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Religious Schools, Social Values and Economic Attitudes: Evidence from Bangladesh

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This paper examines the social impact of a madrasa (Islamic religious school) reform program in Bangladesh. The key features of the reform are change of the curriculum and introduction of female teachers. We assess whether the reform is making any contribution in improving social cohesion in rural areas. We use new data on teachers and female graduates from rural Bangladesh and explore how attitudes toward desired fertility, working mothers, higher education for girls vis-à-vis boys, and various political regimes vary across secondary schools and modernised madrasas. We find some evidence of attitudinal gaps by school type. Modernised religious education is associated with attitudes that are conducive to democracy. On the other hand, when compared to their secular schooled peers, madrasa graduates have perverse attitude on matters such as working mothers, desired fertility and higher education for girls. We also find that young people's attitudes are interlinked with that of their teachers. Exposure to female and younger teachers leads to more favourable attitudes among graduates. These estimated effects are robust to conditioning on a rich set of individual, family and school traits. We conclude by discussing other social and economic implications of these findings.

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1. Introduction

Of late, there has been substantial public interest in religious education in Muslim countries. It is alleged that religious schools (madrasas) promote extreme values and attitude and hence, increase friction and intolerance in the society. If true, this has important implications for the process of economic development. Studies on religious school attendance and the consequent post-schooling outcomes, however, are rare. In particular, none of the extant studies directly focus on the question of non-cognitive outcomes of religious schooling such as economic attitude and social values. Little is known on the attitude of teachers and students towards issues of social and economic importance such as desired family size, democracy, gender rights, labour force participation of women and so on.

In the absence of evidence-based research, much of the current discourse on madrasas in South Asia (and elsewhere) is predicated on anecdotal accounts. The rise of religious "extremism" and intolerance in Bangladesh, India and Pakistan has been traced to the growth of madrasa education system (e.g. Stern, 2001; Bandyopadhyay, 2002; Lintner, 2003; Ahmed, 2005; Griswood, 2005). Not withstanding certain episodes of sectarian violence, Bangladesh has traditionally been a relatively tolerant society. Unfortunately the problem of religious extremism has taken centre stage lately. The recent upsurge of Islamic militancy in Bangladesh has manifested itself in a series of suicide bombings, killing scores of local judges and lawyers. Besides targeting symbols of the secular state, religious fanatics have reportedly hurdled bombs in the cinema halls, circus, and Jatra shows (traditional folk theatres) as part of their campaign to purge the society of "alien" and "non-Islamic" culture. The past years have also seen a steady increase in the number of religious schools in the country. Madrasas (Islamic schools) in Bangladesh are the fastest growing sub-sector of the education sector, allegedly making up for the long-term lack of government provision. A similar pattern is also observed in Pakistan, although, in terms of absolute and relative measures, Bangladesh hosts the largest number of religious seminaries in the sub-continent. Unsurprisingly, the local and international media has singled out madrasas as the key to the radical Islamisation of Pakistan and Bangladesh. Hence, stems the outcry for madrasa reform.

The opponents of madrasas perceive religious schooling as a source of social instability, and internal violence in Bangladesh. This aspersion is despite the fact that most madrasas are registered with the government, strictly follow state-mandated course outlines and text-books, and survive primarily on state finance. The registered madrasa (aka Aliyah) system in Bangladesh comprises of newly set up "modernised" religious schools and "converts" i.e. formerly orthodox all-boys religious schools that have opted to reform curriculm in response to fiscal incentives (Asadullah and Chaudhury, 2006). The modernization scheme originally initiated in the early 1980s has since then created a large pool of youths who make up a significant part of madrasa teachers today. These "Aliyah graduates" are considered "modernists", relative to their older counterparts (graduates of post-reform or "traditional" madrasa) and therefore generate important feedback effects in light of the modernisation efforts. In addition to the injection of "modernists" teachers, Aliyah madrasas have recently embraced female teachers who are

all graduates of secular schools. Lastly, these madrasas have additionally embraced female students and have played an important role in closing gender gaps in secondary school enrolment in Bangladesh – 50% of students in registered secondary madrasas today are female (Asadullah and Chaudhury, 2006). These three features of the religious education system in Bangladesh provide important policy leverage in harmonizing learning outcomes among students from diverse educational backgrounds. This scenario is at stark contrast with other Muslim countries in South Asia, where most religious seminaries are of traditional, orthodox types, predominantly single-sex (boys only) and a comprehensive curriculum reform still outstanding (Ahmad, 2004; Ladbury, 2004). Therefore, Bangladesh offers an excellent case-study for other Muslim countries which hope to embark on a modernisation scheme to bridge the gap between religious and secular schools.

Despite the modernization scheme, one cannot rule out pervasiveness of polarized views among future graduates of modernised (Aliyah) madrasas and secular schools. The reform, by incorporating secular subjects to the earlier religious curriculum, has inculcated skills that are valued in a modern market economy. Nevertheless, to the extent teachers in secular and religious schools differ in attitudes, school-specific differences in student attitudes can prevail despite the use of a modern curriculum. Social interactions matter in learning outcomes and teachers remains the key source of learning in classrooms, thereby facilitating formation of students' attitude through social channels[1]. In Bangladesh, the prospect for social transmission of traditional attitude within school remains high as the majority of current teachers in Aliyah madrasas are "traditionalists". On the other hand, female and younger teachers can harness favorable attitudes among students and act as checks on the influence of the traditionalists. Which of the two effects dominate remains an empiricalquestion.

For an additional reason, one may expect an attitudinal gap between madrasa and school graduates. Despite curriculum modernization, madrasa students can uphold conservatism to the extent they have greater religious fervour. Existence of such a religious divide in attitude and value system formed the basis of Weber's observations on materialism and religiosity more than a century ago:

"We have no intention whatever of maintaining such a foolish and doctrinaire thesis as that the spirit of capitalism . . . could only have arisen as the result of certain effects of the Reformation, or even that capitalism as an economic system is a creation of the Reformation. . . . On the contrary, we only wish to ascertain whether and to what extent religious forces have taken part in the qualitative formation and the quantitative expansion of that spirit over the world" (Weber, 1904; p. 91)

Weber's hypothesis has provoked social scientists to investigate the impact of religion on people's economic attitudes. The most careful empirical test is provided by Guiso et al.

[1] The evidence of gender-based interactions between students and teachers (e.g. role-model effect) is well-documented in the developing country literature. The most recent scientific evidence is by Dee (2005) who uses longitudinal data from the US and concludes that assignment to a same-gender teacher positively influences student achievement and student engagement.

(2003). For a similar reason, one may also expect divergence in attitude towards socio-economic issues (such as fertility choice, family relations and gender segregation) among graduates of different schools. Madrasa graduates can be expected to have less-modernists attitude to the extent they are more religious and the effect of religion dominates that of curriculum reform.

The question of relative quality of secondary madrasa and schools is investigated by Asadullah, Chaudhury and Dar (2007) and Asadullah (2006; 2005)[2]. We therefore complement the current debate on religious school quality in Bangladesh by examining whether teachers and graduates of religious schools display hostile attitudes towards working women, working mothers, gender equity, democracy and other socio-economic values. We do so using recent data on secondary teachers and female graduates in rural Bangladesh. At the secondary level, the educational landscape in Bangladesh is characterized by the prevalence of government-aided private schools and madrasas. Therefore, we compare and contrast private school graduates with that of Aliyah madrasas.

We find some evidence in support of the claim that student attitudes differ by school type and teacher attitudes. Madrasa graduates are less favorable to higher education for girls, working mothers and have preference for large families. At the same time, madrasa graduates reject military dictatorship and have a preference for an Islamic and democratic political system. Nonetheless, exposure to younger and female teachers in school leads to significantly favorable attitudes. Therefore, long-term pay-offs from the policy of female employment in the education sector and curriculum reforms of religious seminaries are significant when assessed in terms of their influence on promoting modernity.

The paper unfolds as follows. Section 2 provides an overview of madrasas in Bangladesh, comparing and contrasting them to those in Pakistan. Section 3 discusses the data. Key testable hypothesis and methodology are discussed in section 4. Results are presented in section 5. Section 6 concludes.

2. Background: Madrasa education in Bangladesh

The schooling system in Bangladesh runs in two parallel streams: the private/public secular schools and the religious seminaries[3]. In parallel to mainstream formal education, students in South Asia can choose to study at Madrasas, which offer Islamic religious education at primary, secondary and higher levels. However, madrasas vary widely *across countries* in their curriculum, aims and doctrine. For instance, there are several federations of madrasas (all defined along sectarian lines) in Pakistan: Sunni-Berelvi, Sunni-Deoband, Ahle Hadith/Salafi and Shia (Rahman, 2005). Similar demarcation exists

[2] Using data on test scores of 8th grade students, Asadullah et al. find no significant difference in student performance between madrasas and schools in rural Bangladesh, once differences in family backgrounds of the students are accounted for.

[3] The English-medium schools constitute a third category. But these are small in numbers and mostly urban-centric, in Bangladesh. For an overview of madrasa education systems in South Asia, see Asadullah and Chaudhury (2006) and Ladbury (2004).

in India although the Deoband madrasas dominate in terms of absolute numbers. In contrast, such divide is weak in Bangladesh. The Bangladeshi madrasas are unique for an additional reason. In the early 1980s, the government undertook a scheme to modernise the madrasas education system whereby secular subjects such as English, Bengali, Science and Mathematics would be taught along with religion-related subjects and languages[4]. Madrasas that accepted this change in the curriculum received government recognition and subsequently qualified for aid money to finance teacher salary[5]. All such religious seminaries are today known as "Aliyah" madrasas which are registered with a government board; the private (unrecognised) ones belong to Quomi education board (Sattar, 2004).

Public aid constitutes for 90% of the teacher salaries in registered private schools and madrasas in Bangladesh. Given the substantial nature of the *incentive to modernize*, the number of unregistered madrasas is unlikely to be high, at least in the rural area[6]. The handful of rural madrasas that has opted out of the modernization scheme survives on external finance and private donatio ns made for religious purposes. These Qoumi madrasas consistitute a non-formal stream of religious education and are characterized by a hierarchy similar to the Aliyah Madrasa system (e.g. hafizia, qiratia, quaumi and nizamia, all under the kharizia system). A majority of these madrasas also house and educate orphans. No single curriculum applies to all Qoumi madrasas so that some divisions prevail in terms of course contents. But we do not know exactly how they differ in their interpretations of religious doctrine. Anecdotal evidence suggests that the majority are allegedly run on the Deobandi line[7]. In general, Qoumi madrasas therefore focus on reciting the Koran and learning the duties of the maulvi in order to prepare students for the running mosques' day-to-day operations.

In the Aliyah Madrasa system, primary education is provided by Ebtedayee institutions and secondary education by Dakhil institutions and higher secondary by Alim level institutions (two years of study) institutions. There is also a two-year Fazil (degree) level education and two-year Kamil (Masters) level education. The government madrasa board is responsible for the design of a national curriculum for all recognised madrasas in the country. The board also conducts public examination at the end of Dakhil/Fazil/Kamil education.

Various aspects of the Bangladeshi reform have been detailed in Asadullah and Chaudhury (2006). Two aspects of the reform scheme are noteworthy. First, Bangla replaced Urdu as the medium of instruction in post-reform years. Ahmad (2004) noted

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[4] All madrasas in Bangladesh are privately owned and managed. There are just 3 state-run religious seminaries in the country. Whilst there are a handful of public secular schools, they play a minor role in the rural areas.

[5] Recently, humanities, science and business education have been introduced at secondary stage.

[6] For a similar reason, almost 98% of the rural secondary schools in Bangladesh are privately owned and registered with the government to secure public funds to pay teacher salaries.

[7] The Deoband (Darul Ulum) model is considered by many as a reaction to the Anglo-Oriental education in colonial India. The Deobandis shun modern scientific and technical education and follow the "Dars-e-Nizamia" – a syllabus which dates back to the 11th century. The nature of other learning materials used in therein remains unknown. Being unrecognized, they do not follow government approved curriculam and hence, are open to exploitation by extremist querters.

that this was an important step in the process of "indigenization" of Islam and Islamic scholarship and their de-linking from their North Indian Islamic wellsprings. Second, Bangla was made a compulsory subject up to the secondary level (Marhala-i-Sanvia); madrasas did not teach Bangla at any level before 1972 (Ahmad, 2004).

These two features of the reform imply that older generation of Aliyah madrasa teachers, all of whom graduated from Quomi madrasas are likely to be "traditionalists" when compared to their younger peers who were educated in Aliyah madrasas themselves and hence likely to be "modernists". If true, this provides an experimental set up to partially assess the impact of modernization by comparing the influence of older and younger Aliyah madrasas teachers on their protégé. Another relevant hallmark of the madrasa education sector reform in Bangladesh is that of increasing female participation in teaching. At the beginning of the reform program, less than 1% of madrasa teachers were female. Today, it stands at 6.9% (Asadullah and Chaudhury, 2006).

According to published statistics for the year 2003, there are 8407 institutions at post-Ebtedayee level constituting approximately 26% of all post-primary education (PPE) institutions (see Table 1). Madrasa enrolment accounts for 15% of total PPE enrolment (1.5m out of a total of 10.6 million). Today, 30 per cent of all secondary level students are from (recognized) madrasas. Most madrasa education takes place in rural locations and rural learners account for 90.9% of madrasa enrolment, compared with around 77% in mainstream education.

Table 1: Profile of recognised secondary schools and post-primary madrasas in Bangladesh (2003) by location

	Madrasa			School		
	# of madrasas (in percentage)	Percentage of female teachers	Percentage of female students	# of schools (in percentage)	Percentage of female teachers	Percentage of female students
Rural	92.49	6	47	86.5	15	53.6
Urban	7.51	11	39	13.5	35.4	51.4
All area	100.00	6	46	100	19.2	53.2

Source: BANBEIS, Ministry of Education, Government of Bangladesh.

The number of secondary madrasas in Bangladesh has increased at a phenomenal pace. In post-1994 years, however, madrasas grew in numbers primarily to cater to increased demand for female education in rural areas (Asadullah and Chaudhury, 2006). This growth in female enrolment was due to the innovative female secondary school stipend scheme. At the beginning of the stipend program in 1994, only 8% of madrasa students were female (Asadullah and Chaudhury, 2006). Today, it stands at 46% (Table 1). However, the long-term socio-economic consequences of feminization of the madrasa education sector remain unknown. In this study, we examine the influence of modernization reform on social cohesion and conformism by studying a sample of female secondary graduates. Using survey data on female secondary education graduates, we document how modernized madrasa education system fare in comparison to secular schools in Bangladesh today. This study therefore provides an important point of departure for the current discourse on madrasas in South Asia and elsewhere in the Muslim world.

3. Survey design and the data

The data used in this paper was collected as part of a general survey to assess the quality of learning in secondary school and madrasas in rural Bangladesh. Our survey instrument includes a large number of questions which were previously used in the World Values Survey (WVS) to document social and economic attitudes of a sample of adults. The attitude questions included in the instrumentation employ a Likert scale. The WVS has been repeated four times in a large number of countries including Bangladesh between 1981 and 2000. Hence, the test items are well tested for Bangladesh and sufficiently contextualised. Due to time constraint in the field, we restricted ourselves only to a sub-set of questions that focused on attitudes towards working mothers, desired fertility, higher education for boys vis-à-vis girls, and a number of political regimes such as military rule, democracy and Islamic rule. Following the pre-test, we dropped additional questions from the student's module owing to their explicit political and sensitive nature.

We interviewed a total of 1280 teachers spread over a random rural sample of 94 secondary madrasas and 231 (non-religious) schools. For a sub-sample of 20 schools and madrasas, we additionally tracked a sample of 191 girls who started secondary schooling in 1998 and graduated sometime afterwards[8]. To select female graduates, we took advantage of an extensive government database on all girls who were enrolled in sixth grade in a recognised secondary school/madrasa in our sample area[9]. This list of girls in the 20 schools/madrasas served as our sample frame. We then sampled a total of 20 girls per school/madrasa. If there were less than 20 girls in a grade 6, all girls were selected[10].

Both the teachers and the girls were interviewed in person to gather detailed data on attitudes towards a number of issues relating to fertility outcomes, working women, democracy, military rule, social work, gender equality and so on. Teachers were interviewed at school whilst female graduates were interviewed individually at their household of residence. In addition to the module on attitude, detailed data was collected on socio-economic status of the respondents and their educational history.

Another unique feature of the survey is collection of detailed retrospective data on schools, classrooms and teachers. Using administrative records from school achieve, we extracted complete information on the gender of teachers who taught the sample girls during their secondary education i.e. 1998-2002. Similarly, we collected information on class size and scholastic rank of the girl in grade final examination.

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[8] These 20 educational institutions were selected following a cluster sampling design. First, from the 60 unions in our original sample, six were randomly selected (one per division). Then, all secondary schools and madrasas in these 6 unions were selected. This led to a sample of 24 educational institutes of which 4 did not have any female students in grade 6 in 1998. Hence, they were excluded during the field work.

[9] The database is maintained by the Ministry of Education to facilitate disbursement of stipend money to girls in the rural area.

[10] This initially led to a total of 325 girls who needed to be tracked. But 135 girls moved away from their natal families (mostly owing to marriage) and hence were absent from the study area so that the rate of sample attrition is 40%.

Table 2 summarises key characteristics of teachers (N=1280) who were interviewed as part of our larger survey. The profile of teacher differs significantly on several dimensions. First, schools[11] employ more female and non-muslim teachers than madrasas. School teachers are more trained and have smaller family size. Fraction of teachers with less than university education is also higher in madrasas. Difference in years of teaching experience between school and madrasa teachers, however, is not large. Other notable aspect of teacher characteristics in our sample relates to their religiosity. When measured in terms of regularity in daily prayers, 91% of the madrasa teachers respond affirmatively. However, the difference with school teachers is insignificant if we account for the fact that 21% of the school teachers are non-Muslim. At the same time, these measures may have little meaning in the rural areas of Bangladesh where it's a social norm to participate in religious rituals. To circumvent this problem, we also collected data on the respondent's own perception of religiosity for all Muslim teachers in our sample. An overwhelming majority (90%) of the school teachers perceived themselves to be religious which is only 3 percentage points less than that of madrasa teachers[12].

Table 2: Socio-economic profile of sample teachers and schools/madrasas

	School		Madrasa	
	Mean	SD	Mean	SD
Teacher: Personal attributes				
Female	0.07	0.25	0.04	0.20
Non-Muslim	0.21	0.41	0.07	0.25
Never married	0.14	0.34	0.14	0.35
Number of children	2.01	1.82	2.24	2.12
Years of experience	14.06	10.63	13.07	8.81
Local origin [born in the union of residence]	0.76	0.43	0.74	0.44
Trained	0.55	0.50	0.28	0.45
Education: SSC/HSC completed	0.02	0.15	0.09	0.29
Education: BA completed	0.71	0.46	0.52	0.50
Education: MA completed	0.27	0.44	0.39	0.48
Prays *daily* outside of religious services	0.86	0.34	0.92	0.28
Considers oneself to be religious	0.90	0.29	0.94	0.25
Teachers: Membership in voluntary organisations/activities				
Social services for elderly/handicapped/deprived people	0.86	0.35	0.88	0.32
Religious or church organizations	0.95	0.22	0.95	0.23
Arts/music/cultural activities	0.62	0.49	0.46	0.50
Political party membership	0.33	0.47	0.37	0.48
Youth work organisation	0.50	0.50	0.49	0.50
Women's group	0.24	0.43	0.18	0.39

[11] We use school to refer to a non-religious school.

[12] These findings are consistent with exisiting research on religiousity in Bangladesh. For instance, Banu (1992) does not find a significant difference in the intensity of religious practice across between socio-economic groups in rural settings. Some difference is however reported for urban population.

School attributes				
Distance to nearest college	4.36	1.17	4.46	1.00
School expenditure	13.06	1.12	13.22	1.03
N	845		335	

Note: Perceived measure of religiosity is based on response to the following question: "Independent of whether you go to mosque or not, would you say you are a religious person?"

Institutional profiles of the sample schools and madrasa are elaborated in Asadullah, Chaudhury and Dar (2007). We however want to point out that there is no significant difference (measures in terms of remoteness and total revenue expenditure) between private schools and madrasas in our sample.

4. Attitudinal profile of teachers by school type and gender

In this section, we explore in detail self-reported data on teacher's attitudes. We are particularly interested in exploring whether there is an attitudinal divide between school and madrasa teachers and males and females. Table 3 summarises teacher attitudes by school types. Our sample contains 335 madrasa and 845 schools teachers[13]. On the question of desired fertility, teacher responses differ significantly: madrasa teachers either favour larger families or are more likely to rely on 'destiny' to decide on the desired number of children. Compared to their secular school colleagues, they significantly favour boys over girls for higher education and men over women for political leadership. They are also significantly sympathetic to religious leadership both in political affairs. For instance, relative to secular school teachers, they significantly prefer Islamic rule, are at greater ease should religious leaders influence people's voting choice, like to see more religious people in public offices and more likely to support religious leader's interference in government affairs.

The attitudinal differences documented in Table 3 are not very large, rarely exceeding 10 percentage points. Reasons for these differences are likely to vary depending on the outcome of interest. This could either reflect the fact that Aliyah madrasas largely comprise of teachers who were educated in Qoumi madrasas and hold a more traditional world-view. Given their exclusive education in religious scriptures and principles of Islamic jurisprudence, their sympathy for religion is not unexpected. However, it is hard to conclude whether madrasa teachers differ in attitude because of their religiosity. Subjective and objective measures of religiosity available in our dataset do not show sizable differences in religious belief and practices (see Table 2).

On the question of desired fertility, one possibility could be supply-side related. As pointed out in Sinha (2004), when faced with the desired family size question, both constrained and unconstrained couples compare their demand for children with knowledge of their biological supply; unconstrained couples respond with a number while constrained couples respond with a qualitative response such as "It is up-to-God (UTG)", that essentially conveys the notion of demanding as many children as the supply function can yield. However, there is no a priori reason to believe that the higher

[13] A total of 19 madrasa teachers were discarded due to missing data problems.

percentage of madrasa teachers are supply-constrained compared to their colleagues serving secular schools.

Table 3: Social and economic attitude, by school type

	School	Madrasa	t-test of difference in means
Number of children necessary for an ideal family: numeric response	1.94	2.14	*
Number of children necessary for an ideal family: non-numeric response (UTG)[a]	0.44	0.51	*
Compared to housewife, working mothers are more cordial with children	0.36	0.33	-
For a married women, working for pay is just as fulfilling as being a housewife	0.36	0.30	*
Both, the husband and the wife should contribute towards family income	0.88	0.86	-
A university education is more important for a boy than for a girl	0.30	0.40	*
On the whole, men make better political leaders than women do	0.54	0.68	*
Generally speaking, the religious leaders in Bangladesh are giving adequate answers to the moral problems and needs of the individual	0.58	0.53	*
Generally speaking, the religious leaders in Bangladesh are giving adequate answers to the problems of family life	0.50	0.54	-
Generally speaking, the religious leaders in Bangladesh are giving adequate answers to people's spiritual needs	0.56	0.59	-
Generally speaking, the religious leaders in Bangladesh are giving adequate answers to the social problems facing our country today	0.55	0.62	*
Military rule as a political regime for ruling the country is good	0.18	0.23	*
Democratic rule as a political regime for ruling the country is good	0.90	0.92	-
Islamic rule as a political regime for ruling the country is good	0.75	0.89	*
In democracy, the economic system does NOT run well	0.24	0.25	-
Democracies are Indecisive and have too much quibbling	0.54	0.51	-
Democracies are NOT good at maintaining order	0.30	0.24	*
Democracy may have problems but it's better than any other form of government	0.90	0.89	-
Satisfied with the way the people now in national office are handling the country's affairs?	0.48	0.64	*
Politicians who do not believe in God are unfit for public office	0.89	0.89	-
Religious leaders should not influence how people vote in elections	0.78	0.68	*
It would be better for Bangladesh if more people with strong religious beliefs held public office	0.84	0.95	*
Religious leaders should NOT influence government decisions	0.69	0.62	*

Note: The figures (except those in the first 2 rows) show the fraction of respondents agreeing to a given statement i.e. proportions of "yes". *indicates that difference between groups is statistically significant at 10% level or less. "-" indicates that the difference is not significant. (a) Actual questions was "What do you think is the ideal size of the family - how many children, if any" where as a non-numeric option the respondent was allowed to answer "it is decided by God".

Table 4: Social and economic attitude, by gender

	male	female	t-test of difference in means
Number of children necessary for an ideal family: numeric response	2.00	1.97	-
Number of children necessary for an ideal family: non-numeric response (UTG)	.46	.31	*
Compared to housewife, working mothers are more cordial with children	.34	.54	*
For a married women, working for pay is just as fulfilling as being a housewife	.34	.51	*
Both, the husband and the wife should contribute towards family income	.87	.93	*
A university education is more important for a boy than for a girl	.34	.25	*
On the whole, men make better political leaders than women do	.58	.44	*
Generally speaking, the religious leaders in Bangladesh are giving adequate answers to the moral problems and needs of the individual	.49	.55	-
Generally speaking, the religious leaders in Bangladesh are giving adequate answers to the problems of family life	.51	.54	-
Generally speaking, the religious leaders in Bangladesh are giving adequate answers to people's spiritual needs	.57	.59	-
Generally speaking, the religious leaders in Bangladesh are giving adequate answers to the social problems facing our country today	.57	.56	-
Military rule as a political regime for ruling the country is good	.19	.31	*
Democratic rule as a political regime for ruling the country is good	.90	.87	-
Islamic rule as a political regime for ruling the country is good	.79	.75	*
In democracy, the economic system does NOT run well	.23	.29	-
Democracies are Indecisive and have too much quibbling	.53	.55	-
Democracies are NOT good at maintaining order	.28	.33	-
Democracy may have problems but it's better than any other form of government	.90	.86	-
Satisfied with the way the people now in national office are handling the country's affairs?	.52	.58	-
Politicians who do not believe in God are unfit for public office	.89	.94	*
Religious leaders should not influence how people vote in elections	.74	.91	*
It would be better for Bangladesh if more people with strong religious beliefs held public office	.87	.87	-
Religious leaders should NOT influence government decisions	.66	.81	*

Note: The figures (except those in the first 2 rows) show the fracrtion of respondents agreeing to a given statement i.e. proportions of "yes". * indicates that difference between groups is statistically significant at 10% level or less. "-" indicates that the difference is not significant.

One possible reason for differences between madrasa and school teachers lies in the gender composition of the teaching force. Schools in our sample employ a larger number of teachers, both in absolute and relative terms which may explain part of the madrasa-school gap in teacher attitude (see Table 2). Table 4 therefore summarises teacher attitudes by sex. Our sample contains 72 female teachers of which 13 are employed in madrasas. Hence, we do not further split the sex-specific sub-sample by school types. A significantly lower percentage of female teachers give the UTG response. The gender difference in attitudes on other issues such as working mothers, working women, higher education for girls, female leadership are not unexpected. In a patriarchal society like Bangladesh, men are reluctant to endorse views that threaten traditional male roles[14]. For

[14] Evidence on a sizeable gulf between the gender-role attitudes of males and females have been also reported for developed countries (e.g. see Burt and Scott 2002).

the same reason, women may oppose religious rule and religious leadership to the extent religion and religious leaders are perceived to limit social space for women outside households. Indeed we find that female teachers are less supportive of interference by religious leaders in voting and government decisions compared to their male colleagues.

The male-female difference in attitudes on higher education for girls could be explained by the possibility that women hold more egalitarian attitudes than men on gender issues. A more egalitarian stance of females than males is once again not surprising because the status quo tends to be less problematic for men than for women in combining family and career. While a woman's career is often seen as in conflict with motherhood, being a good breadwinner is a crucial component of being a good father. Given the persistence of traditional gender division of labour, particularly in the domestic sphere, it is likely that there will be pronounced gender differences in the way adolescent gender-role attitudes and family aspirations affect educational attainment.

Other principle reason underlying the gender gap in teacher response is that both madrasa and school female teachers are exclusively products of secular schools where they teach non-region related subjects. Once again we rule out Weberian type explanations for these differences. Our self-reported measures of religiosity do not show that male teachers are more religious than their female colleagues. If anything, women in our sample participate more regularly in religious rituals[15].

In sum, the differences in attitude between madrasa and school teachers remains moderate and is reassuring given the significant modernization of the course curriculum in the former and the fact that madrasas today employ graduates of secular schools. In the absence of information on teacher age, we could not directly assess whether teachers who are graduates of Qoumi madrasas has less modern attitude compared to those who graduated from Aliya madrasas. The next section indirectly explores the modernists-traditionalists divide where we examine pay-offs to modernization by exploring the effect of teacher experience and gender on student's attitude.

5. Do teachers and schools matter? Analysis using teacher-student matched data

In this section, we are interested in assessing the long-term impact of teachers and schools on student outcomes, namely socio-economic attitudes. The attitudes of a student can be developed in two ways: curriculum and the culture of the whole environment (at school and in home) where the student was educated. However, why school type (secular vs. religious) should matter in a modernizing learning environment is not obvious a priori. Rahman (2004a; 2004b) argues that the very process of teaching and learning in madrasas creates polarized views of the world even in the absence of radical curriculum. Students in madrasas experience rote learning of religious scriptures with little room for critical thinking. This process dries up the faculty of analysis and creativity. This in turn gives birth to a way of thinking that goes against democratic values and pluralism. Consequently, most madrasa students fail to negotiate in social and cultural situations and

[15] 91% of female teachers reportedly pray daily in comparison to 87% of the male teachers.

are misfit in the society. This hypothesis applies well to graduates of traditional madrasas. In case of modernized madrasas of Bangladesh, the introduction of subjects such as mathematics can be expected to have a significant offsetting effect. Whether graduates of these madrasas express a polarized and traditional world view therefore remains an empirical question.

Further reasons for the persistence of traditional attitudes among younger cohorts of madrasa graduates relates to teacher profile. Two simple and testable hypotheses are as follows. The first relates to the divide between the traditionalists and the modernists. Older teachers in madrasas, particularly those currently teaching religious subjects graduated from Qoumi madrasas in which they were schooled exclusively in religious studies. They are therefore likely to possess a rigid frame of mind which rejects values condusive to modern market economies. This then implies that older teachers who are currently employed in madrasas or teach religion-related matters in secular schools are potentially different compared to their younger colleagues (graduates of post-reform period). In the absence of direct information on the timing of graduation from Madrasas, we test this proposition by relating average teacher experience with student attitude. If older teachers are "traditionalist" and post-reform graduates are "modernist", we would expect teacher experience to have a concave relation with student attitude (for an attitude that affirms modernity).

The second hypothesis relates to the role played by female teachers. Given that our sample of graduates comprise of females only, the potential importance of female teachers in shaping student attitude is obvious. In a traditional social setting, female teachers serve as a powerful model for girls on matters such as further education, labor force participation and work.

To test the above hypotheses, we first specify a simple regression model using attitudes of female graduates as dependent variable:

$$A_{ij} = X_i b'_1 + Y_i b'_2 + Z_{ij} b'_3 + e_{ij} \qquad (1)$$

Where 'i' indexes the student whilst 'j' is school type. A_{ij} is subjective response of the index female graduate, which is our outcome of interest. X_i contains personal attributes including host of control for past scholastic achievement and attendance of maktab (pre-primary Quoranic school); Y_i contains household characteristics of the respondent; Z_{ij} contains school-specific attributes.

Since we are additionally interested in the role played by teachers in the transmission of attitude and values, we re-estimate equation (1) in the following form:

$$A_{ij} = X_i b'_1 + Y_i b'_2 + Z_{ij} b'_3 + b_4 \bar{A}_j + m_{ij} \qquad (2)$$

The notation and specification are the same as equation (1), except that here $\overline{A}_j$ is the dependent variable averaged across teachers who taught the index female[16]. If b_4 is positive and significant, that would imply presence of social interactions effect either due to role model or some other form of learning. We are also interested in the payoff to being taught by younger and female teachers. Since younger and female teachers are the potential role models, we formally test this by further re-estimating equation (2):

$$A_{ij} = X_i b'_1 + Y_i b'_2 + Z_{ij} b'_3 + b_4 \overline{A}_j + \overline{W}_j b'_5 + \nu_{ij} \qquad (3)$$

Here $\overline{W}_j$ stands for mean attributes of the teachers (fraction of teachers being female, average experience and its square value) whilst the other regressors remain same as before. We would expect the coefficient on teacher experience and its squared term to differ, thereby suggesting a non-linear effect. On the other hand, coefficient on "fraction of female teachers" and experience-level term are expected to be similarly signed. If true, this would yield support to the hypothesis that younger and female teachers promote modern attitudes among students compared to older and male teachers[17].

Table 5 summarises key variables of interest including data on student attitudes by school types. There are some notable differences between madrasa and school graduates. Madrasa students are more likely to be married, come from larger families, more likely to have attended maktab and have less exposure to the media (in terms of TV and radio ownership). Parents of madrasa graduates are also less education compared to those who graduated from secular schools. Interesting differences are also noticeable in attitudes between madrasa and school graduates. When compared to their secular school peers, madrasa educated females prefer to have more kids or willing to leave fertility decisions to chances and less favourable of working mothers and higher education for girls. They also differ on political matters. For instance, madrasa graduates are more favourable to Islamic rule and democracy.

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[16] This sort of production function runs into the problem of identification if estimated using contemporaneous data (for details, see Brock and Durlauf, 2001). However, this problem is less likely for our data as student attitude remains a post-schooling measure.

[17] Due to degrees of freedom problem, we could not further test for the effect of the followings in a regression framework:
(a) teacher attitude by subject; (b) interaction of religious teacher's attitude and age; (c) subjects of study; (d) the effect of age/experience and in particular, whether a threshold around 1980; (e) the effect of older madrasa teachers will be stronger in case of religious teachers; for secular subjects (Maths/English) the effect should be absent or weak.

Table 5: Profile of female graduates by school type

	Madrasa		School	
Variable	Mean	Std. Dev.	Mean	Std. Dev.
Personal attributes				
Currently married	0.57	0.50	0.33	0.47
Total # of siblings	5.80	2.05	4.84	2.10
Parental and socio-economic background				
Father attended madrasa	0.26	0.44	0.21	0.41
Mother attended madrasa	0.30	0.46	0.28	0.45
House is pucca/mixed	0.21	0.41	0.27	0.45
Household has a television	0.30	0.46	0.45	0.50
Household has a radio	0.48	0.50	0.63	0.48
Household has a cell phone	0.10	0.30	0.26	0.44
Household landholding	4.02	7.93	2.96	4.95
Household head: age	44.64	13.63	47.49	11.10
Household head: female	0.98	0.13	0.95	0.23
Father's education, years	2.44	2.75	4.10	3.35
Mother's education, years	1.59	1.67	3.12	2.87
Educational history				
# of grade completed	8.69	1.37	9.24	1.15
Class rank in grade 6	24.20	11.94	54.44	44.83
Attended maktab	0.79	0.41	0.55	0.50
Fraction of teachers female	0.02	0.05	0.10	0.09
Teacher experience	12.04	4.97	21.05	4.21
Teacher experience, sq/100	0.12	0.05	0.21	0.04
Attitude				
Number of children necessary for an ideal family: numeric response	1.73	0.59	1.68	0.67
Number of children necessary for an ideal family : non-numeric response	0.28	0.45	0.18	0.38
Compared to housewife, working mothers are more cordial with kids	0.25	0.43	0.23	0.42
For a married women, working for pay is just as fulfilling as being a housewife	0.10	0.30	0.44	0.50
Both, the husband and the wife should contribute towards family income	0.43	0.50	0.85	0.35
A university education is more important for a boy than for a girl	0.68	0.47	0.35	0.48
Military rule as a political regime for ruling the country is good	0.10	0.30	0.37	0.48
Democratic rule as a political regime for ruling the country is good	0.95	0.22	0.83	0.38
Islamic rule as a political regime for ruling the country is good	0.97	0.18	0.62	0.49
N	61		130	

The moderate attitudinal gaps summarised in Table 6 could also capture socio-economic differences between madrasa and school graduates so that multi-variate analysis is more suitable[18]. Tables 6 and 7 report eight sets of regression results using attitude-related variables summarised in Table 5 as a dependent variable. For each dependent variable, three specifications are reported in the Tables. The first specification does not control for

[18] Analysing data on subjective views and attitudes as outcomes in a regression framework is not uncommon in the Economics literature. See for instance, see Guiso et al. (2003) and Gentzkow and Shapiro (2004).

teacher characteristics and attitude. Specification (2) controls for mean attitude of teachers using matched data on teachers and students whilst speciation (3) further includes 3 variables: fraction of teachers being female, mean teacher experience and squared term of the experience variable. Our primary focus is on religious school affiliation and teacher's profile. Therefore we do not elaborate on results relating to differences in the effects of one's personal and socio-economic.

Attitude towards desired fertility

Each respondent was asked about the number of children they would desire to form an ideal family. Respondents were allowed to answer in numeric and non-numeric terms where the later response took the form of "Number of children necessary for an ideal family is up-to- God (UTG)". Of the 191 respondents, 63% opted for a numeric answer. The answers ranged between 0 and 2. Unsurprisingly, mean desired number for numeric response turned out to be as low as 1.70. Of the remaining respondents, 21% replied saying that it's up to God [N=41]; 15.7% abstained from answering the question. Here, UTG-type response to the question on desired fertility cannot be attributed to a supply constraint explanation as proposed by Sinha (2004). Our sample of graduates comprises of single as well as recently married females who belong to the same age group. Hence, even if they have biological constraints (such as infertility), it is unlikely that they would have been detected at such early age.

Regression results are reported in Table 6 (columns 1-3) where the dependent variable is 1 if the response is UTG and 0 otherwise. The key determinant here is madrasa attendance. Even after controlling for earlier religious education (maktab schooling), madrasa graduates are 31% more likely to prefer an unspecified number of children. This relationship is likely to be driven by student-teacher interactions. Indeed when average response of teachers on the question of desired fertility is included as a regressor (column 2), the madrasa effect disappears. To further explore the drivers of teacher effect in our data, we expand specification (2) by inducing gender composition of teachers and average teacher experience (column 3). The marginal effect of teacher response variable is now reduced by 300% (drops from 0.48 to 0.12). Having more female teachers has a large negative effect on UTG response whilst overall effect of teacher experience is non linear. The level term has a negative marginal effect which is reversed for the squared term implying that older teachers are more radical.

Attitude towards economically active women/mothers

Female graduates in our sample were interviewed on whether they agreed with the following questions:

- "Compared to housewives, working mothers are more cordial with children"
- "A married working woman and a married housewife are equal"
- "Both, the husband and the wife should contribute towards family income"

Table 6 (columns 4-12) summarises results of the Probit regressions which use subjective responses to these questions where the dependent variable is 1 if the response is in favour and 0 otherwise. On the question of whether housewives, instead of working women, are better mothers, there is no madrasa effect. A negative religious school effect prevails in the other two outcomes and is significant (columns 7, 8, 10 and 11; Table 6). Madrasa graduates do not agree that both husband and wife should contribute to family income. This finding probably captures the fact that they support the traditional patriarchal social setting where males are the primary bread winners (or perceived to be). Interpretation of their disagreement with the statement "A married working women and a married housewife are equal" is nonetheless ambiguous.

However, the significant effect of madrasas disappears once we control for teacher attributes. In all three cases, female teachers have a significant negative impact (with the exception of column 9, Table 6). Teacher experience variable has a similar negative effect (with a positive coefficient on the squared term) implying that graduates who were educated by female and younger teachers are more favourable to working mothers. The strong influence of female teachers can be explained in terms of social effects. Female teachers serve as important role models in rural areas where wage work opportunities for educated women are extremely limited so that female graduates with greater exposure to female teachers form attitudes that are more favorable to women's participation in wage work.

Table 6: Probit model of determinants of student attitude towards desired fertility, working women, working mother and, spousal contribution to family income, with and without control for teacher's attitude and characteristics

	Number of children necessary for an ideal family is decided by God			Compared to housewife, working mothers are more cordial with children			For a married women, working for pay is just as fulfilling as being a housewife			Both, the husband and the wife should contribute towards family income		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Currently married	-0.183	-0.068	-0.027	-0.117	-0.117	-0.080	0.101	0.172	0.147	-0.003	0.025	0.063
	(2.66)**	(1.01)	(1.71)+	(1.51)	(1.54)	(1.15)	(1.02)	(1.71)+	(1.59)	(0.03)	(0.30)	(0.92)
Total # of siblings	-0.014	-0.002	-0.001	-0.044	-0.040	-0.009	-0.025	-0.029	-0.015	-0.030	-0.032	-0.013
	(1.06)	(0.18)	(0.42)	(2.33)*	(2.18)*	(0.51)	(1.40)	(1.72)+	(0.96)	(1.89)+	(2.12)*	(0.92)
Father attended madrasa	0.075	0.062	0.023	0.071	0.077	0.061	0.135	0.147	0.130	0.118	0.118	0.090
	(0.87)	(0.86)	(1.31)	(0.71)	(0.79)	(0.68)	(1.15)	(1.28)	(1.22)	(1.35)	(1.45)	(1.44)
Mother attended madrasa	-0.064	0.003	0.001	-0.220	-0.216	-0.143	-0.187	-0.178	-0.134	-0.173	-0.137	-0.145
	(0.86)	(0.05)	(0.06)	(2.76)**	(2.81)**	(2.02)*	(1.87)+	(1.87)+	(1.49)	(1.61)	(1.35)	(1.57)
House is pucca/mixed	-0.078	-0.074	-0.016	-0.078	-0.104	-0.039	-0.104	-0.145	-0.113	-0.229	-0.179	-0.130
	(1.26)	(1.53)	(1.98)*	(1.04)	(1.41)	(0.56)	(1.16)	(1.68)+	(1.42)	(2.04)*	(1.66)+	(1.38)
Household has a television	-0.046	0.067	0.045	-0.083	-0.094	-0.068	-0.069	-0.094	-0.073	0.224	0.237	0.196
	(0.72)	(1.00)	(1.83)+	(1.21)	(1.41)	(1.17)	(0.82)	(1.17)	(0.99)	(2.65)**	(2.88)**	(2.71)**
Household has a radio	0.061	-0.020	-0.009	-0.045	-0.048	-0.064	0.100	0.094	0.093	0.066	0.043	0.045
	(1.11)	(0.40)	(0.89)	(0.67)	(0.75)	(1.08)	(1.30)	(1.24)	(1.34)	(0.91)	(0.60)	(0.73)
Household has a cell phone	0.050	0.016	0.010	-0.044	-0.041	-0.032	0.064	0.040	0.056	-0.095	-0.106	-0.179
	(0.66)	(0.28)	(0.74)	(0.56)	(0.53)	(0.47)	(0.67)	(0.44)	(0.67)	(0.94)	(1.08)	(1.84)+
Household landholding	0.008	0.004	0.001	0.005	0.005	0.002	0.006	0.008	0.007	0.011	0.009	-0.000
	(1.94)+	(1.07)	(0.84)	(1.00)	(0.97)	(0.42)	(0.90)	(1.20)	(0.99)	(1.82)+	(1.56)	(0.07)
Household head: age	0.003	0.001	0.000	0.003	0.002	-0.001	0.006	0.004	0.003	0.009	0.008	0.006
	(1.32)	(0.56)	(0.33)	(0.98)	(0.63)	(0.28)	(1.82)+	(1.03)	(0.76)	(3.12)**	(2.81)**	(2.43)*
Household head: female	-0.316	-0.449	-0.292	-0.011	-0.029	0.011	0.123	0.096	0.099	0.000	0.014	-0.047
	(1.73)+	(1.97)*	(1.91)+	(0.08)	(0.22)	(0.10)	(0.85)	(0.67)	(0.80)	(0.00)	(0.07)	(0.34)
Father's education, years	-0.011	0.003	0.002	0.008	0.006	-0.002	-0.007	0.004	0.000	0.006	0.011	0.014
	(0.97)	(0.28)	(0.95)	(0.75)	(0.53)	(0.24)	(0.53)	(0.33)	(0.03)	(0.44)	(0.85)	(1.34)
Mother's education, years	0.009	-0.006	-0.001	-0.013	-0.009	-0.010	0.011	0.002	0.000	0.020	0.012	0.005
	(0.68)	(0.49)	(0.50)	(0.90)	(0.63)	(0.78)	(0.63)	(0.11)	(0.03)	(1.09)	(0.69)	(0.31)

# of grade completed	-0.013	-0.046	-0.011	-0.012	-0.005	-0.004	0.081	0.079	0.067	0.030	0.015	0.009
	(0.51)	(1.86)+	(2.24)*	(0.43)	(0.16)	(0.13)	(2.18)*	(2.11)*	(1.84)+	(1.06)	(0.54)	(0.42)
Class rank in grade 6	0.003	-0.000	-0.000	0.001	0.001	-0.000	0.000	-0.001	-0.001	-0.001	-0.000	-0.001
	(3.90)**	(0.05)	(0.33)	(0.64)	(0.75)	(0.30)	(0.09)	(0.84)	(0.86)	(0.64)	(0.42)	(0.88)
Attended maktab	**0.105**	0.033	0.001	-0.013	0.008	0.041	**-0.187**	**-0.197**	**-0.146**	**-0.138**	**-0.122**	-0.109
	(1.85)+	(0.65)	(0.16)	(0.19)	(0.12)	(0.68)	**(2.16)***	**(2.28)***	**(1.79)+**	**(1.89)+**	**(1.71)+**	(1.93)+
Attended madrasa	**0.318**	0.053	0.049	0.033	0.004	0.188	**-0.295**	**-0.282**	-0.188	**-0.371**	**-0.345**	-0.019
	(3.32)**	(0.70)	(1.35)	(0.42)	(0.05)	(1.60)	**(3.25)****	**(3.04)****	(1.54)	**(3.80)****	**(3.56)****	(0.16)
Teacher's response		**0.483**	**0.126**		0.073	0.051		**0.308**	0.233		0.127	-0.130
		(4.46)**	**(3.79)****		(0.75)	(0.33)		**(2.87)****	(1.63)		(1.51)	(1.45)
Fraction of teachers female			**-0.305**			**1.540**			0.953			**2.683**
			(2.81)**			**(2.35)***			(1.11)			**(3.71)****
Teacher experience			**-0.008**			**0.112**			**0.065**			**0.070**
			(1.88)+			**(3.95)****			**(1.98)***			**(2.68)****
Teacher experience, sq			**0.000**			**-0.002**			**-0.001**			**-0.001**
			(2.24)*			**(3.39)****			**(1.78)+**			**(2.52)***
N	191	189	189	190	188	188	185	183	183	191	189	189
Pseudo R^2	0.43	0.61	0.67	0.20	0.20	0.32	0.24	0.29	0.31	0.43	0.45	0.54

Note: Absolute value of t statistics in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. Only marginal effects are reported.

Attitude towards higher education and gender equity

Regression results reported in Table 7 (columns 1-3) explores gender equity in the context of participation in higher education. The dependent variable is 1 if the response agrees with the statement "University education is more important for boys than girls" and 0 otherwise. The key determinant in the first specification is madrasa attendance. Even after controlling for educational histories (maktab attendance, class rank in grade 6 and grade completed), parental background and socio-economic conditions, madrasa graduates are 21% more likely to conclude that higher education is a preserve for boys. Interestingly, the perverse impact of madrasa education prevails even when we control for student-teacher interactions i.e. average response of teachers. Once again, mean teacher response is positively and significantly correlated with graduate response (column 2). To further explore the determinants of teacher effect in our data, we include 3 additional regressors relating to the gender composition and average experience of teachers (column 3). Mean teacher response variable is now insignificant. However, having more female teachers has a large negative effect on the dependent variable whilst overall effect of teacher experience is once again non-linear. The level term has a negative marginal effect which is reversed for the squared term implying that older teachers are gender-biased.

Attitude towards democracy, military and Islamic rule

Lastly, females in our sample were asked three questions related to the desirability of various regimes for governing the country:

- Military rule as a political regime for ruling the country is good
- Democratic rule as a political regime for ruling the country is good
- Islamic rule as a political regime for ruling the country is good

Table 7 (columns 4-12) provides Probit estimates of determinants of graduate responses. The dependent variable is 1 if the response is in favour of a given statement and 0 otherwise. A large and significant madrasa effect prevails in all three cases: madrasa students are significantly opposed to military rule, supports democracy and favours Islamic rule (columns 4-11). Teacher's response does not matter except for democratic rule. Unsurprisingly when teacher characteristics – fraction of female teachers and average teacher experience – are included as regressors, they have no impact on student response. The only exception is Islamic rule where exposure to female teachers leads to unfavourable student response (column 12).

The fact that madrasa effect is not entirely explained away in terms of teacher attributes is consistent with findings from the previous section that attitudinal gap between madrasa and school teachers on political matters is not large.

Table 7: Probit model of determinants of student attitude towards women's education and alternative political regimes, with and without control for teacher's attitude and characteristics

	A university education is more important for a boy than for a girl			Military rule as a political regime for ruling the country is good			Democratic rule as a political regime for ruling the country is good			Islamic rule as a political regime for ruling the country is good		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Currently married	0.114	0.127	0.112	0.004	0.012	0.002	0.015	0.006	-0.010	0.127	0.082	0.056
	(1.01)	(1.11)	(0.94)	(0.05)	(0.13)	(0.02)	(0.30)	(0.14)	(0.25)	(1.63)	(0.92)	(0.87)
Total # of siblings	0.038	0.024	0.007	-0.050	-0.052	-0.051	0.008	0.005	0.009	0.028	0.030	0.019
	(1.85)+	(1.12)	(0.31)	(2.41)*	(2.46)*	(2.28)*	(0.67)	(0.53)	(0.83)	(1.47)	(1.49)	(1.35)
Father attended madrasa	-0.045	-0.089	-0.081	-0.089	-0.079	-0.073	0.069	0.054	0.046	0.062	0.075	0.016
	(0.35)	(0.66)	(0.59)	(0.98)	(0.84)	(0.78)	(1.50)	(1.46)	(1.28)	(0.72)	(0.85)	(0.23)
Mother attended madrasa	0.223	0.223	0.176	-0.051	-0.054	-0.044	-0.145	-0.134	-0.132	0.064	0.055	0.042
	(1.76)+	(1.71)+	(1.31)	(0.55)	(0.58)	(0.47)	(2.17)*	(2.28)*	(2.24)*	(0.76)	(0.62)	(0.65)
House is pucca/mixed	0.132	0.098	0.067	-0.082	-0.088	-0.073	0.057	0.085	0.073	0.090	0.090	0.062
	(1.14)	(0.79)	(0.52)	(0.98)	(1.04)	(0.83)	(1.23)	(2.06)*	(2.04)*	(1.19)	(1.14)	(1.12)
Household has a television	0.009	0.026	-0.014	0.048	0.036	0.045	0.004	0.021	0.033	-0.052	-0.053	-0.006
	(0.08)	(0.25)	(0.13)	(0.63)	(0.47)	(0.57)	(0.09)	(0.56)	(0.97)	(0.73)	(0.72)	(0.12)
Household has a radio	-0.200	-0.182	-0.198	0.021	0.010	0.001	0.003	0.005	0.005	0.084	0.081	0.059
	(2.13)*	(1.91)+	(1.98)*	(0.29)	(0.13)	(0.01)	(0.06)	(0.13)	(0.16)	(1.18)	(1.10)	(1.09)
Household has a cell phone	-0.177	-0.206	-0.199	0.038	0.034	0.045	-0.024	-0.007	-0.000	0.092	0.110	0.080
	(1.60)	(1.83)+	(1.68)+	(0.42)	(0.38)	(0.49)	(0.42)	(0.14)	(0.01)	(1.23)	(1.42)	(1.60)
Household landholding	-0.001	-0.004	0.007	-0.006	-0.007	-0.003	0.003	0.007	0.004	0.006	0.006	0.009
	(0.08)	(0.47)	(0.72)	(1.00)	(1.06)	(0.42)	(0.45)	(0.86)	(0.56)	(0.80)	(0.80)	(1.40)
Household head: age	-0.016	-0.013	-0.013	0.005	0.004	0.004	-0.003	-0.003	-0.002	-0.003	-0.003	0.000
	(3.70)**	(2.84)**	(2.74)**	(1.63)	(1.35)	(1.22)	(1.59)	(1.77)+	(1.48)	(0.82)	(1.03)	(0.15)
Household head: female	0.291	0.281	0.313	0.066	0.056	0.076	0.065	0.087	0.094	-0.080	-0.078	-0.026
	(1.20)	(1.10)	(1.18)	(0.43)	(0.36)	(0.49)	(0.47)	(0.67)	(0.76)	(0.65)	(0.58)	(0.26)
Father's education, years	-0.001	0.002	0.009	-0.002	-0.002	-0.005	-0.010	-0.008	-0.009	-0.009	-0.011	-0.015
	(0.05)	(0.12)	(0.49)	(0.14)	(0.12)	(0.38)	(1.51)	(1.28)	(1.50)	(0.79)	(0.89)	(1.66)+
Mother's education, years	-0.025	-0.023	-0.015	0.003	0.003	0.007	0.004	0.002	0.003	-0.024	-0.018	-0.004
	(1.14)	(1.03)	(0.66)	(0.20)	(0.16)	(0.44)	(0.49)	(0.22)	(0.47)	(1.67)+	(1.19)	(0.39)

# of grade completed	0.026	0.016	0.016	0.038	0.044	0.053	0.028	0.016	0.000	0.033	0.028	0.038
	(0.61)	(0.37)	(0.36)	(1.13)	(1.27)	(1.46)	(1.60)	(1.05)	(0.03)	(1.13)	(0.90)	(1.47)
Class rank in grade 6	0.000	0.001	0.001	-0.001	-0.001	-0.001	0.002	0.001	0.001	-0.002	-0.002	-0.002
	(0.12)	(0.41)	(0.45)	(1.06)	(0.69)	(0.78)	(2.33)*	(2.13)*	(1.63)	(2.89)**	(2.41)*	(3.18)**
Attended maktab	0.081	0.044	0.030	**0.161**	**0.152**	**0.152**	0.075	0.051	0.046	0.082	0.085	0.064
	(0.79)	(0.42)	(0.27)	**(2.06)***	**(1.91)+**	**(1.91)+**	(1.44)	(1.15)	(1.08)	(1.11)	(1.11)	(1.13)
Attended madrasa	**0.215**	**0.246**	-0.065	**-0.245**	**-0.222**	**-0.280**	**0.080**	**0.067**	**0.105**	**0.233**	**0.225**	0.069
	(1.94)+	**(2.17)***	(0.36)	**(3.03)****	**(2.61)****	**(2.27)***	**(1.78)+**	**(1.67)+**	**(1.82)+**	**(2.71)****	**(2.54)***	(0.77)
Teacher's response		**0.268**	-0.109		0.160	0.256		**0.159**	**0.208**		0.179	0.024
		(1.84)+	(0.49)		(1.35)	(1.43)		**(2.10)***	**(1.93)+**		(1.55)	(0.24)
Fraction of teachers female			**-2.576**			-0.567			0.011			**-1.842**
			(2.59)**			(0.72)			(0.04)			**(3.00)****
Teacher experience			**-0.147**			0.007			0.003			-0.038
			(2.72)**			(0.22)			(0.19)			(1.45)
Teacher experience, sq			**0.003**			-0.000			0.000			0.001
			(2.46)*			(0.49)			(0.43)			(1.13)
N	190	189	189	191	189	189	191	189	189	191	189	189
Pseudo R^2	0.29	0.30	0.34	0.17	0.18	0.18	0.24	0.28	0.34	0.33	0.33	0.41

Note: Absolute value of t statistics in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. Only marginal effects are reported.

In summary, the analysis of graduate responses reveals that madrasa attendance is not associated with perverse attitudes towards working women and military rule. They are more likely to support democracy although has a preference for religious political representation. At the same time, these female madrasa students have a perverse attitude towards higher education for girls and larger family size. Also our female madrasa respondents are more likely to delegate the choice of desired number of children to destiny. We argue that female respondents in our sample are young and yet to detect supply side constraints such as infertility. Unlike teachers, the graduates' desires for larger family therefore reflect genuine demand for greater number of children. If true, future campaign to limit fertility in the rural area will not be achieved simply by increased investment in female education.

A priori, we cannot rule out the influence of religiosity in fertility behaviour. In Bangladesh, although gender roles are largely determined by culture, religious ideologies are often exploited to suit to traditional culture and norms. Madrasa education therefore can reinforce such influence of religion given its emphasis on religious teaching. At the same time, our findings underscore the importance of social channels in addressing this challenge. Perverse fertility desire could be equally explained by the fact that girls in the rural area grow up in a predominantly male-orientated social setting where they observe few women in employment. Consequently, their perceived cost of having more kids in terms of forgone opportunities remains low. This in turn manifests in a preference for unspecified number of children. Indeed we find that greater exposure to female teachers completely drives away the madrasa effect in our data.

The influence of female teachers on student outcomes is perhaps the most notable aspect of our findings. This is also evident when we look at non-fertility outcomes such as desirability of higher education for girls and working women for raising kids. These findings confirm the broader consensus in the development literature that female teachers are key agent for social change in developing societies[19]. In a patriarchal society, gender matters. Social learning is based on same-sex interactions so that future reform targeting girls must exploit this gender dimension of social learning during the early part of life i.e. school years. The second noteworthy finding is that, younger teachers assist in instilling modern values in students. This can be attributed to the madrasa sector modernisation reform initiated in the early 1980 which have today created a pool of teachers who possess basic life skills and value modern education.

Research on other countries has shown that education is usually the most important predictor of political and social engagement (Dee, 2005a). The evidence on the influence of school type is therefore consistent with the broader literature. The findings reported here are robust to control for a large number of school inputs (such as school expenditure, physical facilities, and teacher characteristics), family background (measured by parental education and household assets) and media exposure (TV and radio ownership). Our estimates are also less prone to school selection effects. This problem arises as parents

[19] The placement of female teachers might be endogenous, which might over-state the impact of female teachers on attenuating pervse social values in these madrasas. We, however, do not have adequate instruments to control for this issue. Further studies are needed to explore how female teachers are recruited by madrasas.

who belong to religious (social) networks that reinforce traditional conservative values might oppose children's secular education in the first place and send kids to madrasas. On the other hand, those involved in more change-oriented groups (such as grassroots community organizations) might be more predisposed to the values of modern education. There is evidence that parents with a religious predisposition send kids to madrasas (Asadullah, Caudhury and Dar, 2006). Religious school effect then might simply reflect the impact of self-selection. We try to circumvent this problem by extensively controlling for parental background and the child's religious education in pre-school years. The findings on the dominant effect of younger and female teachers therefore show that governments can influence the process of inter-generational transmission of traditional attitudes where parents of a traditional mind set strives to instil similar values in their children by opting for madrasa education.

Yet, there are other methodological concerns which we could not address in our analysis. First, due to the fact that sample graduates come from only 20 schools and madrasas, we could not explore in detail other subtle channels that could drive these results. This would require interaction of variable of interest by madrasa dummies which lead to the problem of severe multi collinearity in data. Second, and most importantly, our estimates do not imply causality. Data on attitudes are objective, self-reported measures. Use of such qualitative responses as explanatory variables in the regression may lead to attenuation biases (Bertrand and Mullainathan, 2001). These caveats must be taken into account whilst interpreting our results.

6. Conclusion

Religious knowledge and its transmission are central to the identity of Islam as experienced by most Muslims. Historically, madrasas have served this cause as an important social institution in Muslim countries. Partly concerned by the economic insignificance of such education, a number of countries have endeavored to "reform" or "modernize" madrasa education systems. A similar scheme was implemented by the Government of Bangladesh in the early 1980s. In this paper, we have looked at the Bangladeshi experience with madrasa reform.

Using survey data on a cohort of girls who have recently graduated from rural secondary schools and madrasas, we have tried to document their attitudes towards a number of important socio-economic issues. Notwithstanding the methodological limitations, the data does give an insight to how students and teachers feel on desired fertility and some controversial issues, especially pertaining to working mothers, higher education for girls and democracy. Our findings do not conclusively accept the hypothesis that madrasas in rural Bangladesh reject modernity. Madrasa schooled girls oppose military rule and favour democracy although they simultaneously express a preference for Islamic rule. Nonetheless, we find evidence that madrasa graduates favour boys for higher education (than girls), consider housewives as ideal for raising kids (than working women), and prefer larger families.

These findings pose new challenges for governments that aim at limiting population growth and empowering rural women via expansion of post-primary education. At the same time, our results offer considerable insights regarding approaches to overcome these policy challenges. Madarasa, like other secular schools, today employ a sizable number of female teachers in rural Bangladesh. We show that these teachers remain a key agent for change in the religious as well as secular education sector. Younger teachers, who were educated (in madrasas) in post-reform period instils positive, modern attitude among their graduates. Most importantly, greater exposure to female teachers during one's secondary school years, we find, mitigates the perverse effects that arise due to madrasa attendance.

Our account of attitudes of female madrasa graduates in Bangladesh is not as polarizing (and troublesome) compared to extant studies on Pakistan which conclude that madrasas breed isolationism (e.g. Rahman, 2004). Nonetheless, our study is not an endorsement in favor of all madrasas in Bangladesh and elsewhere in South Asia. There are a number of issues that could benefit from further research. The findings do not conclusively rule out the possibility of a structural divide in the education system and suggest that the religious schools are merely a victim of smear campaign by the western and local media. First, we have not studied male graduates whose attitudes matter most in a patriarchal society. The possibility of large gender difference among graduates needs to be verified. Most importantly, it needs to be seen whether the attitudinal gap by gender varies by religious and secular education.

Second, we have only studied the registered seminaries. A significant fraction of the madrasas are managed and funded without any government support, recognition and influence. The exact size of this sector is unknown, although we conjecture that in Bangladesh the number of such Islamic seminaries is likely to be less when compared to other South Asian countries. Even if few in numbers, these institutions could have a *large* impact on the society. With little training on basic life skills, graduates of the Quomi madrasas allegedly remain employed in sectors outside the boundaries of the market economy. If so, there is a dire need to include subjects in the curricula of these religious seminaries that are relevant with the present market. An understanding of their world views and subsequent career choice is essential for any meaningful debate over the status of religious education in the country. Research documenting the link between Islamic education in Quomi madrasas and issues such as moral openness, pluralism, secular institutionalization and gender equity would be extremely valuable. Equally, studies on the funding and management of unrecognized madrasas would have significant value added for supply-side related reform initiatives.

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