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Experimental Evidence on Public Good Behavior across Pakistan's Fractured Educational System

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ABSTRACT

This paper adopts identity as a central concept and demonstrates how the institutional and the economic environments in which we exist forge our identities and, in turn, our behavior. I argue that, not just our own identity, but also the identity of the individuals we interact with shapes behavior.

Exploiting the design of a public goods game, the objective of this study is to investigate how Pakistani university students from distinct education streams behave. The following questions are explored: (1) Does cooperative behaviour differ across identity groups and class lines, (2) Does the propensity to punish vary across gender and class, and (3) Does the behaviour vary *within* gender and social identity groups, where it is the college/university that forms the social identity group under investigation. The experiment aims to capture both the tendency to cooperate among different identity groups and also the tendency to punish. While the existing experimental literature in the Pakistani context has focused on measuring trust, the tendency to cooperate and to punish has not been investigated. Moreover, the student sample includes both male and female madrassa students, so the study is better able to explore both the social and gender dimensions of cooperative and penalizing behavior.

I consider three types of universities which form three identity groups in the context of the Pakistani educational landscape: Elite English-medium universities with a liberal arts curriculum, public and private sector universities which cater to middle and lower middle-income students, and madrassas. These groups are further sliced across gender lines. Students from each of these three groups differ not only in terms of their socio-economic background, but also in terms of the language of instruction, the religious content of their curriculum, and even their exposure to print and electronic media. To better understand these differences, the experiment is accompanied with a detailed questionnaire that asks the students about their educational, social, and religious experience.

The experimental results help us break down existing stereotypes by showing that both male and female madrassa students are the most generous. Female madrassa students also punish the least. Moreover, I find more gender and social consciousness in men than women when deciding to penalize or not. Male madrassa students penalize female students more than other male students, while elite male students penalize female students less than male students in the other two identity groups, suggesting hostility towards women diminishes in higher income groups. With respect to male elite students, I observe them penalizing madrassa students more heavily than fellow elite students. This suggests the presence of spite among the elite boys towards high contributors.

TABLE OF CONTENTS

About the Author	ii
Acknowledgments	iii
Abstract	iii
List of Tables and Figures	v
Problem Statement	1
Historical Background	1
State Formation as Distinct from National Identity Formation	1
Gender, Islam, and Militarization	2
Our Three Identity ‘Groups’	3
Limitations	4
Theoretical Framework	4
Literature on Group Identity	5
Experimental design	6
The Experimental Setting	6
Results: Descriptive Statistics	7
Exposure to Media	8
Medium of Instruction	8
Income Inequality	8
The Education Divide	8
The Political Divide	8
Experimental Results: Contributing to the Public Good	9
Disaggregating the Data.....	12
Empirical Approach	12
Empirical Findings	14
Cooperative Behavior	14
Penalty Behavior.....	17
Summary and Conclusion	19
References	21
Annexure 1: Universities/Madrassas Sampled	22
Annexure 2: Game Instructions	23
Annexure 3: Questionnaire	25
Annexure 4: Descriptive Statistics	31

LIST OF TABLES AND FIGURES

Table 1: Summary Characteristics	7
Table 2: Mean Contribution toward the Public Good	9
Table 3: Disaggregated Experimental Data: Mean Contribution to the Public Good	12
Table 4: Summary Statistics for our Panel Data	14
Table 5: Estimating the Determinants of Contribution to the Public Good for Boys	15
Table 6: Estimating the Determinants of Contribution to the Public Good for Girls.....	17
Table 7: Gender and Institution Disaggregated Fixed Effects with Continuous Penalty Variable (Robust Std. Errors)	18
Table A1: Exposure to Media	31
Table A2: Educational Attitudes	32
Table A3: Income Distribution (in Percentages)	33
Table A4: Father's Education	33
Table A5: Mother's Education.....	34
Table A6: Tolerance.....	35
Table A7: Equality for Men and Women	35
Figure 1: Kernel Density Functions for Contribution Distributions	10
Figure 2: Kernel Density Functions for Penalty Distributions.....	11

PROBLEM STATEMENT

This paper adopts identity as a core concept. Following Akerlof and Kranton (2010), it demonstrates how our social identities, and not just economic incentives, influence our decisions. I acknowledge that identity is a multi-layered concept incorporating not only a social dimension (class and gender), but also has ideological (religious orientation) and linguistic dimensions. The paper argues that, even within the same respective identity group, context is important, in the sense that decisions vary based on who one interacts with, their identity, and their respective actions.

Exploiting the design of a public goods game, the study explores the interaction among three pre-existing groups of college/university students in the context of the Pakistani educational landscape. I argue that students from different strata of universities (elite universities, middle-income universities, and madrassas) have distinct identities, and it is the effect of this group identity that is explored in a public goods game. Specifically, the following questions are explored: (1) Does cooperative behavior differ across identity groups, (2) Does the propensity to punish vary along class and gender lines, and (3) Does the behavior vary *within* identity groups.

Undertaken with a team of investigative assistants, the first stage of our experiment explores cooperative behavior, and in turn, investigates how identity group influences behavior. It is in the second stage, where the players can directly respond to each other's respective behavior, that we are able to explore how, not just our own identity, but also the identity of the individual we are interacting with impacts behavior. Our experiments lead us to make several group behavior observations with respect to the three identity groups. Madrassa students seem more cooperative and generous, even if they exhibit some intolerant attitudes in the detailed questionnaire. Middle-income students seem to want to hold onto resources for themselves. Elite students are benevolent, but want to maintain the status quo by not encouraging similar behavior by other social groups. With respect to gendered behavior, we find that, while women are overall less generous, they are also less likely to punish.

Madrassa students play more punitively with respect to women, while elite students punish women less. Our three identity groups, madrassa students, middle-income, and elite, can be compared to the Sharers, Grabbers, and Punishers, respectively, that Bowles (2006) considers in his model of endogenous preferences, used to investigate whether in the long run the Rousseauian or the Hobbesian equilibria is sustainable. Our empirical results confirm that madrassa youth exhibit other-regarding preferences (contribute generously to the public good), the middle-income students are individualistic and selfish, and while the elite exhibit *noblese oblige*, they can also behave spitefully when other players try to change the norms.

But, first and foremost, note that identity formation itself is a dialectical relationship between the individual and society. To understand the group identities that have segmented Pakistani society, we need to remind ourselves of the country's colonial history: how both language and religion were used to unite a multilingual and multiethnic population in the struggle for independence, then post-independence, by weak governments to develop a sense of nationhood.

HISTORICAL BACKGROUND

State Formation as Distinct from National Identity Formation

Pakistan, for much of its history, has been a state searching for a national identity. Post-colonial theorists argue that post-colonial states such as Pakistan, which arrived at independence without a prolonged struggle, emerged as divided states.

THE COLONIAL EXPERIENCE

Pakistan inherited a divided society segmented along the lines of social and economic class and ethnic background. The British colonial policy had discouraged national identity formation, but encouraged subnational identity consciousness through its policy of indirect rule, bolstering the power of the landed elite (the feudals) and the tribal chiefs (Nasr, 2001). Jinnah had used these very structures of feudal and oligarchic power to garner support for Pakistan, and this further ensured their continuation post-independence.

These divisions were further compounded as Pakistan inherited an equally patriarchal, bureaucratic, and military elite who had been in the service of the British Raj, in alliance with the intermediaries mentioned above. The

new state did not replace the colonial state, so much as it took over its operations.¹ Jinnah, in using these very intermediaries in his struggle for the Muslim national movement, uniting them under the umbrella of Islamic universalism, made these social structures even more strongly embedded in what emerged as the state of Pakistan.

THE CONTINUED USE OF RELIGION

Given the role of religion in its very genesis, this state, divided along multi-lingual and multi-ethnic lines, with a weak centre, continued its tendency to appeal to religion to overcome its own limitations. The authoritarian state attempted national integration through the use of religion as early as 1962.² But it was in the 1970s, under Bhutto and then Zia that religion took its place in the public sphere, and the colonial state was repackaged as the Islamic Republic of Pakistan.³

A LINGUISTICALLY FRACTURED SOCIETY

During the struggle for independence, besides religion, language had also become an identity marker with Perianized Urdu being associated with Muslim identity and Sanskritized Hindi with Hindu identity. While language has often been associated with national and regional/ethnic identity formation, in the case of the Indian Subcontinent, language also became associated with *religious* identity. Thus, it is not surprising that at the time of Pakistan's creation, Urdu acquired the status of *lingua franca* with the view to unifying an ethnically heterogeneous multi-lingual population.⁴

However, note that while the ruling party has ostensibly supported Urdu because of its integrative value as a symbol of Pakistani national identity, as opposed to ethnic identity, in the formal official domains it continued to support English because it is English that ensures its social distinction from the non-elite. This facilitates the entry of members of its own class, including the younger generation, into elitist positions.⁵

Gender, Islam, and Militarization

Gender in Pakistan is not only intertwined with class, but also Muslim identity. Thus, it means different things being a Muslim woman for an elite urban woman as opposed to low-income, rural women. This dichotomy is also reflected in the fact that Pakistanis elected the first female Prime Minister in the Islamic world, but her less fortunate, lower status counterparts continue to suffer from early marriage, honor killings, or sheer elimination through sex selection.

The early decades, up until the early 1970s, despite Pakistan's oscillation between democracy and authoritarian rule, actually saw the adoption of a liberal, modern agenda with regard to women.⁶ However, in the late 1970s, Zia (1979-88) categorically and ideologically challenged the liberal agenda of his predecessors. Religious discourse was used to subdue the populace. Women especially were a target of this strategy. Legislation was introduced, including the law of evidence, which reduced women to half of a man in legal forums, accompanied by a state-sponsored media campaign promoting the "four walls and the veil" ideology that emphasized women's place in the home.⁷

¹ Hamza Alavi aptly dubbed Pakistan a "vice-regal" state; a state that continued to be ruled by the "salarial" in power: the military and a bureaucratic and landed elite that continued its pre-colonial administrative practices.

² Ayub Khan declared that "it is immaterial whether you are a Bengali or a Sindhi, a Balochi or a Pathan or a Punjabi – we are all knit together by the bond of Islam" (Murshid (1985).

³ Bhutto's focus was mainly on Islamic symbolism, measures designed to placate the Islamic ulema and gain state legitimacy. But it was under Zia's martial law that the role of religion in state affairs came into its own, and the nexus between state, religion, and the military was forged. The use of religion, rather than uniting a pluralistic society, opened the door to new conflicting identities.

⁴ However, despite the assumed integrative appeal associated with Urdu, the decision was opposed by the Bengali majority who favored Bangla. See Rahman (1997) for a detailed account of the Bengali movement in the early 1950s which finally led to Bangla also being given the status of national language.

⁵ Urdu is only supported by the elite in order to garner the support of the urban middle class and enables it to consolidate its power in the provinces and balance the provincial ethno-nationalistic proto-elites who perceive it to be the symbol of Punjabi dominance and counter it through the symbolic appeal of their own local vernacular.

⁶ Under the Family Law, 1961, women gained inheritance rights to agricultural land, the right to initiate divorce, and a system of marriage registration was introduced.

⁷ Subsequent to these changes, both in public and private, women were faced with assaults—from parents taking advantage of the new laws to curtail their daughters' autonomy, to the state charging women with adultery under the new Hudood Ordinance, which disallowed women to testify on their own behalf in rape cases and instead charged them with having engaged in illicit sex.

Post Zia, although women have regained many of their legal rights, including the passage of the “Prevention of anti-Women Practices Act 2011”, *wani* and honour killings still exist, property rights are not always enforced, and issues related to women’s mobility and economic empowerment remain highly contested terrains.

POST INDEPENDENCE PAKISTAN REMAINS A SEGMENTED SOCIETY

Today’s Pakistan is still segmented along provincial, linguistic, ethnic, and gender divides, with growing income inequality further reinforcing these differences. As income inequality has continued to increase over the last decade and a half, access and opportunities in terms of education, health services, food and nutrition, and housing and proper physical infrastructure have become even more skewed. Jamal (2009), based on a multidimensional poverty index that includes financial and human poverty, poor housing, and inadequate access to physical infrastructure, estimates that 54 percent of Pakistanis live in a state of multiple deprivations, with vast differences between rural (69 percent) and urban (21 percent) poverty rates.⁸ Moreover, the gender gap is observed in virtually every sector, including education,⁹ healthcare, and property rights, manifesting in a male-to-female ratio in the overall Pakistani population of 1.06.¹⁰

A HIERARCHICAL EDUCATION SYSTEM

As we retrace Pakistan’s historical journey, it reveals how language and religion were used by a weak centre to unite an ethnically diverse society. This journey has manifested into a polarized society where the distributional outcome comes in the form of four distinct *schooling* streams. These separate streams of education represent a fractured educational culture, separated along class lines, with the higher income classes occupying the elite English-medium schools. The middle and lower-middle class students attend public schools or the non-elite private schools, while the poorest of the poor end up in the madrassas. These distinct schooling streams lead to an equally hierarchical college/university system, which we narrow down into three identity groups: Elite English-medium universities, middle-income public and private sector universities, and madrassas. It is the students at these universities that comprise our target population.

OUR THREE IDENTITY ‘GROUPS’

As mentioned above, our three main identity groups are elite universities, public/private sector universities catering to middle/lower-middle-income students, and madrassas. We focus on students 18 years and above enrolled in graduate/postgraduate institutions. This is a narrow cross-section of a largely uneducated population. Our sample includes both male and female students. Even female madrassa students are included to obtain a better sense of the gender dimension of student behavior.

Elite universities may be compared to American liberal arts colleges. These universities mostly cater to the higher income English-medium “elite” with tuition along the lines of Rs. 300,000 per semester (almost US\$ 3,000/semester). Classes are taught in English and campuses are mixed (i.e. co-ed.).

In contrast, as described by Rahman (2008), madrassas teach a dated curriculum with a focus on reading and memorizing the Quran in the early years and move on to the *Dars-e-Nizami* in later years. This curriculum draws on texts dating back to the 14th century.¹¹ The majority of madrassas do not impart any secular or vocational training. Students typically come from modest origins, have limited exposure to Western ideas in school, study in Urdu, and base their studies on religious texts. Advanced study within the madrassas produces an Alim (Islamic scholar and/or teacher). Most students who graduate from a madrassa go on to work in the religious sector (Delevande and Zafar, 2011). Moreover, these campuses are strictly segregated by gender.

⁸ At the regional level, Punjab (the most populace province) dominates economically; a direct consequence of its agricultural productivity and large share of remittances from the Middle East. However, despite these advantages, according to Jamal’s multidimensional index, 52 percent of Punjab’s population is classified poor. In comparison, 74% of Baloch’s population is classified as poor, leading to increasing resentment among the Balochis against the Punjabi dominated centre.

⁹ According to the latest Pakistan Social and Living Standards Measurement (PSLM) Survey 2013-14, literacy remains higher in urban areas (74 percent) than in rural areas (49 percent) and is more prevalent for men (81.0 percent) compared to women (66.0 percent) in urban areas.

¹⁰ This imbalance is explained by academics as a consequence of widespread discriminatory behaviour against women. Girls are underfed and remain malnourished from birth. They are denied the same healthcare that their brothers receive, and they fall victim to Pakistan’s dangerously high maternal mortality rate.

¹¹ The *Dars-e-Nizami* is taught for eight years following the completion of elementary school and covers religious sciences (e.g. jurisprudence, the Quran and its commentaries) and rational sciences such as Arabic grammar and literature, logic, and rhetoric (Rahman, 2008).

Public sector universities and middle-income private universities lie in the middle of the spectrum, catering to low to middle-income students who enter these universities mostly after receiving schooling at non-elite, low/middle-income, English-medium private schools or Urdu-medium public sector schools. These universities, catering to the “proto-elite”, also teach a liberal arts curriculum, and the medium of instruction is officially English. However, teachers may also recourse to Urdu during class to explain/elaborate on concepts. Some of the universities in this group are segregated, while some are mixed. Tuition is much less than their elite counterparts: ranging from Rs. 50,000 per semester at public sector universities, to Rs. 100,000 per semester at middle-income private universities.

These three groups represent three different identities within Pakistani society. At one end of the spectrum we have young males and females from poorer backgrounds who attend religious Urdu-medium schools, and at the other end of the spectrum we have wealthy students exposed to Western style education (Delevande and Zafar, 2011). Thus our three target ‘groups’ reflect not only distinct linguistic and religious identity (as described above), but are also segregated along the lines of economic and social class.

Limitations

Note that the groups we consider are endogenous, as families and individuals self-select into schools, with higher income families choosing elite schools, the poorest ending up in madrassas, and low and middle-income families choosing public sector universities. This suggests care is needed when interpreting results. We use demographic and other background information as controls in our estimation methodology to overcome possible self-selection bias and to separate the effect due to the teachings at a particular institute and how much is due to family background. For the penalty data, however, we are able to arrange our data as a panel, and this helps control for omitted variable bias.

THEORETICAL FRAMEWORK

We borrow the theoretical model presented in Delevande and Zafar (2011). This model adopts Akerlof and Kranton’s utility function which incorporates identity, but they also consider the multi-dimensional nature of identity by separately considering social identity (s) and gender (g). Moreover, utility, $U_{s,g}(\cdot)$, depends on one’s own payoff and also on one’s partner’s characteristics (s',g'), suggesting the presence of other-regarding preferences (see Sobel (2005) for a review of interdependent preferences). For simplicity, utility is assumed to be linear in both the subject’s payoff and in a strictly concave function of $\beta_{s,g;s',g'}(\cdot)$ of the partner’s payoff ($\beta'_{s,g;s',g'}(\cdot) > 0$, $\beta''_{s,g;s',g'}(\cdot) < 0$) and equals zero if the partner has zero payoff ($\beta_{s,g;s',g'}(0) = (0)$). It is also assumed that utility is separable in both the subject’s own payoff and the partner’s payoff, where a is own payoff and b is the partner’s payoff. The utility function is then:

$$U_{s,g}(a,b) = a + \beta_{s,g;s',g'}(b)$$

Adapting this framework to our one-shot public goods game, the decision rule is presented below:

Stage 1: monetary payoff for subject i , equals:

$$\pi_i^1 = y - \beta_{s,g;s',g'}(g_i) + m \sum_{j=1}^n g_j$$

where,

y = initial endowment, Rs. 100

g_i = investment in public good, $0 \leq g_i \leq y$

g_j = other group members contribution to the public good, where $i \neq j$

$n=4$

m = marginal per capita return from contribution to the public good.

Stage 2: The monetary payoff for this stage equals:

$$\pi_i^2 = y - \sum_{j \neq i} P_j^i - \beta_{s,g;s',g'} \sum_{j \neq i} c(P_j^i)$$

where,

y again equals endowment

P_j^i = amount subject i is punished by partner j

P_i^j = amount partner j is punished by subject i
 $c(P_i^j)$ = cost to subject i of punishing subject j.

Total monetary payoff:

$$\pi_i^{1+2} = 2y - \beta_{s,g;s',g'} \left[g_i + \sum_{j \neq i} c(P_i^j) \right] + m \sum_{j=1}^n g_j - \sum_{j \neq i} P_j^i$$

where the term in the bracket suggests that both the contribution to the public good and the amount penalized by subject i depends on $\beta_{s,g;s',g'}$ i.e. on subject i's own social background and gender and on partner j's social background and gender.¹²

LITERATURE ON GROUP IDENTITY

Since Akerlof and Kranton's seminal work on identity, and its introduction in economic analysis, empiricism with respect to investigating the impact of group membership has taken two approaches. The first approach focuses on exogenously-induced group membership, while the second approach focuses on pre-existing group membership, such as membership to different ethnic or religious communities or economic or social class. It is the latter approach that is employed in this paper. Examples include Gaechter and Herrmann (2011) in which the authors conducted public goods experiments, with and without punishment, using young and old participants from urban and rural Russia. They concluded that rural residents and mature participants were more cooperative than urban residents and young participants. The authors also observed substantial punishment, not only of free riders, but also of people who contributed the same or more than the punishing subject. This suggests that informal punishment can have detrimental consequences and even crowd out cooperation.

Similarly, employing pre-existing group membership, Bowles et al. (2011) conducted ultimatum, public good, and dictator games with subjects from fifteen hunter-gatherer, nomadic herding, and other small-scale societies exhibiting a wide variety of economic and cultural conditions. The experiments led the authors to conclude that societies with higher degrees of market integration, and higher payoffs to cooperation in the production of their livelihood, demonstrated a greater level of cooperation in the games. Note that the rationale for payoffs to cooperation as an explanatory variable is that it is perceived that those societies that earn their livelihood through cooperative endeavors (e.g. whale hunting) are more likely to cooperate in games. The rationale for market integration is that the more frequently people experience market transactions, the more they are likely to experience abstract sharing principles concerning behavior towards strangers.

Along similar lines, Yamagishi (1994) distinguishes between specific trust and generalized trust and, using cross-societal surveys of US and Japanese groups, argues that Japanese social networks and norms produce a greater level of trust but one that is less portable than American trust. In analogous situations, Japanese trust an individual more than Americans do when they see some indications that the individual is part of a linked network; Americans, however, are more likely to trust a totally unknown individual (the third party "other") than the Japanese.

Finally, in the specific context of Pakistan, the Social Policy Development Centre (SPDC) in 2003 conducted a survey of students and teachers from the four main schooling strata (1) Urdu-medium school, (2) elitist English-medium schools, (3) cadet colleges/public schools, and (4) madrassas. Institutions were used as clusters, and only students of class 10 and equivalent were questioned (in Urdu or English) about their views regarding the "Other"; whether it might be religious minorities, India, or women. According to the survey, the most intolerant views were held by the madrassa students. These students belong to the lowest income quintile and "express their sense of being cheated by society in the idiom of religion. This gives them the self-righteousness to fight against the oppressive and unjust system in the name of Islam" (Rehman, 2005, pg 18). In contrast, the private elite English-medium students were more tolerant of religious minorities and advocated equal rights for women, while responses by Urdu-medium students fall between these two extremes: less tolerant of minorities but believed in equal rights for women.

¹² $\partial \pi_i / \partial g_i = -\beta + m$ which may be less or greater than zero depending on the value of β
 $\partial \sum_{j=1}^n \pi_i / \partial g_i = -\beta + nm$ which may be less or greater than zero depending on the value of β

In contrast, Delavande and Zafar (2011) focus on dictator games and trust. Their survey was limited to 4 universities in Pakistan. As the dictator game comprises a single move, it only measures empathy, but the trust game also comprises a second move and thus incorporates both reciprocity and trust. While Rahman (2005) asserted that the curriculum/textbooks in madarassas make the students narrow-minded, and they may turn to violence, in contrast, Delavande and Zafar (2011) find that madarassa students are actually more trusting and generous. Thus, experiments/games are important here to break down stereotypes and get at dense information.

Taking the work of Delavande and Zafar (2011) forward, this study focuses on the public goods game which will allow analysis of cooperative behaviour and the capacity to punish. Adding a punishment element to the public goods game allows us to observe whether students from different universities are more inclined to punish (even at a cost to themselves) and to investigate if punishment behavior varies based on the identity of the individual one is interacting with. Moreover, our sample comprises both male and female madrassas and allows us to test whether the generosity displayed by madrassa students can be shown across the gender divide.

The above experimental approach is complemented with a detailed questionnaire, which allows the study to go beyond the experimental data and try to answer more process-oriented, qualitative questions of “how” and “why” of the differences in attitude of the respective students. Mixed methods research with a qualitative element can play an important role here and allows the study to document psychological, cultural, and contextual factors that play an important role in the nurturing of students.

EXPERIMENTAL DESIGN

Participants played a standard public goods game (with punishment) within a one-shot environment. In repeated games subjects may use sanctions to influence the behavior of others in future rounds and not solely to sanction them for their behavior in the current round. This one-shot environment allows us to investigate to what extent subjects are willing to sanction others (at a personal cost) when they cannot expect to receive any benefit in the form of increased cooperation in future rounds.¹³ There were a total of 904 subjects, 488 madrassa students (200 female students, 288 male students), 344 middle-income university students (176 public university students, 168 private middle-income), and 72 private-elite students. The universities from which they were selected are shown in Annexure 1.

A respective random sample of students from the three university groups (madrassa, private and public middle-income, and elite) participated in the two stage public goods game (see Annexure 2 for the instructions provided to the students regarding the experiment and Annexure 3 for the accompanying questionnaire). The summary statistics further suggested that the groups (especially the madrassas) be sliced across gender. We also consider descriptive statistics separately for public and private middle-income universities as there may be nuanced differences between the two groups. Annexure 4 provides tables of the survey results.

We concluded that the best way for students of different identity groups to interact without any bias and without their identity being revealed was to let the students play the game in their own university environment using cell phones to update the forms after the first stage of the experiment was complete. While the students filled out the questionnaire, the forms were prepared for the second stage. We faced technological problems with respect to access to the internet. We had initially planned to communicate via skype to update forms for the second stage, however, due to weak, or absent, internet signals in most low-income and middle-income universities, we had to update forms on cell phones. This proved tedious, but within a few pre-testing rounds, the routine had become efficient, and the forms would be ready much before the students completed the survey questionnaire. Each experimental session lasted around 2 hours. A total of 24 experiments were conducted in Islamabad and Lahore during March to May of 2013, and then September to December of 2013.

The Experimental Setting

The instructions informed the subjects that they would be interacting with three other students, and that the composition of their group would remain the same for the entire session, while they were assured that at no point in the experiment would the names of the other members of the group be made known to them, nor would their name be

¹³ Gaechter and Herrmann (2011) deal with this problem indirectly by examining a "stranger" treatment in which subjects are randomly regrouped after each round of the experiment. But, even in that case, a subject that has observed the sanctioning behavior of others may be influenced in future rounds even if he or she will not encounter the same group members again.

made known to the others (see Annexure 2). They were however informed of the gender and the type of university their group members belonged to.

In the first stage, each subject received an endowment of Rs. 100 to be divided between two investment opportunities, labeled the ‘individual account’ and the ‘group account’, representing the private and public goods, respectively. The individual account earned no reward to the subject investing in it, while each Rupee invested in the group account was matched by a Rupee as reward, and the total ‘group account’ contribution was divided equally among the four members of the group, regardless of who invested in it. Thus, the Nash equilibrium is for each participant to invest his or her entire endowment in the individual account.

In the second stage, the subjects were informed of their respective group members’ contribution to the public account. The instructions for the second stage not only informed the students of the investment decisions of the other group members, but also provided the subjects the opportunity to punish their respective group members if they were not satisfied with their contribution. The subjects were provided a further Rs. 100 for the second round. They could punish their respective group members by decreasing their earnings from the first round, but punishment was at a cost to themselves. Therefore, if a subject decreased a group member’s earnings by Rs. 10, his/her own endowment was reduced by Rs. 6.

Note that in the first stage, i.e. the standard public goods game, *complete* free riding is a dominant strategy. In the second stage, punishing is costly for the punisher, and therefore purely selfish subjects will always free ride and never punish in a one-shot context. In sharp contrast to this prediction, empirical research has found vastly different contributions and sanctioning behavior respectively, e.g. Gächter and Herrmann (2011). Subjects tend to punish despite the cost, and not only do subjects punish low contributors, but Gächter and Herrmann (2011) find that even high contributors are punished if they are perceived to be changing the social norm.

RESULTS: DESCRIPTIVE STATISTICS

Table 1 compares some of the characteristics of five types of universities: male madrassa, female madrassa, public and private middle-income universities, and elite universities. For the purpose of descriptive statistics, the middle-income university students are disaggregated to highlight some nuanced differences, and see Annexure 4 for additional descriptive results in Tables A1-A7. Selected results from these tables are discussed in the text.

Table 1: Summary Characteristics

	Male Madrassa	Female Madrassa	Public Sector Universities	Private Middle Income	Private Elite
Number of Observations	288	178	135	148	72
Number of Siblings	7.1	6.3	5.1	4.3	3.26
Percentage of Parents Own:					
Home	90.5	77	92.6	90.4	97.1
TV	21	47	85	87	97.5
Cellphone	84	91.8	89	84.5	98.6
Motorbike	48.2	65.8	63	65.4	44.6
Car	9.7	13	43	50	91.2
Computer	27.6	31.6	78.5	76.8	98.6
Internet Access	8.4	12.8	63	70.2	98.6
Religiosity Index (10 highest)	8.3	8	5.7	5.9	5.6
No of Times Pray Daily	4.99	4.95	2.85	3.28	2.57

Students from the conservative madrassas to the liberal private elite universities differ such that, across this spectrum, the income, assets, and education of the parents increases as the institutes become more liberal, while religiosity (self-proclaimed) diminishes. But, despite this decline in self-proclaimed religiosity, it is not that the middle-income and elite university students are not religious: they all fast in the month of Ramadan and pray on average 2 to 3 times a day (as opposed to the complete 5 daily prayers offered by the madrassa girls and boys).

Exposure to Media

In terms of exposure to media, the language divide is apparent (see Table A1, Annexure 4), with madrasa students focusing almost exclusively on Urdu newspapers, while middle-income students focus on both Urdu print and electronic media (demonstrating access to TV and internet) and read English newspapers. The elite, in contrast, mostly focus on English print and electronic media. While these English-medium elite students may be watching Urdu news, less than 30 percent read the local Urdu newspaper.

Medium of Instruction

Media exposure leads to the question of medium of instruction. When directly questioned about their preference with regard to what should be the medium of instruction in school (see Table A2), while more than 80 percent of madrasa students had a preference for Urdu, 96 percent of the elite students support English-medium instruction, with 45% - 65% middle-income students recommending English-medium instruction at the school level.

Income Inequality

The language divide is closely linked to the income divide. Almost 86 percent of madrasa students belong to the Rs. 10,000 – Rs. 30,000 per month income bracket, while 53 percent of elite students come from households with monthly incomes exceeding Rs. 100,000 (and 21 percent have a household income between Rs 70,000 and Rs. 100,000). The middle-income students, as expected, lie in the middle of this spectrum, with private middle-income students belonging to relatively higher income households than their public sector counterparts (see Table A3).

The Education Divide

The income divide is also mirrored by an education divide (see Tables A4 and A5). With respect to parents education, around 87 percent of the sample of male/female madrasa students had fathers who were Matric (passed 10th grade) or below. Similarly, 96 percent of madrasa students sampled had mothers with 10 or less years of education. In contrast, public-private middle-income students fare better, especially in terms of father's education: 48 percent of public university fathers have a Bachelors degree and, out of these, 28 percent have a Masters. Similarly, 39 percent of private middle-income university fathers have a Bachelors degree and 14 percent have a Masters. In the case of elite universities, the majority of parents have Bachelors degrees, and we even find some PhDs.

Moving on to their own educational experience, we find madrasa students (especially male madrasa students) relatively more satisfied with their education and quality of teaching than their middle-income counterparts (see Table A2). However, it seems physical punishment is still prevalent in middle-income schools and madrassas, even in female madrassas.

The Political Divide

Finally, with respect to the political divide, over 97 percent of madrasa students feel that they are first a Muslim and then Pakistani, while only 64 percent of elite students feel that they are first Muslim and then Pakistani (see Table A6). With respect to giving equal rights to minorities, we find madrasa students much more tight-fisted than their middle-income and elite counterparts. Among the madrasa students, females are more intolerant than male students. Highlighting this, with respect to Ahmedis, we find that only 8 percent of female and 27 percent of male madrasa students feel that they should be given equal preference when seeking a job. Even for elite students this percentage is only 84 percent, much less than the 97 percent seen when questioned about giving equal rights to Hindus and Christians. This suggests how politicized the Ahmedis issue is in Pakistan. With respect to Hindus, only 14 percent of female and 38 percent of male madrasa students feel that they should be given equal rights; and for Christians, 24 percent of female and 42 percent of male madrasa students feel that they should be given equal rights. Thus, our survey results tend to support the findings of Rahman (2005), and we extend the results to female madrasa students.

With respect to giving equal rights to men and women, while we find support for equality among the elite, only 45 percent of male madrasa students and 60 percent of female madrasa students support equality among the sexes (see Table A7). It is interesting that female madrasa students themselves attach less value to their rights, demonstrating evidence for Sen's work on perceptions, or in this case self-perception (Sen, 1990).

EXPERIMENTAL RESULTS: CONTRIBUTING TO THE PUBLIC GOOD

With respect to the first stage of the public goods game, Figure 1 presents the kernel density functions for the contribution of the three groups. The initial look at the data suggests madrasa students contribute more to the public good as compared to middle-income students, who contribute the least. Elite students also contribute substantively to the public good, but their contribution remains less than the madrasa students. With respect to the gendered trend, it again varies with the institute: elite male students are more generous than their female counterparts, while middle-income female students are more generous than middle-income boys. With respect to madrasa students, on average, male students are more generous than female students. Figure 2 goes on to present the kernel density functions for penalty behavior. We mainly see low penalty behavior, with elite, male students punishing the most.

Table 2 presents the unconditional mean contribution and their respective standard deviations. These initial summary statistics confirm that madrasa students are the most generous and, among the madrasa students, it is the male student that are slightly more generous, contributing on average 58.9 percent to the public good, while the female madrasa student on average contributed 54.5 percent. For elite private universities, we also find a similar gendered trend as the madrassas, with boys contributing more than girls toward the public good. This gendered behavior is reversed, however, for private/public middle-income university students: female students were more generous than male students.

Table 2: Mean Contribution toward the Public Good

	Male Madrasa	Female Madrasa	Public Sector Universities	Private Middle-Income	Private Elite	
Mean Contribution	58.9	54.5	44.1	41	50.9	
Standard Deviation	27.7	27.7	24.1	19.8	28.9	
	Mean Contribution by Sex					
			Male	Female	Male	Female
		Mean Contribution	41.2	49.5	36.8	49.9
		Standard Deviation	23.3	24.9	18.4	19.8
					48.5	45
					31.6	23.7

Figure 1: Kernel Density Functions for Contribution Distributions

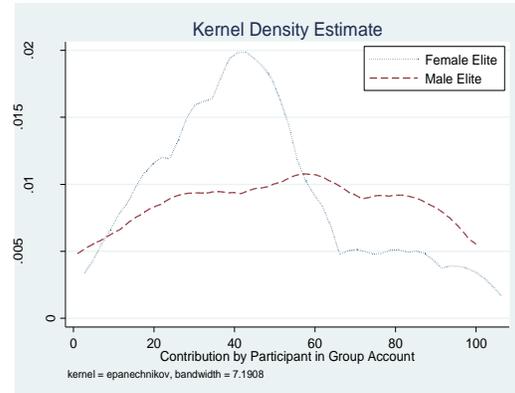
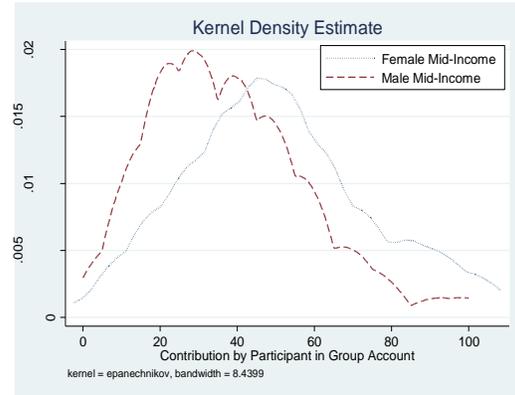
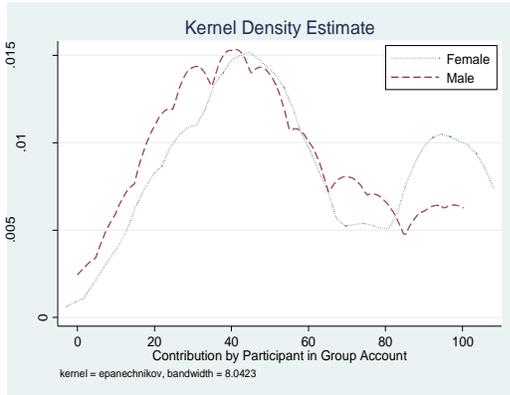
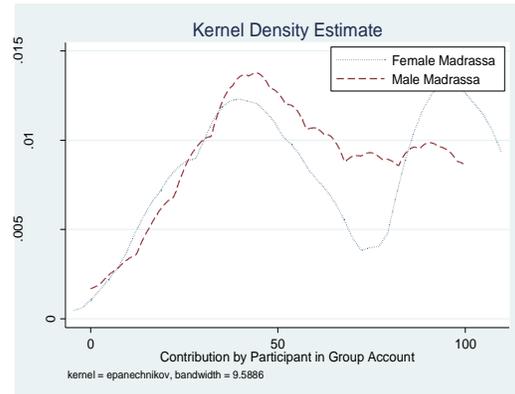
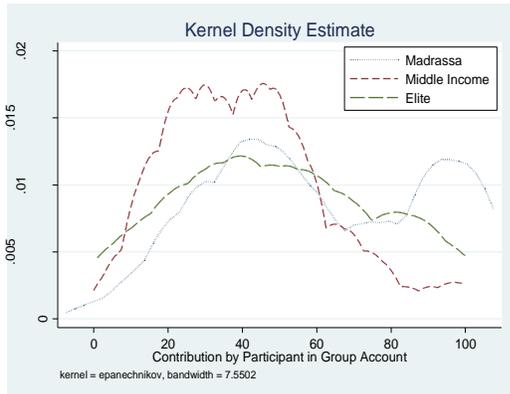
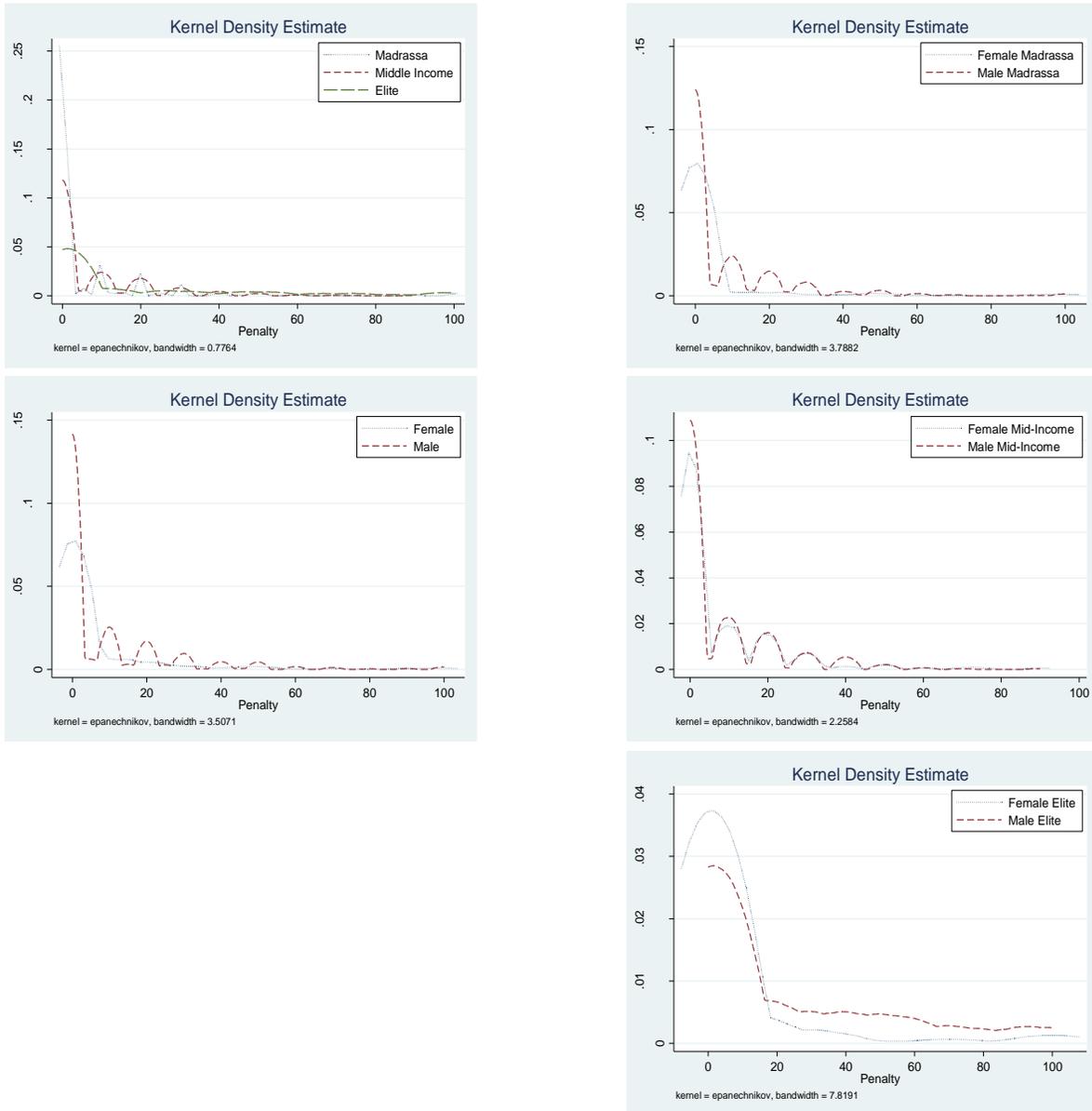


Figure 2: Kernel Density Functions for Penalty Distributions



Disaggregating the Data

Note the two peaks in the madrasa kernel density functions (Figure 1), suggesting that madrassas as a group are not homogenous, and, therefore, we hypothesize that it is important to distinguish between progressive, well-equipped madrassas, which follow both the public-school curriculum and their own religious teachings, and more old-fashioned, cash-strapped, smaller madrassas. Table 3 presents the disaggregated results of the first stage of the 24 experiments for the 17 educational institutes included in the study.

As shown in Table 3, we find that the more progressive, larger, better-equipped madrassas, with dual curriculum (madrassas like IUI for boys, and JUBB for girls), are less generous than their less progressive, more congested, counterparts (like JMU, JUSI, and JRSL for boys, and ABB for girls), in fact, they behave more like their private/public counterparts. Overall, on average, public-private middle-income and elite university students are less generous than their madrasa counterparts. Within the two middle-income groups (public vs. private), the private school students are the least generous.

Table 3: Disaggregated Experimental Data: Mean Contribution to the Public Good

Inter-Intra University	Institute Type	Mean Contribution of First Group	Mean Contribution of Second Group
JUSI- JUSI	Male Madrasa	68.3	
JMU-JMU	Male Madrasa	70	
JRSL-JRSL	Male Madrasa	67.5	
JMUL-JMUL	Male Madrasa	60	
IUI-IUI	Male Madrasa	46.75	
ABB-ABB	Female Madrasa	78	
JUBB-JUBB	Female Madrasa	47.95	
QAU-QAU	Public	47.35	
PU-PU	Public	42.5	
PIDE-QAU	Public	52.75	
RIU-RIU	Private	37.5	
ARID-ARID	Private	32.8	
PCC-PCC	Private	45.9	
LUMS	Elite	57.81	
LUMS	Elite	44.75	
ABB-JRSL	Male Madrasa-Female Madrasa	66.66	72.33
JUBB-JMUL	Male Madrasa-Female Madrasa	40.36	47.74
IUI-QAU	Male Madrasa-Public	43.44	40
JRSL-PU	Male Madrasa-Public	67	37.7
JUSI-ARID	Male Madrasa-Private	71.45	36.5
JASH- SZABIST	Male Madrasa-Private	66.6	49.25
JRSL-PCC	Male Madrasa-Private	67	46.56
LUMS-ABB	Elite-Female Madrasa	47	100
LUMS-JZ	Elite-Female Madrasa	50.5	49.38

With respect to penalty behavior, our kernel density functions are right-skewed, reflecting the not too aggressive punishing behavior among our sample of students. But, we still find distinct behavioral variation based on gender and class. Overall, madrasa students punish the least, and elite students punish the most. With respect to the gender divide, women punish less than men. This is especially true for female madrasa students and female elite students. These results are not displayed in a descriptive table, but we run further econometric models for contribution and penalty data and confirm the above behavior.

Empirical Approach

With respect to contribution behavior, several OLS models were estimated to investigate the determinants of contribution to the public good. Since our data is censored, the results were further confirmed by running a Tobit model. Tobit is an inherently better model and is used for comparison and completeness with the full set of control variables.

We run separate models for male and female students. The Chow test confirms that the two distributions are structurally distinct, hence the separate models. The structural equation for the Tobit model is:

$$y_i^* = X_i\beta + \varepsilon_i$$

where y_i^* , contribution to the public good, is a latent dependent variable, observed for values greater than zero and censored otherwise, such that:

$$y_i = y_i^* \text{ if } y_i^* > 0$$

$$y_i = 0 \text{ if } y_i^* \leq 0.$$

X_i is our vector of explanatory variables and $\varepsilon_i \sim N(0, \sigma^2)$.

The model examines the relationship between contribution to the group account (our dependent variable as defined above) and which institute a student belongs to. Our respective regression models, by sex of the respondent, control for variables such as income, mother's education, number of times the respondent prays in a day, and whether the student prefers a secular or theocratic Pakistan. The vector X_j of the determinants of contribution to the public good includes respective university groups and the above control variables.

With respect to penalty behavior, we reorganize the data as a panel to capture the second stage of the experiment. The data is organized such that:

- (i) There are 3 observations per individual. Each of the three observations relate to one's partners (group members).
- (ii) One's characteristics are repeated through these 3 observations except for 2 variables: one's penalty (it is partner-specific) and one's partners' contributions.

We have a balanced panel, with k regressors, such that $(X_{1it}, X_{2it}, \dots, X_{kit}, Y_{it})$, where

- $i = 1, \dots, n$ (no. of individuals)
- $t = 1, \dots, T$ (for the 3 group observations per individual)
- $T = \text{no. of members in the group} = 3$; total no. of observations = $3 \times n$

With the panel, we can control for factors that vary for the individual but do not vary within the group and therefore can control for omitted variable bias.

Table 4 represents both the variation *within* the groups and *between* groups, where each group comprises 3 members and there are 904 groups. We note that there is variation *within* the groups with respect to both penalty behavior (std. is 10.47) and contribution made by each respective group member (std. is 20.95).

Table 4: Summary Statistics for our Panel Data

Variable		Mean	Std. Dev.	Min	Max	Observations
Penalty	Overall	7.51	16.26	0	100	N = 2712
	Between		12.44	0	100	n = 904
	Within		10.47	-59.15	74.18	T = 3
Own Contribution to the Group	Overall	53.22	27.81	0	100	N = 2712
	Between		27.82	0	100	n = 904
	Within		0	53.22	53.22	T = 3
Contribution of Each Respective Group Member	Overall	53.21	27.81	0	100	N = 2712
	Between		18.3	11.67	100	n = 904
	Within		20.95	-12.79	111.54	T = 3

We employ the fixed effects technique and observe how the same individual member's penalizing behavior changes based on their respective group member's contribution, gender, and educational institution.

EMPIRICAL FINDINGS

Cooperative Behavior

Tables 5 and 6 report the results from the basic OLS and Tobit models used to investigate the determinants of contribution to the public good for boys and girls, respectively. The three broad types of educational institutes considered were: elite, madrassa, and middle-income. The middle-income colleges are the omitted category. The main findings are summarized below.

Table 5: Estimating the Determinants of Contribution to the Public Good for Boys

	(OLS 1)	(OLS 2)	(OLS 3)	(OLS 4)	(OLS 5)	(OLS 6)	(Tobit)
Madrasa	20.23*** 0.00	23.04*** 0.00	24.32*** 0.00	23.89*** 0.00	17.98*** 0.00	17.89*** 0.00	19.13*** 0.00
Elite	14.65*** 0.00	10.95** (0.01)	9.649** (0.04)	9.265* (0.05)	10.86** (0.03)	14.03*** (0.01)	16.02*** (0.01)
English Medium of Instruction		7.485** (0.01)	7.056** (0.02)	7.093** (0.02)	6.926** (0.03)	6.863** (0.03)	8.114** (0.02)
Mother's Education			0.03 (0.90)	0.03 (0.91)	-0.02 (0.93)	-0.02 (0.93)	-0.10 (0.73)
Father's Education			0.27 (0.21)	0.30 (0.18)	0.32 (0.17)	0.32 (0.16)	0.41 (0.11)
Rs.30,000-Rs.50,000				-2.89 (0.44)	-1.37 (0.72)	-1.71 (0.65)	-2.52 (0.54)
Rs.50,000-Rs.70,000				-0.90 (0.85)	-0.37 (0.94)	-0.58 (0.90)	-1.11 (0.83)
Rs.70,000-Rs.100,000				-1.80 (0.70)	-0.63 (0.90)	0.21 (0.97)	-0.03 (1.00)
Rs.100,000 & Above				0.09 (0.99)	2.84 (0.59)	2.87 (0.58)	1.91 (0.74)
Daily Prayer					2.85*** (0.01)	2.42** (0.03)	2.64** (0.03)
Islamic Pakistan						6.659* (0.08)	7.207* (0.09)
Standard Error							27.9*** 0.00
Constant	38.85*** 0.00	35.36*** 0.00	32.78*** 0.00	33.38*** 0.00	24.49*** 0.00	20.30*** 0.00	19.05*** (0.00)
N	527.00	527.00	527.00	527.00	507.00	507.00	507.00
Adj. Rsq	0.12	0.13	0.13	0.12	0.13	0.13	

p-values in parentheses * p<0.10, ** p<0.05, *** p<0.01

The base category for educational institutes is middle-income (the dummies included are for madrasa, and elite institutes)

The base category for the income variable is (less than Rs. 30,000)

English Medium of Instruction refers to the educational background in high school

Parents' education is a continuous variable

1. Among our main identity groups, madrassa boys contribute significantly more to the group account than their middle-income public and private university counterparts.

Looking at the simplest model (1), Table 5, we observe that the predicted contribution by madrassa students is Rs. 20.2 higher than their middle-income counterparts. As control variables are added to the model (as we move across the columns in Table 5), madrassa students remain significantly more cooperative than other university groups, holding all else constant. Tobit model results are similar to the full OLS model (6).

2. Elite university boys also contribute significantly more than their middle-income counterparts, suggesting *noblese oblige*.

Elite university boys contribute, on average, Rs. 10 more (rising to Rs. 14-16 more in the full OLS and Tobit models) than their middle-income counterparts to the public good, holding all else constant. Thus, although elite students contribute generously to the public good, in absolute terms, their contribution is less than the contribution by madrassa students.

As we move across Table 5, and add control variables to our basic model, we observe the lack of statistical significance for both income and parents' education. However, notice the negative sign for the middle and higher middle-income coefficients (Rs. 30,000 – Rs. 100,000), while income higher than Rs. 100,000 carries a positive effect confirming the tendency towards *noblese oblige*.

We find statistical significance for number of prayers offered in a day, suggesting that, holding all else constant, being more inclined to offer daily prayers increases the predicted contribution to the public good by Rs. 2.6 (see the Tobit model in Table 5). Also, students who favor a theocratic (Islamic) rather than secular Pakistan tend to contribute Rs. 7.2 more to the public good (see Tobit model), holding all else constant. Finally, we also find that students who have attended English-medium schools contribute significantly more to the public good.

3. Female madrassa students also are significantly more cooperative than their middle-income counterparts.

Moving to consider the behavior of female students (Table 6), while we find female madrassa students contributing about Rs. 10.6 more than their middle-income counterparts (see the Tobit model in Table 6), the magnitude of the effect is less than the effect observed for madrassa boys. Elite female students, however, are not significantly more cooperative than their middle-income counterparts.

4. Overall, male students within the elite and madrassa identity groups are more generous than their female counterparts in the respective group.

Looking across the regressions, overall the gendered result is as follows: male madrassa students are more cooperative than their female madrassa counterparts when compared to corresponding groups at middle-income universities, and male elite students are more cooperative than their respective female elite counterparts in similar terms. However, in contrast, middle-income female students are more generous than their male counterparts.

Table 6: Estimating the Determinants of Contribution to the Public Good for Girls

	(OLS 1)	(OLS 2)	(OLS 3)	(OLS 4)	(Tobit)
Madrassa	4.45 (0.19)	10.59** (0.03)	11.41** (0.03)	8.31 (0.14)	10.65* (0.09)
Elite	-4.79 (0.43)	-7.64 (0.23)	-9.42 (0.15)	-9.34 (0.19)	-10.48 (0.18)
English Medium of Instruction		9.220* (0.08)	8.33 (0.12)	9.591* (0.08)	10.68* (0.07)
Mother's Education			0.53 (0.15)	0.53 (0.15)	0.57 (0.16)
Father's Education			-0.32 (0.34)	-0.29 (0.40)	-0.26 (0.48)
Rs.30,000-Rs.50,000				-7.14 (0.18)	-7.36 (0.21)
Rs.50,000-Rs.70,000				-6.85 (0.25)	-7.36 (0.26)
Rs.70,000-Rs.100,000				-8.08 (0.18)	-8.44 (0.20)
Rs.100,000 &Above				-5.62 (0.42)	-6.13 (0.43)
Standard Error					27.99*** 0.00
Constant	49.74*** 0.00	43.37*** 0.00	43.31*** 0.00	47.42*** 0.00	46.90*** 0.00
N	274.00	274.00	274.00	274.00	274.00
Adj. Rsq	0.01	0.01	0.02	0.01	

p-values in parentheses * p<0.10, ** p<0.05, *** p<0.01

The base category for educational institutes is middle-income (the dummies included are for madrassa, and elite institutes)

The base category for the income variable is (less than Rs. 30,000)

English Medium of Instruction refers to the educational background in high school

Parents' education is a continuous variable

The base category for the income variable is (less than Rs. 30,000)

As compared to the male regression models, this group of female regressions does not include "daily prayer" or "Islamic Pakistan", as adding these variables to the model makes all coefficients insignificant. It is pertinent to note here that male and female distributions are structurally distinct, and hence, separate models are run.

Penalty Behavior

As the second stage of the public goods experiment allows direct response to the respective group members' behavior in the first stage, it allows us to not only look at how ones' own identity effects behavior but also how penalty behavior may change based on the identity of the individual one is interacting with. We again run separate male and female models, and moreover, the data is sliced across educational institutions which form our core social identity groups; that is, we run three separate models for boys: madrassa boys, middle-income boys, and elite boys, and three separate models for girls: madrassa girls, middle-income girls, and elite girls (see Table 7).

Table 7: Gender and Institution Disaggregated Fixed Effects with Continuous Penalty Variable (Robust Std. Errors)

Male Only			
	Madrassa Penalty	Middle-Income Penalty	Elite Penalty
Group Member's Contribution to the Public Good	-0.04 (0.15)	-0.08 (0.16)	-0.10 (0.49)
Madrassa	-2.54 (0.14)	1.52 (0.40)	17.05 (0.13)
Female	3.29* (0.08)	-0.21 (0.88)	-16.99** (0.05)
Constant	11.60*** 0.00	10.90*** 0.00	28.19*** (0.00)
N	864.00	693.00	150.00
No of groups	288.00	231.00	50.00
Obs. per group	3.00	3.00	3.00
R-squared			
Within	0.02	0.02	0.05
Between	0.01	0.01	0.01
Overall	0.01	0.02	0.02
Rho	0.54	0.34	0.42
Standardized beta coefficients; p-values in parentheses * p<0.1, ** p<0.05, *** p<0.01			
Female Only			
	Madrassa Penalty	Middle-Income Penalty	Elite Penalty
Group Member's Contribution to the Public Good	-0.02 (0.51)	-0.213*** (0.00)	-0.09 (0.38)
Madrassa	-9.91*** (0.01)	3.49 (0.20)	-4.49 (0.36)
Female	0.63 (0.73)	3.13 (0.20)	-1.55 (0.53)
Constant	12.39*** 0.00	16.19*** 0.00	13.86*** (0.01)
N	600.00	339.00	66.00
No of groups	200.00	113.00	22.00
Obs. per group	3.00	3.00	3.00
R-squared			
Within	0.07	0.16	0.04
Between	0.02	0.01	0.01
Overall	0.04	0.07	0.02
Rho	0.50	0.42	0.53
Standardized beta coefficients; p-values in parentheses * p<0.1, ** p<0.05, *** p<0.01 madrassa and female are 0-1 dummy variables.			

5. *Both male and female madrassa groups penalize their fellow madrassa students less.*

The first column represents the penalty behavior of male (upper panel, Table 7) and female (lower panel) madrassa students. Remember, in this panel, all individual characteristics of the subject are repeated throughout the *group* and therefore drop out of the fixed effect model: only how much the individual penalizes his/her group members varies, across the observations, and the partner's characteristics vary by (i) the partner's contribution to the public good, (ii) the institute the group member belongs to, and (iii) the gender of the partner. We find that for both male and female madrassa students, how much the fellow players contributed does not significantly affect their penalty behavior.

Male madrassa students penalize fellow madrassa students Rs. 2.54 less than non-madrassa students, holding all else constant.¹⁴ Female madrassa students penalize fellow madrassa students Rs. 9.9 less than non-madrassa students, holding all else constant.

6. *Male Madrassa students play more punitively with respect to women, while elite male students punish women less.*

With respect to the penalizing behavior of male students, madrassa boys penalize female students by Rs. 3.29 more than male students, holding all else constant. In contrast, elite male students penalize female students Rs. 16.99 less than male students, holding all else constant.

7. *Elite students penalize high contributors (i.e. madrassa students) who attempt to change existing social norms.*

Elite male students may be benevolent, but they penalize madrassa students Rs. 17.05 more than fellow elite students, holding all else constant. With respect to this behavior, exit interviews reveal resentment to the high levels of contribution made by the madrassa students.

8. *Middle-income students seem to want to hold onto resources for themselves and penalize only based on the actions of their respective members, irrespective of their group members class and gender identity.*

For middle-income female students, we find that their decision to penalize mostly depends on the contribution of their partners in the first stage, and, holding all else constant, middle-income female students decrease the penalty amount by Rs. 0.213 for every rupee contributed to the public good. Male students decrease the penalty amount by Rs. 0.08 for every rupee contributed to the public good.

Overall, however, the magnitude of penalties remain modest for all identity groups, except elite boys who tend to punish the high contributors heavily (i.e. male madrassa students). Moreover, in the exit interviews, most low and middle-income students respond that they do not penalize low contributors much, not because there is a cost attached to it, but because they understand other students' income constraints and respect their choice.

SUMMARY AND CONCLUSION

The first stage of the public goods game investigated the tendency to cooperate and investigated how ones' *own* gender and social identity affects ones' behavior. Our empirical findings suggest that, firstly, madrassa students are the most cooperative. Within the madrassa group, boys are more cooperative than girls. This result is in line with Delavande and Zafar (2011), and we take the empirical evidence forward by confirming their findings for both male and female madrassa students (while Delavande and Zafar only surveyed male madrassas). This result also helps downplay negative stereotypes about madrassas and suggests the presence of altruistic preferences and generosity among these religiously inclined groups, even if they exhibit intolerant attitudes in the detailed questionnaire. Moreover, these findings suggest that experiments can help us get at dense information that may not be obvious from survey responses. Just because people seem intolerant in responses to survey questions does not mean that their behavior is narrow and not generous.

¹⁴ Note that with respect to the madrassa male regression, the level of significance for the madrassa dummy is 14 percent. But, we would like to argue here that there is nothing sacred about a 10-percent significance level, and, especially in the case of survey data, this is an important result which ought to be considered. We also discuss several other results with p-values of 0.10 to 0.20.

Middle-income university students are the least cooperative, and as we further disaggregate the data, we find relatively more progressive male and female madrassa students behaving more like their middle-income counterparts; the cooperative behavior (most likely a manifestation of altruism) demonstrated by low-income madrassas, is gradually replaced by rational, selfish behavior as we move on to middle-income students.

The second stage of the experiment allowed students to directly respond to their respective group members' first move, and we could observe how penalty behavior varied, not only based on one's own identity, but also based on the identity (both social and gender) and the actions of the individual one is interacting with. We find that, with male students, there is consciousness with regard to both the social and gender identity of the individual one is playing with. Male madrassa students penalize female students more than male students, while elite male students penalize female students less than male students. This result is in line with previous research on Pakistan suggesting that hostility towards women diminishes with an increase in income.

Moreover, with respect to male elite students, we observe them penalizing male madrassa students more heavily than fellow elite students. This result is in line with Fehr and Gächter (2000) and suggests the presence of spite among the elite boys towards very high contributors. With respect to female madrassa students, we also find variation in behavior based on who they are playing with: there is class consciousness among female madrassa students as they penalize fellow madrassa students less.

Finally, going back to Akerloff and Kranton (2010), our descriptive statistics confirm that madrassa students, middle-income public/private university students, and elite university students form three distinct identity groups and behave more in line with their group identity than according to pure economic reasoning. Their decision to contribute to the public good, and their decision to penalize (despite a cost attached to punishing), is driven, not only by economic concerns, but by feelings of cooperation (in the first stage of the experiment) and at times resentment, and even spite, when considering punishing behaviour. Penalty behavior also varies based on the social and gender identity of the individual they are interacting with. The above is especially true for both male and female madrassa students and for male elite students. In contrast, middle-income students behave more in line with the standard textbook *homo economicus*, motivated largely by self-interest, when we focus only on the public goods game, demonstrating the least contribution to the public good. But, when considering penalty behavior, we observe reciprocity as their behavior varies with the actions of fellow players' first move.

With respect to the language divide, again, elite English-medium university students behave in a completely distinct manner compared to students attending madrassas where the medium of instruction is primarily Urdu. But we need to more carefully examine the behavior of public/private university students to understand better the language divide, as it is in this middle-income group that we find students from both Urdu and English-medium schooling background. Here we find that middle-income students with an English-medium background are significantly more generous than their Urdu-medium counterparts.

To conclude, we find a nonlinear function with respect to income and elite status when examining contributions. The lowest income madrassa students contribute the most, and private middle-income students are the least cooperative, while elite students are generous, but less so than the madrassa students, reminding us of Bowel's (2004) Sharers, Grabbers, and Punishers, respectively.

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ANNEXURE I: UNIVERSITIES/MADRASSAS SAMPLED

IUI: Idara Ulum E Islami (Islamabad) Male Madrasa
RIU: Ripah International University (Rawalpindi)
JMU: Jamia Muhammadia (Islamabad) Male Madrasa
ARID: Pir Mehr Ali Shah Arid Agriculture University (Rawalpindi)
JUSI: Idara Ulum E Shariah (Islamabad) Male Madrasa
JASH: Jamia Ashrafia (Rawalpindi) Male Madrasa
JRSL: Jamia Rasheed School (Lahore) Male Madrasa
ABB: Female Madrasa (Lahore)
JMUL: Jamia Muhammadia Lahore (Lahore) Male Madrasa
PU: Punjab University (Lahore)
PCC: Punjab College of Commerce (Lahore) Private College
JUBB: Jammia Ullumia Al-Biniyato Al-Binine (Lahore) Female Madrasa
QAU: Quaid-e-Azam University
PIDE: Pakistan Institute of Development Economics (Islamabad)
LUMS: Lahore University of Management Sciences (Lahore)

ANNEXURE 2: GAME INSTRUCTIONS

Instructions for the Public Goods Game with Sanctions

For this decision situation you will be randomly assigned to a group of size four (you plus three other people). This decision situation consists of **two stages**. When you have completed the first stage, we will collect your decision sheets and prepare them for the second stage. They will then be returned to you so that the second decisions can be completed.

The First Stage

In the first stage you are endowed with Rs. 100, and the other three participants in your group are also endowed with Rs. 100. You must decide how much from this Rs. 100 to allocate to the GROUP ACCOUNT, and how much to allocate to your PRIVATE ACCOUNT.

In the first stage you will earn:

The amount you allocated to the PRIVATE ACCOUNT, and 2 times the amount allocated to the GROUP ACCOUNT.

The Second Stage

You will be informed of the total allocation to the group account and your total earnings for the first stage. You will also be informed of the individual group account allocation decisions of the other members of your group. Information about individual choices will be completely anonymous. You will never know the identities of the other members of your group, but only know the type of school they belong to and their gender.

In the second stage you will be allocated Rs. 100. You can allocate this money to your private account, or it can be used to **decrease** the earnings of the members of your group.

However, if you want to **decrease** the earnings of your group members you will yourself have to bear the cost of decreasing the other member's earnings. The cost will be as illustrated in the table below:

Points	0	10	20	30	40	50	60	70	80	90	100
Cost of these Points (%)	0	1	2	4	6	9	12	16	20	25	30

If you contribute all of Rs. 100 to your private account it will increase your total earnings by Rs. 100.

However, if you contribute, for example, Rs. 50, to decrease another group member's earnings, his/her earnings will decline by Rs. 50, and yours will decline by Rs. 9. You will now be left with Rs. 91 (Rs. 100 – Rs. 9) to add as earnings to your private account.

If you want to decrease the other group member's earnings by the maximum of Rs. 100 it will cost you Rs. 30. Her/his earnings from the first stage will decline by Rs. 100, and you will now be left with Rs. 70 (Rs. 100 – Rs. 30) to add as earnings to your private account.

You can choose any amount from Rs. 0/- to Rs. 100/- to allocate to your private account, or any amount from Rs. 0/- to Rs. 30/- to decrease the earnings of each of the other group members.

The other three members of your group will also be endowed with Rs. 100/- in the second stage, and will be able to use them in the same way.

Name	ID	Class/Level	Institute	Gender	
				Male	Female

<i>Other Group Participants</i>		
<i>ID</i>	<i>Gender</i>	<i>Institute</i>

Decision Sheet

First Stage

In the first stage you have been endowed with Rs. 100

In the box below enter the amount of Rupees you wish to allocate to the Group Account. Any remaining money will automatically be placed in your Private Account.

<p>How much of your Rs. 100 do you wish to allocate to the group account? Rs. _____ (Rs. 0 to Rs. 100)</p>
--

Second Stage

Rs. _____ were allocated to the Group Account by your group in the first stage.

You earned Rs _____ in the first stage.

The first column of each row shows how many Rupees each group member allocated to the Group Account in the first stage.

In the column to the right, enter the amount of Rupees by which you want to **decrease** that group member’s earnings.

You may enter any amount from Rs. 0 to Rs. 100. Any remaining Rupees will automatically be placed in your Private Account.

Allocations to Group Account by Other Group Members	Amount of Rupees by which to Decrease this Member’s Earnings		
_____ Gender: <table border="1"><tr><td>Male</td><td>Female</td></tr></table> Institute _____	Male	Female	_____
Male	Female		
_____ Gender: <table border="1"><tr><td>Male</td><td>Female</td></tr></table> Institute _____	Male	Female	_____
Male	Female		
_____ Gender: <table border="1"><tr><td>Male</td><td>Female</td></tr></table> Institute _____	Male	Female	_____
Male	Female		

ANNEXURE 3: QUESTIONNAIRE

QUESTIONNAIRE (STUDENTS)

DO NOT WRITE YOUR NAME TO ENSURE SECRECY.

1. Student ID _____
2. Name of Institute _____
3. Age _____
4. Class _____
5. Sex _____

(1) Male (2) Female

6. Father's Educational Qualification:

(1) Below Matric (2) Matric (3) FA/FSc (3) BA/ Bsc (4) MA/Msc (4) M. Phil (5) PhD

7. Mother's Educational Qualification:

(1) Below Matric (2) Matric (3) FA/FSc (3) BA/Bsc (4) MA/Msc (4) M. Phil (5) PhD

8. What is the occupation of your father?

Give his or her rank, title, occupational status; salary; grade; income from all sources etc?

a) (1=Public, 2=Private, 3=NGO's, 4=Others)

b) 1=Gazetted, 2=Non – Gazetted, 3= Clerical 4= Others

9. What is the occupation of your mother?

Give rank, title, occupational status; salary; grade; income from all sources etc?

a) (1=Public, 2=Private, 3=NGO's, 4=Others)

b) 1=Gazetted, 2=Non – Gazetted, 3= Clerical 4= Others

10. Please specify exact occupation of Father and Mother

Father _____

Mother _____

11. Parents' total monthly income (in 1,000 Rs)

1=10,000 — 30,000

2=30,000 — 50,000

3=50,000 — 70,000

4=70,000 — 100, 000

5=100,000 and above

12. Number of siblings (including self): _____

13. Do your parents own:

(1) home

(2) Television

(3) Cell phone

(4) Motorbike

(5) Car

- (6) Computer
(7) Internet Access
14. On a scale of (0 to 10) how religious are you ?
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10)
15. How many number of times do you pray in a day (0 to 5) ?
(1) (2) (3) (4) (5)
16. Do you fast during Ramadan?
1. Yes
2. No
17. If answered yes to the above, how many rozas did you keep last Ramadan ? _____
18. Do your parents watch Urdu news channels, and talk shows?
a. Yes
b. No
19. Do your parents read Urdu newspapers?
(1) Yes
(2) No
20. Do your parents watch English news channels, such as BBC and CNN?
1. Yes
2. No
21. Do your parents read English newspapers?
a. Yes
b. No
22. Do you watch Urdu news channels, and talk shows?
a. Yes
b. No
23. Do you read Urdu newspapers?
(1) Yes
(2) No
24. Do you watch English news channels, such as BBC and CNN?
1. Yes
2. No
25. Do you read English newspapers?
a. Yes
b. No
26. Do you have a friend/acquaintance who died or was injured in the violence in recent years?
1. Yes
2. No

Educational Attitudes

27. What kind of school did you go to?
- Public
 - Private
 - NGO
 - Madrassa
28. What was the medium of instruction at your school?
- English
 - Urdu
 - local
29. Did you like going to your Institute?
- Yes
 - No
30. Give reasons why you enjoyed going to school or why you did not like school. _____
31. Do you find what is being taught in college useful?
- Yes
 - No
32. Was the focus more on memorization or comprehension? _____
33. Was there a lot of homework?
- Yes
 - No
34. Are you interested in pursuing higher education?
- Yes
 - No
35. Are your friends interested in pursuing higher studies?
- Yes
 - No
36. How supportive are your parents in your studies? Do they help you and support your educational goals?

37. Have your parents set aside money for your higher education? _____
- Yes
 - No
38. What are your educational goals? _____
39. How would you rate the teachers in your institute in terms of knowledge, behaviour and presentation?
- Very Good
 - Good
 - Satisfactory
 - Average
 - Below average

40. Do you understand what is being taught in Institute?

1. Yes
2. No

41. Do you get a lot of home-work?

1. Yes
2. No

42. Are the studies rigorous/difficult?

1. Yes
2. No

43. Is there physical punishment in you Institute?

1. Yes
2. No

44. If yes, what kind of physical punishment, explain: _____

45. What problems do you think are affecting our educational system and what changes can be made to improve the condition? _____

46. Do you think the medium of instruction in your Institute should be English or Urdu?

- i. English
- ii. Urdu

47. What role can the government play in spreading education in the country? _____

48. Do you have friends from other Institute streams?

(1) Urdu medium Institutes

- (1) Yes
- (2) No

(2) English medium Institutes (middle-income)

- (1) Yes
- (2) No

(3) English medium Institutes (elite)

- (1) Yes
- (2) No

(4) Madrassas

- (1) Yes
- (2) No

49. If yes ,where does this interaction occur:

1. in the sports grounds
2. mosques
3. family friends
4. other (please specify)

50. Do you play with / own electronics such as iPods, Xbox, PS3?

(1) Yes

(2) No

51. Do you use the computer / internet for your home-work?

(1) Yes

(2) No

52. Are you happy with the teaching method:

i. Very Good

ii. Good

iii. Satisfactory

iv. Average

v. Below average

Political and Religious Attitude

(1) Are you first a Pakistani or a Muslim?

(1) Muslim

(2) Pakistani

(2) Do you think Pakistan should be a secular or Islamic state?

(1) Secular

(2) Islamic

(3) What do you think is Pakistan's biggest problem

(1) Illiteracy

(2) Terrorism

(3) Law & Order

(4) US interference

(4) What should be Pakistan's priorities?

(5) Take Kashmir away from India by an open war?

(1) Yes (2) No (3) Don't Know

(6) Take Kashmir away from India by supporting *Jihadi* groups to fight with the Indian army?

(1) Yes (2) No (3) Don't Know

53. Support Kashmir cause through peaceful means only (i.e. no open war or sending *Jihadi* groups across the line of control?).

(1) Yes (2) No (3) Don't Know

54. Give equal rights to *Ahmedis* in all jobs etc?

(1) Yes (2) No (3) Don't Know

55. Give equal rights to Pakistani Hindus in all jobs etc?
 (1) Yes (2) No (3) Don't Know
56. Give equal rights to Pakistani Christians in all jobs etc?
 (1) Yes (2) No (3) Don't Know
57. Give equal rights to men and women?
 (1) Yes (2) No (3) Don't Know

EXIT QUESTIONNAIRE

(1) What were the top factors that lead you to make this contribution?
 (Rank your answer by preference as 1,2,3. 1 for most preferred)

- a. Feeling of trust
- b. Feeling of reciprocity
- c. Feeling of brotherhood/sisterhood/community

(2) What lead you to make these deductions in earnings of your group members?
 (Rank your answer by preference as 1,2,3,4,5,6. 1 for most preferred)

- a. Had contributed very little
- b. Had contributed too much
- c. Anger
- d. Lack of fairness
- e. Belong to other group or community
- f. Belong to other gender

(3) What prevent you from making deduction in earnings of your group member?

(Rank your answer by preference as 1,2,3,4,5,6. 1 for most preferred)

- a. Very satisfied from his/her contribution
- b. Contributed more
- c. Belong to same institute
- d. Feeling of reciprocity
- e. Did not like to punish
- f. Other-----

ANNEXURE 4: DESCRIPTIVE STATISTICS

Table A1: Exposure to Media

	Male Madrassa	Female Madrassa	Public Sector Universities	Private Middle Income	Private Elite
% Parents :					
Watch Urdu news	43.11	57.42	81.95	89.66	98.57
Read Urdu newspaper	50	60.38	66.67	72.97	70.83
Watch English news	7.83	10.06	21.8	24.32	63.89
Read English newspaper	4.23	6.25	31.85	23.65	69.44
% Students:					
Watch Urdu news	59.71	32.7	85.82	87.16	65.28
Read Urdu newspaper	85.71	57.32	75.19	74.83	28.57
Watch English news	17.67	7.55	51.11	47.3	78.87
Read English newspaper	17.5	9.49	78.52	62.59	84.1
Play with ipods/Xbox/PS3	18.18	5.06	33.08	38.78	65.71
Use computer/internet for homework	13.31	3.16	96.2	96.6	98.59
Friend/acquaintance died in recent violence	34.78	15.38	22.73	28.38	42.25

Table A2: Educational Attitudes

	Male Madrassa	Female Madrassa	Public Sector Universities	Private Middle Income	Private Elite
% Liked going to school	99.64	100	94.74	91.72	97.22
Focus on comprehension	85.94	54	43.37	57.04	78.268
Focus on reading/memo- rization	13.67	46	38.55	37.78	17.39
Focus on both	0.39	0	12.05	5.19	4.35
% Interested higher studies	99.3	95.6	96.27	91.89	91.67
% Whose parents set aside money for higher studies	64.64	62.66	63.57	72.22	73.53
% Who find their teach- ers:					
Very good	83.64	84.28	40.74	25.68	45.83
Good	6.18	6.29	37.78	55.41	43.06
Satisfactory / average	10.18	8.81	18.5	19	11.09
Below average	0	0.63	2.22	0	0
% Who find the teaching method:					
Very good	72.04	73.42	21.97	16.89	34.29
Good	11.83	12.03	36.36	46.62	50
Satisfactory / average	15.24	14.56	27.3	36.4	15.71
Below average	0.72	0	3.03	0	0
% Found their studies rigorous	77.29	75.48	55.97	56.64	87.32
% Face physical punish- ment in their institute	39.44	14.65	7.46	5.52	1.39
% Feel medium of in- struction should be Eng- lish	20.14	11.46	77.44	77.55	95.65
% Have friends in other education streams:					
Urdu medium	82.4	75.17	70.68	76.43	68.57
English medium (middle income)	61.48	43.7	81.2	89.66	100
English medium (elite)	51.85	53.52	53.49	55.8	100
Madrassas	91.57	87.42	46.88	41.22	40

Table A3: Income Distribution (in Percentages)

Monthly Total Income of Parents	Male Madrassa	Female Madrassa	Public Sector Universities	Private Middle Income	Private Elite
Less than Rs. 10,000	2.1	0.62	2.22	-	-
Rs. 10,000-Rs. 30,000	83.57	82.5	42.22	22.97	7.04
Rs. 30,000-Rs. 50,000	9.44	8.12	16.3	21.62	7.04
Rs. 50,000-Rs. 70,000	3.15	4.38	11.85	21.62	11.27
Rs. 70,000-Rs. 100,000	1.75	3.12	13.33	22.3	21.13
Rs. 100,000 and above	0	1.25	14.07	11.49	53.52

Table A4: Father's Education

	Male Madrassa	Female Madrassa	Public Sector Universities	Private Middle-Income	Private Elite
Below Matric	164	107	38	35	2
	56.94%	53.50%	21.59%	20.83%	2.78%
Matric	86	68	32	23	1
	29.86%	34%	18.18%	13.69%	1.39%
FA/FSc	17	21	22	45	2
	5.90%	10.50%	12.50%	26.79%	2.78%
BA/BSc	11	1	35	42	29
	3.82%	0.50%	19.89%	25%	40.28%
MA/MSc	9	2	41	22	30
	3.12%	1%	23.30%	13.15	41.67%
MPhil	1	1	4	-	5
	0.35%	0.50%	2.27%	-	6.94%
PhD	-	-	4	1	3
	-	-	2.27%	0.60%	4.17%
Total	288	200	176	168	72
	100%	100%	100%	100%	100%

Table A5: Mother's Education

	Male Madrassa	Female Madrassa	Public Sector Universities	Private Middle-Income	Private Elite
Below Matric	248	165	82	64	3
	86.12%	82.50%	46.59%	38.10%	4.17%
Matric	30	31	32	36	8
	10.42%	15.50%	18.18%	21.43%	11.11%
FA/FSc	3	4	18	43	10
	1.04%	2%	10.23%	25.60%	13.89%
BA/BSc	4	-	28	14	22
	1.39%	-	15.91%	8.33%	30.56%
MA/MSc	3	-	14	9	22
	1.04%	-	7.95%	5.36%	30.56%
MPhil	-	-	2	1	4
	-	-	1.14%	0.60%	5.56%
PhD	-	-	-	1	3
	-	-	-	0.60%	4.17%
Total	288	200	176	168	72
	100%	100%	100%	100%	100%

Table A6: Tolerance

	Male Madrassa	Female Madrassa	Public Sector Universities	Private Middle Income	Private Elite
% Feel they are first a Muslim and then Pakistani	97.5	98.11	85.82	92.57	64.29
% Feel Pakistan should be a Secular state, not Islamic	1.43	1.26	23.88	10.81	70.59
% Feel Pakistan's biggest problem is:					
Illiteracy	28.57	20.28	64.8	77.42	77.27
Terrorism	21.05	17.39	15.45	50.67	17.86
Law & Order	42.36	39.13	27.19	54.67	17.54
US interference	54.77	36	21.43	28.81	3.7
% Feel:					
Take Kashmir by supporting Jihadis	63.31	74.68	22.22	31.29	7.14
Don't know	10.43	6.96	26.5	31.97	8.57
Support Kashmir by peaceful means	66.54	73.68	60.45	53.79	90
Don't know	11.77	6.58	24.62	21.38	1.43
% Feel:					
Give Ahmedis equal rights	27.44	8.23	41.04	32.88	83.82
Don't know	11.91	6.33	29.11	29.45	11.76
Give Hindus equal rights	37.91	13.92	71.64	68.97	95.65
Don't know	11.39	2.53	13.19	13.79	2.9
Give Christians equal rights	42.14	24.05	72.59	77.4	95.71
Don't know	10.36	6.33	12.59	7.53	2.86

Table A7: Equality for Men and Women

Give Women Equal rights	Male Madrassa	Female Madrassa	Private Middle Income		Public Sector Universities		Private Elite	
			Male	Female	Male	Female	Male	Female
Yes	45.52	60.13	86	97.83	82.95	87.23	95.55	100
No	43.73	36.71	11	2.17	14.77	6.38	3.45	0
Don't know	10.75	3.16	3	0	2.28	6.39	0	0



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