus of the Demographic Health Survey (DHS) which collects information on gender-sensitive health outcomes.

3.1. Definition of variables

In the absence of household level value survey, it is not easy to classify a household in such categories as socially conservative or liberal. One needs to search for a good instrument or proxy for household conservatism. Our approach has been to capture variation in the underlying mindset that is at work at the household level and, it involves several methodological considerations.

First, we defined a household to have 'conservative outlook' if *anyone* in the household wears a *burqa*. Our reasoning is that in the early 1980s almost every Muslim household in rural areas would have had at least one woman wearing a *burqa* while going outside of the domicile. At that time, such an indicator could not differentiate between a typical conservative and a typical liberal household then.⁷ However, in the second decade of the 21st century, it may capture the variation in household outlook. The BIHS 2015 data shows that there is some variation in this respect: 73% of rural households have at least one member who wears a *burqa*.⁸ This question refers to the *household level only* since there is no such question asked at the individual level on *purdah* observance. In short, we only receive the signal that at least one member of that household wears a *burqa*, but *do not know* which member or members follow such practices. We also have no information available on the rank of the three possible responses to differentiate across the level of conservatism. Accepting this 'veil of ignorance' (which is a blessing in disguise), we set down to consider the well-being consequences for all the women members aged 15–49 who reside in such households.

The next question is about the *form of purdah* and whether the *burqa* is adequately suited to our purpose of defining conservative outlook. There are many forms, some are more generic than regional, including the *burqa*, *naqaab*, *hijab*, *goonghat* (in North India) or *ghomta* (in Bengal), and each in its way ensures degrees of female privacy or seclusion in a society that gives primacy to the male gaze.⁹ As compared to the *hijab*, which is a headscarf for women, we consider the *burqa*, which is a long garment that covers women from head to feet to be a more conservative form of clothing consistent with the notion of strict observance of *purdah*. We identify this variable by combining two questions: are the women – both young and old – required to cover their heads when going out; and, if yes, what type of covering is used? The latter is a multiple response question. If one of the three possible multiple responses are *burqa*, then we consider that household as having a conservative identity (code 1). If no one in the household wears *burqa*, we consider them as a non-conservative household (code 0).

One concern can arise regarding the motive of wearing *burqa*. Being at the risk of sexually violated, if household members wear *burqa* just for extra protection than *burqa* may not adequately reflect the conservative outlook of the household members. However, our analysis shows that about 86% of the households who has someone in the household wear *burqa* are motivated by religious reasons.

For the dependent variables, *multi-dimensional outcomes at the individual level* have been considered. First, for the employment indicators, we define labor market status in three parts. Based on the primary occupation of each member in the household roster we look at whether a female member is working or not working. Later, conditional on working, we analyze the association of

conservative outlook with the female member's occupational choices between salaried/casual employment, or self-employment. To shed light on the female occupational choices by sectors we disaggregate further the female occupational choices into the following categories: nonfarm salaried/ casual, nonfarm self-employed, farm casual or farm self-employed.

Second, based on questions from the module on "Work, Earnings and Expenses" and the module on "Freedom of Mobility" we construct an empowerment index for each of the eligible female members of a household. We initially construct intra-household decision-making index and physical mobility index separately as well as present the combined autonomy index using Principle Component Analysis (PCA). For constructing the decision-making index, we consider the spending decisions on the following items: food, housing, healthcare, education, and clothing. Similarly, for constructing a physical mobility index, we consider the entire range of decision making autonomy regarding visits outside the confines of home: areas of the immediate community, hat/bazaar, hospital/clinic/doctor, cinema/fair/theater, and for training with NGOs. The autonomy in the intra-household decision and physical mobility equals 4 if an individual can decide by themselves, 3 if an individual takes a joint decision with husband, 2 if husband himself takes the decision and 1 if someone else decides for the individual to go to places. Finally, we combine the questions from intra-household decision making and mobility indexes to form a composite autonomy index. For the values of the index to be between 0 and 1, we normalize all the indexes, such that the higher the index value, the higher the autonomy.

Third, a Body Mass Index (BMI) is used to capture the health and well-being of females. BMI is calculated for an individual by dividing her weight (in kilograms) by height squared (in centimeters). Since BMI indicates the health status of individuals within a certain range of the index, it is subdivided into five categories: (a) Severely Underweight: BMI < 16.5; (b) Underweight: BMI ≥ 16.5 and BMI < 18.5; (c) Normal Weight: BMI ≥ 18.5 and BMI < 25; (d) Overweight: BMI ≥ 25 and BMI < 30; and (e) Obese: BMI > 30. The choice of estimation technique in each case is dictated by the nature of the dependent variable.

3.2. Descriptive statistics

From the *purdah* module of BIHS survey, we have *purdah* related information. After merging the household level *purdah* information with the individual level files, we get the individual level information of the ever-married females aged 15–49 years. We limit our sample to 3677 individuals for whom all the data relating to individual characteristics, household composition, anthropometry, women's status and regional information are available. Out of 3677 evermarried female of age 15–49 years, 89.39% of the female members live in the households who cover their heads with some form of veil such as *burqa*, *hijab* or cover their heads with *saree* (Table 1). However, since strict observance of *purdah* is symbolized by a *burqa*, we need to disaggregate these statistics further. Thus, we find that 74.87% of female members live in the household which has someone wearing a *burqa*, allowing us to identify the zone of conservatism. Accordingly, we consider the rest 25.13% of the individuals living in the rural "non-conservative" group.

3.3. Variation in employment and labor status

Table 2 shows the employment status of the ever-married females aged 15–49 years. We have information on the working status of 2753 female members who live in conservative households (where someone in the household wears a *burqa*) and 994 members who live in non-conservative households (where no one in the household wears a *burqa*).

⁷ Balk (1997) finds 15% of the individuals wore the *burqa* in Bangladesh in 1988. The study focuses on a sample from two areas in Bangladesh and possibly understates the extent of *burqa* wearing in the 1970s and 1980s.

⁸ Based on a 2014 survey, Asadullah and Wahhaj (2016) cites a similar figure of 77% as being the proportion of households observing the norm of *purdah*, which is not the same indicator quoted above, but nevertheless shows similar plausible magnitude.

⁹ *Goonghat* and *ghomta* represent just covering the head with *saree* or cloth (*dupatta*).

Table 1
Distribution of ever-married females of age 15–49 years by the *pardah* status.

	General		Burqa	
	Cover head	Do not cover head	Someone in the HH wears <i>burqa</i> = 1	No one in the HH wears <i>burqa</i> = 0
Response N (%)	3287 (89.39)	390 (10.61)	2753 (74.87)	924 (25.13)

Table 2
Pattern of employment among the ever-married females of age 15–49 years by the *pardah* status.

Dependent variables	Someone in the HH wears <i>burqa</i> (=1)	No one in the HH wears <i>burqa</i> (=0)	Difference (ttest)
Working vs. Not working (=1)	45.51	48.59	–3.08 [†]
N (%)	2753	924	
<i>Conditional on Employment</i>			
<i>Types of Employment</i>			
Self-Employed vs. Salaried/Casual	91.46	77.06	14.40 ^{***}
<i>Types of Employment by Farm-Non-Farm</i>			
Nonfarm Self-Employed	7.98	8.02	–0.0004
Nonfarm Salaried/Casual	7.18	16.04	–8.85 ^{***}
Farm Self-Employed	83.47	69.04	14.43 ^{***}
Farm Casual	1.36	6.90	–5.55 ^{***}
N (%)	1243	449	

Note. Significance: [†]10%, ^{**}5%, ^{***}1%.

Four patterns seem to come from the descriptive statistics. First, the proportion of the non-working group is higher for the females who live in households with a conservative outlook as compared to the females residing in households with ‘non-conservative’ outlook. Second, the percentage of self-employment is higher in case of the conservative households than the non-conservative ones (91.46% vs. 77.06%). Third, the share of casual wage workers is comparatively less in the conservative group. Fourth, disaggregating self-employment by farm and non-farm sectors shows that “excess” of self-employment recorded for the conservative households seems to be valid only in case of the farm sector.

3.4. Variation in female decision-making autonomy

Female decision-making autonomy is a synthetic index summarizing autonomy across diverse decisions ranging from household spending to health-seeking behavior and physical mobility. Diversity dictates disaggregation, especially the need to separate decisions on physical mobility (which can be decided on her own) from intra-household decisions on household expenditures (which often requires joint decisions). From Table 3 we find that the autonomy in intra-household decision making is slightly higher for females living in the conservative household. The values of

the physical mobility index are slightly lower for females living in the conservative households, implying that women in these households have less autonomy in going outside of domesticity compared to households without such conservative outlooks. Ability to take the decision on one’s own physical mobility is widely considered as one of the most autonomy-sensitive indicators (Kabeer, 1990). Second, we create a synthetic index—termed as the “autonomy index”—combining physical mobility and intra-household decision-making ability. A vague increase in autonomy across intra-household decisions and a decrease in autonomy in physical mobility leads to slightly higher autonomy for females living in the non-conservative household as compared to females living in the conservative household. However, none of the differences are statistically significant.

3.5. Variation in female nutritional status

The nutritional status of women is captured by the indicator body mass index (BMI). The average BMI value tends to be higher for the females living in conservative households compared to the females living in the households with ‘non-conservative outlook’ (22.34 as against 21.32). As mentioned earlier, BMI has different health implications at different cut-off values: severe underweight

Table 3
Decision-making autonomy and Body Mass Index among the ever-married females of age 15–49 years by the *pardah* status.

Dependent variables	Someone in the HH wears <i>burqa</i> (=1)	No one in the HH wears <i>burqa</i> (=0)	Difference (ttest)
<i>Decision-making Autonomy</i>			
Intra-Household Decision Index	0.63	0.62	0.01
Physical Mobility Index	0.61	0.62	–0.01
Autonomy Index (Intra HH decision and mobility combined)	0.49	0.50	0.01
<i>Nutrition</i>			
Body Mass Index	22.34	21.32	1.02
<i>BMI Categories</i>			
Severe Underweight	3.60	7.25	–3.66 ^{***}
Underweight	11.88	15.69	–3.81 ^{***}
Normal Weight	62.22	62.01	0.21
Overweight	18.23	12.77	5.46 ^{***}
Obese	4.07	2.27	1.80 ^{**}
N	2753	924	

Note. Significance: [†]10%, ^{**}5%, ^{***}1%.

(below 16.5), moderate underweight (>16.5 and <18.5), normal (>18.5 and <25), overweight (>25 and <30) and obese (>30). The key result seems to suggest a hidden connection between household conservatism and the likelihood of being overweight. Thus, the ever-married females have a higher tendency to be overweight in households with conservative outlooks than in case of the non-conservative category (18.23 vs. 12.77) (see Table 3).

4. Econometric method and results

4.1. Empirical model

In this paper, we test the association between conservative outlook and female wellbeing indicators – employment, autonomy, and health after controlling for individual, household and community level factors. We use the following empirical model:

$$Y_i = \alpha + \beta C_i + \gamma_1 X_{1i} + \gamma_2 X_{2i} + \gamma_3 X_{3i} + \delta_d + \varepsilon$$

where Y_i is the female wellbeing indicators, C_i is the variable for household level conservative outlook, X_{1i} is the individual level control variables, X_{2i} is the household level control variables, and X_{3i} is the regional control variables. Age, age-squared and education are used as individual level control variables. We add the log of per capita expenditure, any member of the household migrated abroad, any member of the household migrated within the country, male members' occupation (no occupation, pure farm, pure non-farm and mixed), household head's education, age, religion, and sex as the household level control variables. For the regional level control variable, we construct a community infrastructure index using the following indicators: availability of schools (primary, secondary, madrasa, colleges and other schools by government and non-government), and health care facilities (private clinic, government clinic and pharmacy), use of motor vehicle to commute to nearest town, and whether the community has *pukka* i.e. cemented roads. In addition, distances of districts from Dhaka are used to capture the opportunity of rising female employment in the garments industry and district level percent of the cropped area under irrigation to capture the mechanization of the agricultural sector in rural areas of Bangladesh in the fiscal year 2014–15¹⁰. Table 8 in the Appendix shows the differences in the observables between the two types of households. We find that there are significant differences in the educational attainment, head's education, head's religion, household expenditure and distance of the district to Dhaka.

We also use the division level fixed effect (δ_d) in the model estimations. All the models are estimated with the clustered standard error on the household level because one household can have multiple members of ever-married females of age 15–49 years in the selected subsample. Our data analysis shows that 25.65% of the selected sample have more than one adult women of age 15–49 years. Our model estimation techniques are described in Table 4.

The association between household level conservative outlook and women's employment and autonomy can be bidirectional. For instance, the employed females may change the conservative attitude of the household members to a certain extent by contributing to the household well-being. We cannot address this concern of bidirectionality lacking effective instruments, therefore we set a more modest goal. Specifically, we test the association of 'conservative identity defined at the household level' on the 'wellbeing outcomes defined at the individual level'. We also test the selection of the households using the Heckman two-stage correction model. We find no selection bias in the second stage estimations.

¹⁰ Data on the variables distance of the district from Dhaka and the district level percent of the cropped area under irrigation are collected from the Road and Highway Department (2018) and, Yearbook of Agricultural Statistics 2013 published by Bangladesh Bureau of Statistics (2015) respectively.

Table 4
Model estimation techniques.

Dependent variables	Estimation techniques
<i>Labor Market Status</i>	
Working (Working = 1)	Probit
Types of Employment by Self-Employed vs. Salaried/Casual	Probit
Types of Employment by Farm-Non-Farm sectors	Multinomial Logit
<i>Decision-making Autonomy</i>	
Intra-Household Decision Index	Ordinary Least Squares (OLS)
Physical Mobility Index	OLS
Autonomy Index (Intra HH decision and mobility combined)	OLS
<i>Nutrition</i>	
BMI Categories	Multinomial Logit

4.2. Empirical results

Here we present the marginal estimates of the correlation between household level conservative outlook and employment, autonomy, and body mass of the ever-married females of age 15–49 years. To test the sensitivity of the findings to different sets of control variables, we present all the results in three steps. First, we run our regressions with individual control variables, and later we add household and regional control variables. We discuss the full model estimates below.

4.2.1. Association of conservative outlook and female employment

The marginal effects in Table 5 shows that conservative outlook is negatively associated with the likelihood of female employment. Household conservatism is correlated with the reduction in the probability of employment for females living in the household by 7 percentage points when compared to females of the non-conservative household. Table 5 shows that conditional on working females, the probability of self-employment is significantly higher by 4 percentage points for the females living in a

Table 5
Marginal effects of the association between household level conservative outlook and labor market outcomes of ever-married females of age 15–49 years.

Dependent variables	Someone in the HH wear burqa (=1)		
	Individual controls	Individual and HH controls	Individual, HH and regional controls
Working (=1)	–0.02 (0.02)	–0.05** (0.02)	–0.07*** (0.02)
N	3677	3677	3677
<i>Conditional on Employment</i>			
<i>Types of Employment</i>			
Self-Employed (=1)	0.10*** (0.02)	0.05*** (0.02)	0.04* (0.02)
<i>Types of Employment by Farm-Non-Farm</i>			
Pr (Nonfarm Self-Employed)	–0.009 (0.01)	0.01 (0.02)	0.01 (0.02)
Pr (Nonfarm Salaried/Casual)	–0.06*** (0.01)	–0.04** (0.02)	–0.03* (0.02)
Pr (Farm Self-Employed)	0.11*** (0.02)	0.04* (0.03)	0.03 (0.03)
Pr (Farm Casual)	–0.04*** (0.01)	–0.01 (0.01)	–0.01 (0.01)
N	1702	1702	1702

Note. The rows correspond to the dependent variables of each model, and the columns correspond to the control variables used in the models. The cells contain the coefficients of the indicator variable 'Someone in the HH wears burqa' for the respective models.

Standard errors in parentheses.

Significance: *10%, **5%, ***1%.

The detailed results of the full model estimates are provided in Tables 9, 10 and 11 in the Appendix.

conservative household than the ones living in non-conservative households.

Self-employment is a broad category, since it can mean anything operated under family labor, and may vary from small family businesses, such as running roadside tea-stalls, to undertaking crop cultivation as farmers, to domestic production based activities such as homestead gardening and poultry rearing. *Purdah* norm can go hand in hand with farm self-employment. Most of farm self-employment activities where the female labor force is conventionally employed are *relatively invisible* in nature, as they relate to poultry rearing and homestead gardening. These activities can take place without the “gross violation” of the norms of *purdah*, as they can be sustained in relative seclusion (Kabeer, 1990). The rapid increase of female participation in the livestock and poultry sectors over the 2000s—mostly as ‘unpaid family workers’—is a case in point (Rahman and Islam, 2013). Table 5 further highlights that, conditional on working, conservatism is negatively associated with the probability to be in non-farm casual work.

Our findings suggest that conservative household identity may constrain women from working in non-farm and non-agricultural sectors. Even if women are working, they are more likely to be self-employed.

4.2.2. Association of conservative outlook and female autonomy

Interestingly, conservative outlook and female autonomy measures are not negatively correlated. From the Table 6, we see that conservative outlook has a significant association with the autonomous decision making regarding intra-household expenditure. This can be due to females staying at home having more autonomy in deciding intra-household expenditures. Women are expected to stay at home contributing to household chores and, consequently,

Table 6
Marginal effects of the association between household level conservative outlook and autonomy and body mass index of ever-married females of age 15–49 years.

Dependent variables	Someone in the HH wear <i>burqa</i> (=1)		
	(1) Individual controls	(2) Individual and HH controls	(3) Individual, HH and regional controls
<i>Decision-making Autonomy</i>			
Intra-Household Decision Index	0.02 [*] (0.01)	0.01 (0.01)	0.02 [*] (0.01)
Physical Mobility Index	−0.004 (0.01)	−0.02 (0.01)	−0.02 (0.01)
Autonomy Index (Intra-Household decision and mobility combined)	−0.004 (0.01)	−0.01 (0.01)	−0.01 (0.01)
<i>Nutrition</i>			
<i>BMI Categories</i>			
Pr (Severe Underweight)	−0.03 ^{***} (0.01)	−0.02 ^{**} (0.01)	−0.02 ^{**} (0.01)
Pr (Underweight)	−0.03 ^{***} (0.01)	−0.04 ^{**} (0.02)	−0.03 [*] (0.02)
Pr (Normal Weight)	−0.01 (0.02)	−0.006 (0.03)	0.003 (0.03)
Pr (Overweight)	0.05 ^{***} (0.02)	0.06 ^{***} (0.02)	0.05 ^{**} (0.02)
Pr (Obese)	0.02 ^{**} (0.01)	0.005 (0.01)	0.001 (0.01)
N	3677	3677	3677

Note. The rows correspond to the dependent variables of each model, and the columns correspond to the control variables used in the models. The cells contain the coefficients of the indicator variable ‘Someone in the HH wears *burqa*’ for the respective models.

Standard errors in parentheses.

Significance: ^{*}10%, ^{**}5%, ^{***}1%.

The detailed results of the full model estimates are provided in Tables 12 and 13 in the Appendix.

they tend to *do more unpaid household work* than their male counterparts. The conservative outlook is also not significantly associated with the physical mobility of rural women. This may reflect the general progress in female physical mobility in rural Bangladesh achieved over the past three decades thanks to the developmental effects of widespread female primary education as well as expansion of microcredit opportunities for women borrowers irrespective veil wearing practices.

4.2.3. Association of conservative outlook and women's nutrition

We also test the association between conservative outlook and women's body mass which indicates to women's nutritional condition. To assess the nutritional indicator of increasing BMI, one needs to disaggregate the latter by its cut-off ranges for different categorization like underweight, normal weight, or overweight. Increasing BMI can be good for nutrition when it implies a decrease in the underweight status. However, after a threshold point, high BMI can be detrimental to nutrition by leading to overweight status and obesity (NIDDKD, 2017). Table 6 shows, on average, the probability of being overweight is higher by 4 percentage points for women in the conservative households as compared to the non-conservative households.

The relationship of household conservatism to nutrition may not be linear across the wealth distributions. In the poor households where there are food resource constraints, household conservatism is most likely to be associated with female's being underweight. Due to the lack of enough food to feed all the household members, in the poor conservative households, women are expected to feed the male household members first and then eat the leftovers later. The nutritional intake for the women in the poor households are expected to be lower than men, as well as the food the females consume are also likely to be unhealthy. On the other hand, for the well-off households where there are no food resource constraints the probability of women being overweight is higher because females can be more homebound.

Since the relationship between household conservatism and BMI can be non-linear, we estimate the association of household conservatism at different expenditure quantiles. Besides, the observance of *purdah* may be a ‘luxury for poor,’ as females in a poor household may need to work to earn livings. Thus, females living in the upper wealth quantile may be overweight in any case. Based on the log of per capita expenditure, we divide the entire female sample into 4 wealth categories (where each category or quantile corresponds roughly to 25% of households).

Appendix Table 14 provides the distribution of *purdah* across the wealth categories. We find that *purdah* in the rural region of Bangladesh is practiced by both the poor and the wealthy. The first thing to note is that the practice of *purdah* is higher among the females in the highest quantile, while the middle expenditure quantiles show similar prevalence. Some quantile specific results are noteworthy (Appendix Table 15). First, in the lowest and highest expenditure categories, we do not find any significant relationship of conservatism with BMI of the females. Second, the matched association with overweight and obesity are statistically visible only in the middle quantiles. It may indicate that from the BMI perspective the veil problem is essentially a middle-class problem. For instance, in the third quantile, compared to the women in the non-conservative households, their counterparts in the conservative households on average have 8 percentage points *higher* probability of being in the ‘overweight’ category. The corresponding associations are even more striking for the second quintile: women in the conservative household have on average 30% higher probability of being obese as compared to women in non-conservative households. In short, household conservatism seems to be correlated more with overweight risks than underweight risks, and those risks magnify in the middle quintiles.

Table 7

Summary of marginal effects of the robustness tests of the association between household level conservative outlook and well-being indicators of ever-married females of age 15–49 years.

Dependent variables	Someone in the HH wear <i>burqa</i> (=1)				
	(1) Robustness test 1 Someone in the HH wears <i>burqa</i> or Hijab (=1)	(2) Robustness test 2 Female member(s) of the HH exclusively wears <i>burqa</i> only (=1)	(3) Robustness test 3 Someone in the HH wears <i>burqa</i> (maximum age of female members is 49 years)	(4) Robustness test 4 Someone in the HH wears <i>burqa</i> (district level cluster standard error)	(5) Robustness test 5 Someone in the HH wears <i>burqa</i> (division level cluster standard error)
Labor Market Status					
Working (Working = 1)	–0.06** (0.03)	–0.07* (0.04)	–0.06** (0.03)	–0.07* (0.04)	–0.07* (0.04)
<i>Conditional on Employment</i>					
<i>Types of Employment</i>					
Self-Employed (=1)	0.04** (0.02)	0.02 (0.05)	0.04** (0.02)	0.04* (0.02)	0.04*** (0.01)
<i>Types of Employment by Farm-Non-Farm=</i>					
Pr (Non-farm Self-employed)	0.003 (0.02)	0.01 (0.03)	0.01 (0.02)	0.01 (0.02)	0.01 (0.01)
Pr (Non-farm Salaried/ Casual)	–0.04** (0.02)	–0.05 (0.04)	–0.03** (0.02)	–0.03** (0.02)	–0.03*** (0.01)
Pr (Farm Self-employed)	0.04 (0.03)	0.02 (0.06)	0.04 (0.03)	0.03 (0.03)	0.03*** (0.01)
Pr (Farm Casual)	–0.01 (0.01)	0.02 (0.03)	–0.01 (0.01)	–0.01 (0.01)	–0.01 (0.01)
<i>Autonomy</i>					
Intra-household Decision	0.02** (0.01)	0.02 (0.02)	0.02* (0.01)	0.01 (0.01)	0.02* (0.01)
Physical Mobility	–0.02 (0.01)	–0.003 (0.02)	–0.01 (0.01)	–0.02 (0.02)	–0.02 (0.02)
Autonomy Index (Intra-Household decision and mobility)	–0.01 (0.01)	–0.003 (0.02)	–0.01 (0.01)	–0.01 (0.01)	–0.01 (0.01)
<i>Nutrition</i>					
Pr (Severe Underweight)	–0.02* (0.01)	–0.002 (0.02)	–0.02* (0.01)	–0.02** (0.01)	–0.02** (0.01)
Pr(Underweight)	–0.03** (0.02)	–0.09*** (0.03)	–0.04** (0.02)	–0.03 (0.01)	–0.03** (0.01)
Pr (Normal Weight)	0.01 (0.03)	0.006 (0.04)	0.001 (0.03)	0.003 (0.02)	0.003 (0.03)
Pr(Overweight)	0.04* (0.02)	0.08** (0.03)	0.05** (0.02)	0.05** (0.02)	0.05** (0.02)
Pr(Obese)	0.01 (0.01)	0.002 (0.01)	0.002 (0.01)	0.001 (0.01)	0.001 (0.01)

Note. The rows correspond to the dependent variables of each model, and the columns correspond to the robustness tests. The cells contain the coefficients of the indicator variable 'Someone in the HH wears *burqa*' for the respective models.

Standard errors in parentheses.

Significance: *10%, **5%, ***1%.

4.3. Robustness of the results

We check the robustness of our results in five ways. The first robustness test relates to the *broader* definition of conservative outlook. Rather than considering the presence of *burqa* as a measure for conservative outlook, we redefine a household as conservative when someone in the household wears *either* a *burqa* or *hijab*.

The second robustness test relates to a more *restricted* definition of conservative outlook by pinpointing cases where only *burqa*-wearing is reported as opposed to mentioning *burqa* either exclusively or in conjunction with other forms of veils (recall that the latter definition we used previously in deriving our main results).

The third robustness test relates to potential skewed patterns of *burqa* wearing among different age-groups. For instance, older household members may follow the practice of *burqa* more as compared to the younger members who either practice *hijab* or may not cover their heads at all. To address this potential bias, we restrict our sample further only to the households where the maximum age of the female members is 49 or under. The fourth

and the fifth robustness check relate to the higher-level clustering of the standard errors to the district and the divisional level respectively.

The associations of conservative outlook with female employment, autonomy, and body mass have been re-estimated using the same models. All the equations are adjusted by the same set of individual, household and regional characteristics, along with divisional fixed effects. The results are summarized in Table 7.

The results broadly confirm the previous findings of adverse relationship of household conservatism with the female well-being indicators.¹¹ In all the three models, we find that conservative outlook is negatively associated with female probability of working and positively associated with chances of female self-employment. Furthermore, females living in a conservative household have a higher tendency of being overweight. The magnitudes of marginal

¹¹ Since the number of women respondents varied across the modules capturing economic outcomes, we also used the *common set of observations* across the outcome variables to check whether our results were contaminated by varying observations. Our results were found to be robust to this stress test.

estimates in case of broadly defined conservative identity are lower than the magnitudes of marginal estimates from our previous findings; whereas for the restricted definition of conservatism, the magnitude is higher. This confirms our assumption that the *burqa* is a more extreme form of clothing than the *hijab* and hence, represents more household conservatism. For other indicators such as types of employment by farm and non-farm the results are found to be sensitive to the definition of conservatism.¹²

5. Conclusion

In this paper, we seek to test the association between household conservatism and female well-being indicators, by considering the dimension of employment, decision-making autonomy and body mass (nutrition). Finding a suitable indicator of household conservatism is not easy, especially in absence of a household level ‘value survey’. We use the criterion of strict observance of the norm of *pardah*—the traditional practice of *female seclusion*—for demarcating conservative households from the rest of the rural society. Specifically, we consider a specific form of veil—through wearing a *burqa*—as an instrument for testing the association of conservative identity at the household level. Arguably, the *burqa* is a more conservative form of clothing as compared to other possible forms such as the *hijab* because it requires the female to wear a garment that covers her from head to toe. We use the second wave of the Bangladesh Integrated Household Survey (BIHS) conducted by IFPRI in 2015 in rural Bangladesh. Choice of the country context adds additional points of analytical relevance.

We follow ‘identity economics’ developed by Akerlof and Kranton (2000) to understand the relationship between of household level conservative identity and female employment, autonomy, and nutritional status. Akerlof and Kranton (2000) incorporate the person’s sense of self in the pay-offs arising from the choices an individual make. Given the structure of patriarchal society, we initially hypothesized that conservative household might discourage their female members from actively seeking outside work, or from taking autonomous decisions regarding physical mobility due to uncertain (long-term) economic gains which may be outweighed by immediate costs in terms of lost self-identity. In a conservative milieu, an individual female member can decide to go against the current, under duress of poverty, but that process involves trade-offs between economic gains against the loss of self-identity both to herself and to the parental household. However, choice of the country context gave us alternative possibilities.

First, Bangladesh represents a curious mix of rich and diverse cultural practices derived from the interplay of faith and habitat. Both Bengali (language and culture) and religion (predominantly Islam) played an important role in the making of Bengali Muslim identity and the branding of Bengali nationalism. Second, policy context is also moving against the current here. Ultimately, all statistics suggest that rural Bangladesh has made considerable progress over the recent decades in female economic advancements and areas of gender-sensitive human development. Sources of strength originated from different directions—development activities of NGOs, supportive social policies of the successive regimes, and a dynamic private sector excelling in export-led manufacturing, such as the RMG sector, which played a catalytic role in advancing female economic empowerment. This may diffuse the alleged detrimental relationship of *burqa* reported elsewhere. However, with rising incidence of *hijab*, the paper attempts to understand whether conservative outlook has any correlation with female

well-being and economic empowerment. In such “mixed” contexts, the relationship of *pardah* with welfare indicators may be ambiguous.

Our empirical results seem to suggest that even in the modernizing context of rural Bangladesh, the cultural outlook correlates with economic outcomes in all three fronts—employment, decision-making autonomy and health status. We find that living in a conservative household is indeed associated with some welfare loss for the female members of that household compared to those who do not have such compulsions. Thus, females in conservative households, as manifested through strict regulation of the *burqa*, have a lower probability of seeking outside work. Conditional on employment, conservative outlook is associated with increased probability of the female members to be viewed as self-employed. As duress of poverty wanes over time, severe undernutrition declines in tandem. However, if the conservative outlook persists while poverty goes down, the overall outcome can be detrimental to women’s health. This seems to be signaled by our results underscoring a robust association between household conservatism and the likelihood of being overweight. The overall findings for association with the reduction in the likelihood of employment, higher probability of being self-employed and overweight do not change if we define conservative outlook differently, use a restricted sample or cluster the standard errors at district and divisional level.

The channels through which conservatism influences nutrition/BMI are worth considering as well. The first channel to consider is the ‘restriction on physical mobility.’ It is possible that women in conservative households are overweight because they are more likely to be confined to domesticity, being actively discouraged to go outside and hence get less exercise. The other channel to consider is the ‘poor quality of diet.’ It is possible that conservative households treat their women members with low nutrition/unhealthy food. There may be an interactive psychological aspect here. It is possible that being restricted from outside world creates greater mental stress, depression or frustration among women in conservative households, which eventually induce them into a lifestyle involving unhealthy dietary practices. Which of the above channels fits better with the observed association between conservatism and overweight, however, cannot be tested presently with available data—a topic we leave for future research.

Three broader implications of the above findings may be considered. First, results of the present paper tend to support the broader implications of the feminist literature, which emphasize the role of gender attitudes (whether social or religious) in shaping a variety of women’s outcomes in developing countries. Like the gender literature on social norms and economic outcomes (Burda et al., 2007; Clark, Ramsbey, & Adler, 1991; Contreras and Plaza, 2010; Fernández, Fogli and Olivetti, 2004; Hayo and Caris, 2013; Jejeebhoy and Sathar, 2001), our study suggests that the cultural outlook of a household may matter in influencing the well-being of individual female members.

However, data on testing the relationship between outlook and outcomes need to improve. Future research on the assessment of ‘cultural outlook’ requires collection of household level data on the ‘value’ indicators, which will enable the researchers to classify the households into robust gradients of modernization. Identification of the association of cultural outlook with the individual level economic outcomes can help policymakers to effectively intervene in the ‘value’ arena. It can also help reduce the pressures of conservative resistance to new economic roles of women in a traditional setting by fostering behavior change communication (BCC) through multiple routes—fostering religious scholarship and institutions for informed dialogue, introducing innovative educational programs that appeal to both faith and reason, and undertaking mass campaigns around specific female advancement issues.

¹² These sensitivity tests point to the importance of more rigorous conceptualization and measurement of the veil indicators as compared to what is being done in national/ international surveys presently.

Second, rural Bangladesh is currently passing through the new phase of technological, structural and social transformations. These transformations are opening new opportunities for the economic role of women objectively. For instance, crop sector management demands a more visible presence of female labor than before, when women were restricted to the relatively invisible sectors of homestead agriculture such as poultry rearing and gardening. The visible rise of female workers in crop sector management will be facilitated by the growth of the mechanized services market for new agricultural technologies, such as mechanized tillage operations and irrigation services. Feminization of new agricultural technologies could signal a further erosion of strict purdah or veiling norms. It may also be indirectly facilitated by the expanding global opportunities permitting the absence of male migrant labor and the consequent erosion of patriarchal authority. These new 'feminizing moments' in Bangladesh's rural developments need to be supported through appropriate policies and institutions.

Third, economic modernization may accelerate social modernization if economic gains from assuming new economic roles outweigh the social costs of identity-loss from abandoning the traditional economic role reserved for women. In Bangladesh, wage employment in non-agricultural and urban sectors (as in the readymade garment industry) had taken place in the past increasingly by transgressing the strict norm of veiling. That could happen under the duress of poverty. As the country is moving towards the middle-income league, the force of poverty is expected to cease to be the driving motivator of cultural transgressions. In the future, the 'cost of identity loss' needs to be far outweighed by 'economic gains' to the rebel female workers so that the gains can be widely shared – benefiting the parental households as well, thus

modifying their initial resistance. If the economic gains come trickling in and are shared between the female worker and the households, then households and females are both expected to value acquiring high capability. The Akerlof-Kranton conditions (for instance, $c > I_H$ and $I_S < V$) will hold and, the female workers would continue to defy the strict norm of veiling and other conservative barriers. It is important to maintain this positive dynamic for female advancements to further transform the Bangladeshi society.

6. Funding sources

This research did not receive any specific grant from funding agencies in the public, commercial or not-for-profit sectors.

7. Conflict of interest

None.

Acknowledgement

The authors are grateful to Katrina Kosec, Agnes Quisumbing, and Jessica Leight for their helpful comments on the draft of the paper. The authors also received very helpful comments from the anonymous reviewers and from Arnob Alam. The authors are responsible for any remaining errors and inconsistencies.

Appendix A

See Appendix Tables 8–15.

Table 8

Comparison of the characteristics between the ever-married females of age 15–49 years living in the conservative and non-conservative households.

	Someone in the HH wears <i>burqa</i> (=1)	No one in the HH wears <i>burqa</i> (=0)	Difference (ttest)
Age	34.69	35.15	0.46
<i>Education</i>			
No education	30.51	43.18	−12.67***
Passed class 1–5	33.49	29.98	3.51**
Passed class 6–8	21.29	14.07	7.21***
Passed class 9–10	12.42	10.17	2.25
Passed class 11–12	1.63	1.62	0.0001
Passed above 12	0.65	0.97	−0.32
<i>Head's Religion</i>			
Muslim	99.92	51.51	48.41***
Hindu	0.001	47.62	−47.54***
Christian	0.00	0.01	−0.01***
HH head is male	81.95	86.14	−4.20**
<i>Head's Education</i>			
No education	41.37	46.86	−5.49***
Passed class 1–5	27.79	27.71	−0.001
Passed class 6–8	14.17	12.22	1.94
Passed class 9–10	12.46	8.77	3.69***
Passed class 11–12	2.58	1.73	0.01
Passed above 12	1.63	2.71	−1.07**
<i>Male Occupation</i>			
No employment	17.07	11.69	5.38***
Pure farm	38.50	39.39	−0.01
Pure non-farm	37.06	41.88	4.80***
Mixed	7.34	7.03	0.003
HH size	5	5	0.00
Migrant in country	18.31	16.45	1.88
Migrant abroad	16.38	14.28	2.09
ln(Per capita expenditure)	14.77	14.67	0.12***
Community Infrastructure Index	0.22	0.22	0.00

(continued on next page)

Table 8 (continued)

	Someone in the HH wears <i>burqa</i> (=1)	No one in the HH wears <i>burqa</i> (=0)	Difference (ttest)
Percent of cropped area under irrigation in 2014–15	46.01	46.55	–0.54
District distance to Dhaka	179.04	201.76	–22.72***
Observations	2753	954	

Note. Significance: *10%, **5%, ***1%.

Table 9

Details on marginal effects of the association between household level conservative outlook and the employment of ever-married females of age 15–49 years.

Variables	(1) Working
Someone in the HH wears <i>burqa</i>	–0.07*** (0.03)
Age	0.04*** (0.01)
Age-squared	–0.0004*** (0.0001)
<i>Education: ref (No education)</i>	
Passed class 1–5	–0.01 (0.02)
Passed class 6–8	0.001 (0.03)
Passed class 9–10	–0.03 (0.03)
Passed class 11–12	0.1 (0.07)
Passed above 12	0.16 (0.10)
<i>Religion: ref (Muslim)</i>	
Hindu	–0.08** (0.03)
Christian	–0.28** (0.13)
HH head is male	–0.02 (0.04)
<i>Head's Education: ref (No education)</i>	
Passed class 1–5	–0.02 (0.02)
Passed class 6–8	–0.05* (0.03)
Passed class 9–10	–0.01 (0.03)
Passed class 11–12	–0.02 (0.06)
Passed above 12	0.002 (0.07)
<i>Male Occupation: ref (No employment)</i>	
Pure farm	–0.03 (0.05)
Pure non-farm	0.003 (0.05)
Mixed	0.02 (0.06)
HH size	–0.01** (0.005)
Migrant in country	–0.05 (0.06)
Migrant abroad	0.06 (0.06)
ln(Per capita expenditure)	–0.04*** (0.01)
Community Infrastructure Index	0.08 (0.06)
Percent of cropped area under irrigation in 2014–15	–0.002** (0.001)

Table 9 (continued)

Variables	(1) Working
District distance to Dhaka	0.002*** (0.0002)
Observations	3677
Divisional FE	Yes

Note. Standard errors in parentheses.
Significance: *10%, **5%, ***1%.

Table 10

Details on marginal effects of the association between household level conservative outlook and the types of employment (self-employed or salaried/casual) of ever-married females of age 15–49 years.

Variables	(1) Self-Employed
Someone in the HH wears <i>burqa</i>	0.04* (0.02)
Age	–0.02 (0.01)
Age-squared	0.0002* (0.0001)
<i>Education: ref (No education)</i>	
Passed class 1–5	0.09*** (0.02)
Passed class 6–8	0.09*** (0.03)
Passed class 9–10	0.05 (0.04)
Passed class 11–12	–0.25** (0.10)
Passed above 12	–0.58*** (0.12)
<i>Religion: ref (Muslim)</i>	
Hindu	–0.13*** (0.04)
Christian	–0.40 (0.26)
HH head is male	0.05 (0.04)
<i>Head's Education: ref (No education)</i>	
Passed class 1–5	0.04** (0.02)
Passed class 6–8	0.02 (0.03)
Passed class 9–10	0.06** (0.03)
Passed class 11–12	–0.01 (0.06)
Passed above 12	0.07* (0.04)
<i>Male Occupation: ref (No employment)</i>	
Pure farm	0.04 (0.04)
Pure non-farm	0.08* (0.04)
Mixed	0.02 (0.06)
HH size	0.01* (0.01)
Migrant in country	–0.04 (0.05)
Migrant abroad	0.06 (0.06)
ln(Per capita expenditure)	0.02 (0.01)
Community Infrastructure Index	–0.08* (0.05)
Percent of cropped area under irrigation in 2014–15	0.002*** (0.001)

Table 10 (continued)

Variables	(1) Self-Employed
District distance to Dhaka	0.0002 (0.0002)
Observations	1702
Divisional FE	Yes

Note. Standard errors in parentheses.
Significance: * 10%, ** 5%, *** 1%.

Table 11

Details on marginal effects of the association between household level conservative outlook and the types of employment by farm and non-farm of ever-married females of age 15–49 years.

Variables	(1) Pr(Non-farm self employed)	(2) Pr(Non-farm Salaried/Casual)	(3) Pr(Farm Self-Employed)	(4) Pr(Farm Casual)
Someone in the HH wear <i>burqa</i>	0.01 (0.38)	−0.03* (−1.98)	0.03 (1.15)	−0.01 (−0.44)
Age	0.01 (1.07)	0.01 (1.47)	−0.02 (−1.88)	0.0001 (0.02)
Age-squared	−0.0002 (−1.24)	−0.0002 (−1.48)	0.0003 (2.06)	−0.00001 (−0.11)
<i>Education: ref (No education)</i>				
Passed class 1–5	0.03 (1.82)	−0.06** (−3.17)	0.06* (2.45)	−0.03** (−2.91)
Passed class 6–8	0.05 (1.90)	−0.07** (−2.93)	0.05 (1.43)	−0.03 (−1.92)
Passed class 9–10	0.03 (0.99)	0.001 (0.04)	0.02 (0.38)	−0.05*** (−4.85)
Passed class 11–12	0.01 (0.28)	0.31** (3.02)	−0.2** (−2.70)	−0.05*** (−4.85)
Passed above 12	−0.06*** (−5.11)	0.62*** (5.40)	−0.52*** (−4.46)	−0.05*** (−4.85)
<i>Religion: ref (Muslim)</i>				
Hindu	0.05 (1.38)	0.02 (1.06)	−0.19*** (−3.45)	0.11* (2.42)
Christian	−0.08*** (−11.03)	0.49 (1.86)	−0.40 (−1.51)	−0.02*** (−5.26)
Head is Male	0.03 (1.10)	−0.06 (−1.49)	0.02 (0.42)	0.01 (0.25)
<i>Head's Education: ref (No education)</i>				
Passed class 1–5	−0.01 (−0.38)	−0.02 (−0.81)	0.04 (1.50)	−0.02 (−1.61)
Passed class 6–8	−0.01 (−0.27)	−0.01 (−0.24)	0.02 (0.62)	−0.01 (−0.65)
Passed class 9–10	−0.02 (−0.99)	−0.04 (−1.82)	0.08* (2.31)	−0.01 (−0.72)
Passed class 11–12	0.03 (0.42)	0.01 (0.16)	0.001 (0.01)	−0.03*** (−5.76)
Passed above 12	−0.06 (−1.49)	−0.05 (−1.40)	0.14** (2.75)	−0.03** (−5.76)
<i>Male Occupation: ref (No employment)</i>				
Pure farm	−0.06 (−1.08)	0.01 (0.25)	0.11 (1.60)	−0.06 (−1.15)
Pure non-farm	−0.12* (−2.06)	−0.05 (−1.44)	0.20** (2.90)	−0.03 (−0.66)
Mixed	−0.13* (−2.11)	0.03 (0.56)	0.15 (1.93)	−0.06 (−1.06)
Household size	−0.0162** (−2.88)	−0.01* (−2.14)	0.03*** (3.97)	−0.002 (−0.70)
Migrant in country	0.06 (1.44)	0.01 (0.15)	−0.09 (−1.41)	0.03 (1.18)
Migrant abroad	−0.09* (−2.07)	−0.02 (−0.50)	0.15* (2.15)	−0.04 (−1.42)
ln (Per capita Expenditure)	−0.01 (−0.60)	−0.01 (−1.00)	0.02 (1.58)	−0.01 (−1.02)
Community Infrastructure Index	0.02 (0.40)	0.08* (2.02)	−0.11 (−1.80)	0.01 (0.34)
Percent of cropped area under irrigation in 2014–15	0.0003 (0.63)	−0.001* (−2.31)	0.001 (1.49)	−0.0003 (−0.81)

Table 11 (continued)

Variables	(1) Pr(Non-farm self employed)	(2) Pr(Non-farm Salaried/Casual)	(3) Pr(Farm Self-Employed)	(4) Pr(Farm Casual)
District distance to Dhaka	–0.0002 (–1.21)	–0.0003 (–1.93)	0.0003 (1.62)	0.0002 [*] (2.06)
Observations	1702	1702	1702	1702
Division FE	Yes	Yes	Yes	Yes

Note. Standard errors in parentheses.

Significance: ^{*}10%, ^{**}5%, ^{***}1%.

Table 12

Details on ordinary least square estimates of the association between household level conservative outlook and the autonomy of ever-married females of age 15–49 years.

Variables	(1) Intra-household	(2) Physical mobility	(3) Autonomy
Someone in the HH wears <i>burqa</i>	0.02 [*] (0.01)	–0.02 (0.01)	–0.01 (0.01)
Age	0.03 ^{***} (0.004)	0.02 ^{***} (0.004)	0.01 ^{***} (0.004)
Age-squared	–0.0003 ^{***} (6.04e–05)	–0.0002 ^{**} (6.09e–05)	–0.0001 ^{**} (5.09e–05)
<i>Education: ref (No education)</i>			
Passed class 1–5	0.002 (0.01)	0.01 (0.01)	0.01 (0.01)
Passed class 6 – 8	0.002 (0.01)	–0.002 (0.01)	–0.002 (0.01)
Passed class 9–10	–0.02 (0.01)	0.01 (0.02)	0.004 (0.01)
Passed class 11–12	0.03 (0.04)	0.10 ^{***} (0.03)	0.09 ^{**} (0.03)
Passed above 12	–0.05 (0.05)	0.04 (0.06)	0.04 (0.05)
<i>Religion: ref (Muslim)</i>			
Hindu	0.003 (0.01)	–0.01 (0.01)	–0.01 (0.01)
Christian	0.11 [*] (0.06)	0.21 ^{***} (0.08)	0.17 ^{***} (0.06)
HH head is male	–0.23 ^{***} (0.02)	–0.25 ^{***} (0.02)	–0.21 ^{***} (0.02)
<i>Head's Education: ref (No education)</i>			
Passed class 1–5	5.18e–05 (0.01)	0.000353 (0.01)	0.000289 (0.01)
Passed class 6–8	–0.01 (0.01)	0.02 (0.01)	0.01 (0.01)
Passed class 9–10	0.01 (0.01)	0.02 (0.01)	0.02 (0.01)
Passed class 11 – 12	–0.0198 (0.02)	–0.0117 (0.03)	–0.01 (0.02)
Passed above 12	0.01 (0.03)	–0.01 (0.03)	–0.01 (0.03)
<i>Male Occupation: ref (No employment)</i>			
Pure farm	–0.04 [*] (0.02)	0.03 (0.02)	0.02 (0.02)
Pure non-farm	–0.06 ^{**} (0.03)	0.01 (0.02)	0.01 (0.02)
Mixed	–0.09 ^{***} (0.03)	–0.03 (0.03)	–0.03 (0.02)
HH size	–0.02 ^{***} (0.002)	–0.01 ^{***} (0.003)	–0.01 ^{***} (0.002)
Migrant in country	–0.10 ^{***} (0.03)	–0.05 [*] (0.03)	–0.0409 [*] (0.03)
Migrant abroad	0.05 (0.03)	0.02 (0.03)	0.01 (0.03)
ln(Per capita expenditure)	–0.01 (0.01)	–0.004 (0.01)	–0.003 (0.01)
Community Infrastructure Index	0.08 ^{***} (0.02)	0.02 (0.02)	0.02 (0.02)
Percent of cropped area under irrigation in 2014–15	0.0003 (0.0003)	0.001 ^{**} (0.0003)	0.001 ^{**} (0.0003)
District distance to Dhaka	0.001 ^{***} (6.18e–05)	0.001 ^{***} (7.04e–05)	0.001 ^{***} (5.89e–05)

(continued on next page)

Table 12 (continued)

Variables	(1) Intra-household	(2) Physical mobility	(3) Autonomy
Constant	0.38*** (0.11)	0.42*** (0.12)	0.33*** (0.10)
Observations	3,677	3,677	3,677
R-squared	0.278	0.231	0.231
Divisional FE	Yes	Yes	Yes

Note. Standard errors in parentheses.
Significance: * 10%, ** 5%, *** 1%.

Table 13

Details on marginal effects of the association between household level conservative outlook and the body mass of ever-married females of age 15–49 years.

Variables	(1) Pr (Severe Under-weight)	(2) Pr (Under-weight)	(3) Pr (Normal Weight)	(4) Pr (Over-weight)	(5) Pr (Obese)
Someone in the HH wear <i>burqa</i>	−0.02* (−2.22)	−0.03 (−1.83)	0.003 (0.13)	0.05* (2.06)	0.001 (0.13)
Age	−0.007* (−2.11)	−0.02* (−2.39)	−0.01 (−1.07)	0.03*** (3.43)	0.006 (1.63)
Age-squared	0.0001* (2.07)	0.0002* (1.99)	0.0001 (0.80)	−0.0003** (−2.99)	−0.00007 (−1.28)
<i>Education: ref (No education)</i>					
Passed class 1–5	−0.02* (−2.08)	−0.02 (−1.29)	−0.02 (−0.78)	0.04* (2.44)	0.02 (1.96)
Passed class 6–8	−0.006 (−0.44)	−0.02 (−0.90)	−0.03 (−1.07)	0.05* (2.54)	0.00001 (0.00)
Passed class 9–10	−0.03 (−1.84)	−0.06* (−2.53)	0.02 (0.52)	0.03 (1.34)	0.03 (1.95)
Passed class 11–12	−0.01 (−0.37)	−0.03 (−0.69)	0.005 (0.07)	0.04 (0.65)	0.003 (0.16)
Passed above 12	−0.06*** (−7.34)	−0.07 (−0.91)	0.06 (0.56)	0.09 (1.20)	−0.03*** (−4.25)
<i>Religion: ref (Muslim)</i>					
Hindu	0.01 (0.75)	−0.01 (−0.41)	0.02 (0.65)	−0.001 (−0.05)	−0.02* (−2.37)
Christian	0.09 (0.83)	−0.13** (−21.23)	−0.28 (−1.79)	0.36* (2.35)	−0.04** (−10.60)
Head is Male	0.004 (0.25)	0.009 (0.29)	−0.03 (−0.63)	−0.01 (−0.39)	0.02* (2.31)
<i>Head's Education: ref (No education)</i>					
Passed class 1–5	−0.004 (−0.43)	−0.002 (−0.11)	0.001 (0.06)	−0.003 (−0.18)	0.007 (1.06)
Passed class 6–8	−0.01 (−0.72)	−0.01 (−0.28)	−0.03 (−1.18)	0.01 (0.60)	0.03** (2.86)
Passed class 9–10	−0.03* (−2.19)	−0.06*** (−3.40)	−0.00939 (−0.30)	0.06* (2.39)	0.04* (2.54)
Passed class 11–12	−0.03 (−1.42)	0.02 (0.49)	−0.18** (−2.97)	0.14* (2.41)	0.05 (1.94)
Passed above 12	0.01 (0.26)	−0.06 (−1.19)	−0.11 (−1.49)	0.07 (1.28)	0.08 (1.79)
<i>Male Occupation: ref (No employment)</i>					
Pure farm	−0.02 (−0.78)	−0.004 (−0.12)	0.04 (0.86)	−0.0001 (−0.00)	−0.02 (−0.82)
Pure non-farm	−0.02 (−0.65)	0.02 (0.64)	0.05 (1.00)	−0.04 (−1.18)	−0.01 (−0.65)
Mixed	−0.02 (−0.63)	−0.0004 (−0.01)	0.05 (0.92)	−0.01 (−0.28)	−0.02 (−0.99)
HH size	−0.001 (−0.34)	−0.01 (−1.61)	0.01 (1.12)	−0.001 (−0.28)	0.002 (0.85)
Migrant in country	−0.001 (−0.03)	−0.03 (−0.69)	−0.01 (−0.12)	0.03 (0.58)	0.01 (0.57)
Migrant abroad	0.002 (0.08)	0.05 (1.13)	0.03 (0.51)	−0.06 (−1.37)	−0.02 (−0.91)
ln (Per capita Expenditure)	−0.01** (−2.69)	−0.03*** (−3.31)	0.01 (0.65)	0.02* (2.03)	0.01* (2.02)
Community Infrastructure Index	0.02 (0.84)	0.04 (0.89)	−0.09 (−1.58)	0.02 (0.45)	0.02 (0.74)
Percent of cropped area under irrigation in 2014–15	−0.001* (−2.27)	0.0002 (0.45)	0.001 (0.65)	0.0004 (0.68)	−0.0003 (−1.06)

Table 13 (continued)

Variables	(1) Pr (Severe Under-weight)	(2) Pr(Under-weight)	(3) Pr (Normal Weight)	(4) Pr(Over-weight)	(5) Pr(Obese)
District distance to Dhaka	0.00004 (0.61)	0.00004 (0.38)	−0.0001 (−0.29)	0.00002 (0.16)	−0.0001 (−0.85)
Observations	3677	3677	3677	3677	3677
Division FE	Yes	Yes	Yes	Yes	Yes

Note. Standard errors in parentheses.

Significance: *10%, **5%, ***1%.

Table 14

Distribution of wearing *burqa* of ever-married females of age 15–49 years by the wealth quantiles.

Wealth quantile	Someone in the HH wears <i>burqa</i> = 1	No one in the HH wears <i>burqa</i> = 0	N
1	640 (23.25)	280 (30.30)	920 (25.02)
2	697 (25.32)	222 (24.03)	919 (24.99)
3	691 (25.10)	228 (24.68)	919 (24.99)
4	725 (26.33)	194 (21.00)	919 (24.99)
N (%)	2753 (100.00)	924 (100.00)	3677 (100.00)

Table 15

Details on marginal effects of the association between household level conservative outlook and the body mass of ever-married females of age 15–49 years by the wealth quantiles.

BMI categories	Someone in the HH wear <i>burqa</i> (=1)			
	(1) Wealth Quantile 1	(2) Wealth Quantile 2	(3) Wealth Quantile 3	(4) Wealth Quantile 4
Pr(Severe Underweight)	−0.02 (0.02)	0.03 (0.03)	−0.05*** (0.02)	−0.003 (0.02)
Pr(Underweight)	−0.03 (0.03)	−0.09** (0.04)	−0.02 (0.03)	−0.03 (0.03)
Pr(Normal Weight)	0.01 (0.04)	−0.20*** (0.07)	−0.03 (0.05)	−0.01 (0.05)
Pr(Overweight)	0.05 (0.04)	−0.03 (0.04)	0.08* (0.04)	0.07 (0.06)
Pr(Obese)	−0.01 (0.01)	0.30*** (0.06)	0.03 (0.03)	−0.03 (0.02)
Observations	920	919	919	919

Note. The rows correspond to the BMI categories of each model, and the columns correspond to the wealth quantiles. The cells contain the coefficients of the indicator variable 'Someone in the HH wears *burqa*' for the respective models.

Standard errors in parentheses.

Significance: *10%, **5%, ***1%.

Each quantile represents roughly 25% of households. All the equations have control variables on individual, household, regional level characteristics with divisional FE.

References

- Akerlof, G. A., & Kranton, R. E. (2000). Economics and identity. *The Quarterly Journal of Economics*, 115(3), 715–753.
- Amin, S. (1997). The poverty-purdah trap in rural Bangladesh: Implications for women's roles in the family. *Development and Change*, 28(2), 213–233.
- Amer, S. (2014). *What is veiling?* University of North Carolina Press.
- Asadullah, M. N., & Wahhaj, Z. (2016). Missing from the Market: Purdah Norm and Women's Paid Work Participation in Bangladesh, IZA Discussion Paper No. 10463, IZA Institute of Labor Economics, Bonn.
- Balk, D. (1997). Defying gender norms in rural Bangladesh: A social demographic analysis. *Population Studies*, 51(2), 153–172.
- Bartkowski, J. P., & Read, J. N. G. (2003). Veiled submission: Gender, power, and identity among evangelical and Muslim women in the United States. *Qualitative Sociology*, 26(1), 71–92.
- Burda, M., Hamermesh, D. S., & Weil, P. (2007). Total work, gender and social norms (No. w13000). National Bureau of Economic Research.
- Clark, R., Ramsbey, T. W., & Adler, E. S. (1991). Culture, gender, and labor force participation: A cross-national study. *Gender and Society*, 47–66.
- Contreras, D., & Plaza, G. (2010). Cultural factors in women's labor force participation in Chile. *Feminist Economics*, 16(2), 27–46.
- Davary, B. (2009). Miss Elsa and the veil: Honor, shame, and identity negotiations. *Journal of Feminist Studies in Religion*, 25(2), 47–66.
- Fernández, R., Fogli, A., & Olivetti, C. (2004). Mothers and sons: Preference formation and female labor force dynamics. *The Quarterly Journal of Economics*, 119(4), 1249–1299.
- Harrison, L. E., & Huntington, S. P. (Eds.). (2000). *Culture matters: How values shape human progress*. New York: Basic Books.
- Hayo, B., & Caris, T. (2013). Female labour force participation in the MENA region: The role of identity. *Review of Middle East Economics and Finance*, 9(3), 271–292.
- Hossain, M. K., & Kabir, M. (2001). Purdah, Mobility and Women's Empowerment and Reproductive Behaviour in Rural Bangladesh. *Social Change*, 31(3), 84–102.
- Jejeebhoy, S. J., & Sathar, Z. A. (2001). Women's autonomy in India and Pakistan: The influence of religion and region. *Population and Development Review*, 27(4), 687–712.
- Kabeer, N. (1990). Poverty, Purdah and women's survival strategies in rural Bangladesh. In Bernstein, H., Crow, B., Mackintosh, M. and Martin, C. (eds.) *Food question: profits versus people?* pp. 134–148.
- Kabeer, N. (2000). *The power to choose: Bangladeshi women workers and labour market decisions in London and Dhaka*. London: Verso.
- McIntosh, J. C., & Islam, S. (2010). Beyond the veil: The influence of Islam on female entrepreneurship in a conservative Muslim context. *International Management Review*, 6(1), 102.
- Mule, P., & Barthel, D. (1992). The return to the veil: Individual autonomy vs. social esteem. In *Sociological Forum* (pp. 323–332). Kluwer Academic Publishers-Plenum Publishers.

- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDKD) (2017). Do you know some of the health risks of being overweight? retrieved from <https://www.niddk.nih.gov/health-information/weight-management/health-risks-overweight>, 15th June, 2017.
- Rahman, R. I., and Islam, R. (2013). Female labour force participation in Bangladesh: trends, drivers and barriers. ILO Asia-Pacific Working Paper Series, International Labor Organization.
- Sen, A. (1999). *Development as freedom*. Oxford University Press.
- Wagner, W., Sen, R., Permanadeli, R., & Howarth, C. S. (2012). The veil and Muslim women's identity: Cultural pressures and resistance to stereotyping. *Culture & Psychology*, 18(4), 521–541.

Data References

- Bangladesh Bureau of Statistics (2015). *Yearbook of agricultural statistics 2013*. Dhaka: Bangladesh Bureau of Statistics.
- International Food Policy Research Institute (IFPRI), 2016, Bangladesh Integrated Household Survey (BIHS) 2015, doi:10.7910/DVN/BXSYEL, Harvard Dataverse, V1, UNF:6:qJrDU4aGDdueHVotK56HrQ==
- Road and Highway Department. Online Road Network. Retrieved February 23, 2018, from <http://www.rhd.gov.bd/OnlineRoadNetwork/SearchRoadMatrix.asp>