

The Technical Procedures of the Data Collection for  
*Democratic Values in the Muslim World*  
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Appendix 1  
The Survey

**Islam and Politics<sup>1</sup>**

**Part One**

In this section, you will be asked to give us some information about your age, education, nationality...etc.

1. How did you learn about this survey?
2. What is your gender?  
Female (girl/lady)                      Male (boy/gentleman)
3. What is your age?
4. How far did you go in school?  
 Less Than High School Diploma ,  High School Diploma,   
Some College  Received Undergrad Degree (e.g. Bachelor),   
Received an Advanced Degree (e.g. Masters or PhD) ,  No Response
5. What is your annual personal income level in your own currency (if you are still supported by your parents, indicate their income)?  
 10 ranked options were provided
6. What currency did you have in mind while answering the previous question? (Select based on country)
7. Do you think that the elections or referenda (parliamentary, presidential or syndicates) that occur in your country, if any, are free and fair ?  
 Very fair and free,  Somewhat fair and free,  Not fair or free at all,  My country does not have elections or referenda
8. If you have the nationality (citizenship) of a Muslim country, select it from the following list. (If you are not from a Muslim country, go to the next question. If you are from a Muslim country, answer this question and skip the next one.)
9. If you are a Muslim who has the citizenship of a non-Muslim country, what is it?
10. What is your country of birth?
11. What is your original/native language?
12. Which one of the following would best describe your status? (Check all that apply).  
 I am an Arab Muslim ,  I am an African (non-American) Muslim  
 I am a white American Muslim ,  I am an African American Muslim  
 I am a Muslim of a European nationality,  I am an Asian non-Arabic speaking Muslim ,  I am a Muslim who does not fit into the previous categories,  I am not a Muslim ,  Other, Please Specify:
13. Which one of the following best describes your status:  
 Sunni Muslim,  Shiite Muslim,  Other, Please Specify:
14. Name three NON-Muslim countries in which you resided (stayed) for one year or more. If not, leave it empty (blank):
15. How many times do you pray (make salat) daily?  
 I pray 5 times a day without delay.  
 I pray 5 times a day but not necessarily on time.  
 I pray from 2 to 4 times a day.  
 I pray once a day.

I rarely pray.       I do not pray at all.       Other, Please Specify:

16. Are you satisfied with the performance of the political parties (if any) and (elected) representatives (if any) in your country of origin?

Very satisfied,  Satisfied,  Not sure,  Unsatisfied,  Very unsatisfied

17. How many times have you voted in public elections or referenda (parliamentary, presidential or syndicates)?

My country has elections, but I never voted

Voted only once       Twice or more

Never voted because my country does not have elections

18. How many times have you had any sort of alcoholic beverages or wine (khamr)?

Never in my lifetime       Only once in my lifetime

Twice in my lifetime       Sometimes

Once a week or more.       Other, Please Specify:

## Part Two

In this section, you will be asked to tell us how the best form of government looks like from your own perspective. For questions 19 to 29, please indicate whether you agree or disagree with the statements in each question.

19. Non-Muslims (ex. Christians, Jews or Hindus) should be allowed to build churches or temples to practice their religion in Muslim countries.

5 point scale of Strongly agree – Strongly disagree

20. Islamic shari'a gives non-Muslims (Christians, Jews or Hindus) the right to have their own houses of worship in Muslim countries.

5 point scale of Strongly agree – Strongly disagree

21. Democracy is very close to shura (consultation) and can be adjusted to suit the Islamic shari'a.

5 point scale of Strongly agree – Strongly disagree

22. By allowing people to make their own laws, democracy replaces the will of Allah with the will of the people; that is why it is some type of disbelief (kofr).

5 point scale of Strongly agree – Strongly disagree

23. Islamic movements should be allowed to form political parties (ahzab) and run for elections (intikhabat).

5 point scale of Strongly agree – Strongly disagree

24. Political participation (for example voting in elections) is some type of enjoining the good and forbidding the evil (amr bi-al ma'roof and nahii a'an al-monkar)

5 point scale of Strongly agree – Strongly disagree

25. If we let Muslims elect their rulers, these elections will lead to homosexuality (shozoz), , drinking alcoholic beverages (shorb al-khamr) and secularism ('almania).

5 point scale of Strongly agree – Strongly disagree

26. One popular saying is that "Islam is both religion and state" (deen wa dawla), Do you agree?

5 point scale of Strongly agree – Strongly disagree

27. If Islamists reach government through elections in Muslim countries, they will stay in power (government) in the future even if people do not want them in power.

5 point scale of Strongly agree – Strongly disagree

28. Political institutions and processes such as elections, parliament and political parties are against Islamic shari'a.  
 5 point scale of Strongly agree – Strongly disagree
29. The West (USA and its allies such as Britain and others) does not want Muslims to freely elect their rulers.  
 5 point scale of Strongly agree – Strongly disagree
30. Which one of the following countries comes closest to your best (ideal/favorite) political system? ( A list of 13 countries of the world and “none of the above.”)
31. Why have you chosen this country to be the closest to your best (ideal/favorite) political system?
32. To achieve their political rights (ex. freedom of expression and freedom of association), Muslims should:  
 challenge their authoritarian rulers VIOLENTLY even if they may be killed or jailed.  
 challenge their authoritarian rulers PEACEFULLY even if they may be killed or jailed.  
 express their negative feeling towards their rulers but NOT publicly.  
 be patient and pray to Allah to grant them better rulers.
33. Regarding the Arab/Israeli conflict, whose opinions do you trust most?  
 Your Muslim government  
 Official religious scholars (Sheikhs appointed by the government)  
 Unofficial religious scholars (independent Sheikhs)  
 The Intellectuals (independent press)  
 None  Other, Please Specify:
34. Some Muslim countries have Christian (massehi) minorities that want to participate in the political process as voters, members of parliaments and/or ministers. If you had the ultimate say in this regard, what would you allow them to do?  
 They should not be allowed to be part of the political process at all  
 They should be allowed to vote in public elections only  
 Beside voting, they should be allowed to be members of the parliament  
 Beside voting and parliament membership, they should be allowed to be ministers
35. Some Muslim countries have Jewish minorities (yahood) that want to participate in the political process as voters, members of parliaments and/or ministers? If you had the ultimate say in this regard, what would you allow them to do?  
 They should not be allowed to be part of the political process at all  
 They should be allowed to vote in public elections only  
 Beside voting, they should be allowed to be members of the parliament  
 Beside voting and parliament membership, they should be allowed to be ministers
36. Do you think that Muslim women should be allowed to participate in the political process as voters, members of parliaments and/or ministers? If you had the ultimate say in this regard, what would you allow them to do?  
 They should not be allowed to be part of the political process at all  
 They should be allowed to vote in public elections only  
 Beside voting, they should be allowed to be members of the parliament  
 Beside voting and parliament membership, they should be allowed to be ministers

37. Please, mention the names of three ulama, intellectuals, or politicians who have the most influence on your political knowledge and positions.
38. On a scale of political freedom from 1 to 5, where 1 is a non-democracy/dictatorship (istibdad) and 5 is a free political system, how free do you consider your country of origin?
- 1 (full dictatorship)                       2 (partial dictatorship)
- 3 (in between/in the middle)               4 (partially free)
- 5 (fully free)
39. There are individuals who are killed or sent to jail because they publicly ask for their political rights. Do you agree or disagree with what they do?
40. Based on Islamic shari'a how would you put your country of origin on the following scale?
- 1 Full non-Islamic government
- 2 Partial (to some extent) non-Islamic government
- 3 In between
- 4 Partial (to some extent) Islamic government
- 5 Full Islamic government
41. If you were allowed to choose among three political rulers for your country of origin, which one of the following would you prefer?
- A religious Muslim ruler who establishes the hudud of Islam in which his citizens cannot disagree with him or question his actions.
- A religious Muslim ruler who establishes the hudud of Islam in which his citizens may disagree with him and hold him accountable for his actions.
- A good ruler who is not necessarily a good Muslim but willing to give up power if he loses public support
42. Which one of the following reasons can best explain why democracy has not emerged in most countries of the Muslim world? (Check all that apply).
- Very important reason, Somewhat important reason, Not a reason at all, Do not know
- a. The WEST (by supporting authoritarian rulers)
- b. The INDIVIDUALS (who are not ready for democracy)
- c. The RULERS (who do not leave their positions)
- d. ISLAM AND DEMOCRACY contradict each other
- e. The SCHOLARS (sheikhs who are opposed to democracy)
43. Do you think that Muslim countries should have democratic rulers instead of the current political rulers?
- Yes     No     I am not sure
44. Would you accept that your son/brother gets married to a woman from another religion (Christian, Jewish, ...etc.)
- Yes     No     I am not sure               Other, Please Specify:
45. Would you allow Sunni and Shiite to get married to each other?
- Yes     No     I am not sure     Other, Please Specify:
46. Muslims who adopt Western ideologies such as liberalism, socialism or communism should be allowed to form political parties (ahzab) and run for elections (intikhabat).
- 5 point scale of Strongly agree – Strongly disagree
47. In your opinion, what is democracy? [ Open Ended ]
48. In your opinion, what is Islam? [ Open Ended ]

49 Some Muslim countries have Muslim minorities (ex. Shiite and Ahmadi) that want to participate in the political process as voters, members of parliaments and/or ministers. If you had the ultimate say in this regard, what would you allow them to do?

[ ] 5 point scale of Strongly agree – Strongly disagree

50. Please feel free to add comments if you wish. [ Open Ended ]

## Appendix 2

### Data Collection

The data analyzed here was funded mainly by the Middle East Research Council of Beirut, Lebanon, and logistically supported by the Center for the Study of Developing Countries, and the Center of Political Research and Studies, Cairo, Egypt. The survey, conceived in 2002, was designed to tap into the opinion of Muslims on political issues.

It was limited to literate Muslims because of the extreme logistical difficulties that faced researchers in surveying non-educated Muslims. If illiterate Muslims had been included, I would have been forced to drop the idea of the survey and obtain secondary sources, or to administer a survey that represented all Muslims, but excluded all of the more sophisticated questions.<sup>ii</sup> Upon consulting some researchers and area experts, there was a preponderant preference to target the “political class” that comprises mainly literate Muslims in order to keep politically sensitive questions. This, however, was more than a practical consideration. Because literate Muslims are more politically engaged than the illiterate, they are more likely to influence political changes in the Muslim world and their opinions, then, would offer a better gauge of future trends. For these reasons, then, information obtained from illiterate Muslims, though rare, was discarded.

I also had to think carefully about how to approach literate Muslims. Though mail and telephone surveys are the most common means for surveying people in open societies, many researchers I consulted in the Muslim world raised concerns that these two tools would adversely affect the reliability and response rates of the survey given the sensitivity of the questions asked. My consultations led me to conclude that face-to-face written surveys were preferred over telephone and mail surveys for two reasons: first there would be the possibility of explaining to the respondents any of the survey questions and assuring confidentiality. Second, this would open up the possibility of having focus group discussions with some of the respondents to add depth to the survey findings. While observers and participants in the pilot study expressed their concern that, in some countries, the respondents would be worried that they were actually being monitored by government agents, a promise of strict anonymity and verbal assurances of confidentiality before handing in the surveys seemed to help in convincing respondents to cooperate. I also sought to increase trust by having, whenever and wherever possible, native academicians and research centers administer the surveys. Both are considered trustworthy and highly unlikely to act as government agents.

To systematically check for the impact of the suspicion of governmental surveillance, another survey was developed. It was administered through the web by emailing Muslims the URL of a website and asking them to respond to the same questions as those of the written survey. Technically, this kind of email survey is drawn from a non-probabilistic controlled-quota sample in the sense that there is no known probability for the possibility of including all Muslims who have access to the Internet into the frame of respondents. However, some non-probabilistic surveys can be more representative than others if there are known possible sources of biases (Scheaffer 2005).

Obtaining survey responses from two different tools poses a methodological challenge and provides a methodological opportunity to examine the efficiency of the

two tools as well. The email survey adopted a non-probabilistic sampling technique that does not ensure the elements are selected in a random manner. It is difficult then to guarantee that certain portions of the population were not excluded from the sample since elements do not have an equal chance of being selected. Note that it is entirely possible that the elements that were not selected did not differ from the selected elements, but this could only be determined by examining both sets of elements. Thus, there can be one of two broad scenarios: 1) The two tools are in conflict mainly due to the fact that Muslims who have access to the Internet are a homogenous group of Muslims who think alike and thus are not representative of the broader population of literate Muslims. 2) The two tools are complementary in gauging Muslims' attitude since both pooled samples are drawn from the same population.

To test these two broad scenarios, a question about how many times a week the respondents to the written survey have access to the Internet was added to the written survey. Contrary to my initial expectations, the analysis of variance (ANOVA) did not demonstrate significant differences between the means of those who have regular access to the Internet and those who do not (significance level .90). To confirm the previous finding, ANOVA was used again to compare the responses from the two samples regarding the questions relevant to the purpose of this project. Again, no statistical difference was found in any case (significance level .90). As a third step to confirm the complementary nature of both tools, preliminary regression analysis was utilized to make sure that the demographics did not differ between the two groups of respondents. Except for age, there was no difference between the coefficients obtained from the email survey and the written survey. The previous precautionary statistical tests suggest that the sampling technique did not produce a systematic bias in the data which is a necessary condition for relying on the data in understanding the relationship between Muslims' attitudes toward democracy and the factors that might be influencing these attitudes. This finding supports a similar inference made based upon a survey in eight Arab countries which showed that "[i]n the aggregate, Internet access appears to make little difference in the personal concerns of Arabs. Even where rankings and ratings do differ, the differences are slight" (Zogby 2002).

It has been stated that "[t]he relationships expressed in theoretical propositions are presumed to be universally present... both in representative and non-representative samples. To disprove or demonstrate their existence is hence, possible in any kind of sample –biased or unbiased" (Zetterberg 1965). However, when using a biased sampling for a verification, "we must have assurance that the relationship we want to prove is not introduced into our data by selective sampling. ... Also, when using a biased sample for verification, we should realize that we have no knowledge of the population to which the result can be safely generalized" (Zetterberg 1965).

This lack of significant discrepancies can be explained by the fact that the two tools (the email and face-to-face surveys) targeted almost the same population of mostly urban, literate, and non-poor Muslims. Yet ANOVA suggests that some respondents exhibited less self-restraint in criticism of their governments and support for elected accountable governments in the email survey compared to the face-to-face one. This discrepancy can be explained by the freedom of expression that the respondents enjoy in cyberspace as compared to face-to-face surveys. This finding has been confirmed by the fact that with the exception of question number 43 that reads: "Do you think that Muslim countries should have democratic rulers instead of the current political rulers?" the respondents to the email survey were more critical of

their rulers than the respondents to the face-to-face survey and the focus group discussions in Saudi Arabia, the Sudan, and Libya.

#### A. Email-Administered Survey

Regarding the email survey, a lengthy process of four steps was undertaken to collect the emails of the potential respondents and then to stratify them.

1) *Collecting the convenience sample*: The initial pool of emails was selected from over 200 public websites (e.g. chat rooms, petitioning sites, email groups, commentary on articles and news from various newspapers...etc. ) in the same five languages where people provided their email addresses. The initial process resulted in approximately 49,400. [Query: What does this number represent?] The process of collecting these emails took around nine months (July 2001- March 2002).<sup>iii</sup>

2) *Expanding the frame of the network sample*: These people were emailed in the first week of May 2002 with an invitation to participate anonymously in a worldwide survey of Muslims on political issues. Upon their agreement, they were then asked to visit a webpage where they could provide anonymous preliminary information regarding demographics (gender, age, income, and education), countries of origin, citizenship and residence (if different), and religious denomination (Sunni, Shiite, Ahmadi or other) in any of the following languages: Arabic, English, French, Farsi and Urdu.

Additionally, they were asked to forward the initial email to other Muslims aged 18 and above. By the end of May 2002, around 61,700 emails from 64 countries around the world were sent by Muslims who showed interest in participating in the survey. These 61,700 emails have become the network or snowball sampling frame. The main advantage of network sampling is to increase the diversity, yet it may produce non-representative samples. That is why stratifying the emails according to known characteristics within each country was essential.

3) *Stratification of the network sample*: The 61,700 emails represented diverse individuals in diverse Muslim and non-Muslim societies; nonetheless, representativeness technically remains unknown. Since statistical tests are only appropriate for probability samples, the seemingly unrelated regressions and multiple logistic regressions that are employed in this book should be understood as approximate guides.

However following many suggestions found in the literature to partially cope with the problem of non-probability, I sub-grouped the emails by country of citizenship or origin if different. I eliminated the emails for countries where the total number of responses was less than 480 (a convenient cut-off). The remaining list of countries included 39 countries where Muslims have a notable presence. Upon consulting with many area specialists I decided to deal with each country separately. I drew stratified proportionate random samples from the emails based upon the three known national demographics of the population of each society. The consensus among the area specialists was to use the level of education, income and religious sect (Sunni, Shiite, Alavi and Ahmadi) as the three strata. These national demographics were obtained from national censuses, the indexes of the World Bank, IMF, CIA fact book, and Human Development Reports.<sup>iv</sup>

By stratifying the emails of each country according to their demographics and Islamic sect into homogenous discrete strata (with heterogeneity between subsets), the pooled respondents were found to represent literate Muslims of middle and/or upper classes of only thirty-three countries. Thusly, the basis of the relative proportion of

the population, I randomly selected the emails to represent literate Muslims between 18 and 55. The main advantage of this technique is to ensure the proper representation of the stratification variables; which, in turn, “enhances the representation of other variables related to them” (Babbie 2004: 206).

4- *Sending the final survey:* Around 55,100 emails were sent out to represent the stratified samples from the 39 countries. Around 24,681 persons responded (45 percent response rate). The sample size of each society is provided in Table 1.1. Again, I discarded the emails from countries with less than 480 respondents. This left the final sample of 32 countries with 480 respondents or more. Although Iraq has not met the cut-off sample size criterion, it is included in the in the aggregate analysis for its relevance. The respondents to the email version had to respond to the same 50 questions as were in the written survey during the same period. Comparing the income gap between the average citizen (measured by GDP per capita) and the average income of the respondents to the survey indicates that the respondents are relatively richer than average. I take this gap to imply that the respondents belong to the middle and upper classes. But there is a difference in degree. For instance, the Albanian respondents to the survey, as indicated in the last column of Table 1.1, are 21% richer than average Albanians. However, the economic gap along with the literacy ratio increases dramatically in the cases of Gambia, Iraq, Mali, Nigeria, Senegal, Syria, Tajikistan, and Yemen. This large gap indicates that the pooled data can speak only for the *upper class*.

Though admittedly imperfect, combining the data from the email survey and the written surveys serves three desired purposes. 1) It provides a larger sample size with wider representation of a greater number of Muslim countries and thus ensures more diversity in Muslims' sects, ages, gender, and political ideologies. 2) It strikes a balance between the advantages of a written survey followed by deeper focus-group discussions and the email survey in which the researchers distanced themselves from any influence on the respondents (Smith 2002; Solomon 2001). 3) It controls for the effect of fear from responding to very politically sensitive questions given the fact that the email survey does not meet the same level of self-censorship that face-to-face surveys may encounter.

That said, I do not find statistically significant attitudinal differences between literate Muslims who have access to the Internet and literate Muslims who do not have access to the internet. With all these measures to ensure the reliability and validity of data, one should deal with this data and the results stemming from it as an attempt to provide baseline data that will help in exploring an empirical puzzle that has for so long been tackled only from theological and historical perspectives.

A technical note should be made about the unknown representativeness of the email survey. According to Smith, “Perhaps the most critical problem with Internet-based research is the practical impossibility of probability sampling, that one can only tentatively generalize to a very specific population, if at all” (Smith 2002). After discussing different accounts of this problem she concludes that “we do this all the time” whether we use email, telephone-based, or paper-based surveys. None of them is completely random. The solution that Smith advances is to “learn more about [the respondents’] demographics” which will enable “generalizability to well-studied segments of the overall population.” Others suggest that non-probabilistic samples are better for understanding relationships between variables than for making descriptive estimates about target populations (Allen 2002; Babbie 2004; Lehtonen and Pahkinen 2004; Sampath 2001; Wingard-Nelson 2004). Two econometricians examined five decades of sampling mathematically and theoretically and suggested that the great

majority of the sampling methods that social scientists use do not actually produce random samples unless we ignore the impracticality of most of the underlying assumptions (Ullah and Breunig 1998).

### B. Face-to-Face Survey

The same questions on the email survey were used in a face-to-face written survey in Egypt, UAE, Pakistan, Algeria, Libya, Malaysia, Iran, and Turkey, as well as among Muslim students who study at three American universities (Western Michigan University, Colorado University, and the University of Michigan) and Muslims who attended four Islamic centers in Michigan in mid-April 2002. The attempt to administer a face-to-face survey in Saudi Arabia failed mainly because of security concerns on the part of the Saudi academicians who volunteered to help in administering the survey. Egypt and the U.S. were particularly important for this study given the diversity of non-native Muslims who live in both of them.

The sample is of a multi-stage design. The first level of stratification was the most obvious; we divided the entire population to be studied into the eight countries. Hence, each country represents a stratum in the design. Within each country, the urban area was defined. We sought to narrow our definition of urban area to include the areas of high population concentration. Country samples were of area probability design. In each country, the most recent population census data were used to stratify the urban areas into lower, middle and upper socio-economic status (SES). The sample size assigned to each stratum was based upon these SES estimates. The failure to interview Muslims of lower SES led the team to re-design the sample to reflect Muslims of middle and upper SES. Within each stratum, census maps were used to select, at random, an appropriate number of political subdivisions (e.g. districts and counties) and, within each subdivision, the census maps were used to select an appropriate number of segments from which to draw the interviews. In Libya and the Sudan, I made subjective judgments (which were cross-checked by regional specialists) concerning the best estimate of which cities, towns, areas, schools and colleges to be chosen to be representative of each country.

As always, the target population (the population for which information is required) and the survey population (the population actually covered) differ for practical reasons, even though they should, in theory, be the same. It has been extremely difficult to obtain a balanced sample of all literate Muslims from all parts of each country. That is why it has been necessary to impose geographical and career limitations excluding certain parts of the target population because they are inaccessible. Thus, the respondents to the face-to-face survey have been mainly college students and graduates with an under-sampling of Muslims with high school degree or less.

Table 1.1 lists the number of respondents who responded to the written survey. Further information about the survey is available from the author. One question was added to the written survey which asked the respondents to indicate how frequently they surf the Internet to help control for the effect of the Internet and to examine the demographic and attitudinal characteristics of the individuals who have access to the Internet. The three main traits that are common among regular internet users are being male, affluent, and young.

The written survey is used not only to check the consistency and reliability of the email survey but also to expand the generalizability of the results to people who do not necessarily have access to the Internet.

### Comparison between available data and other samples

The Gallup survey, World Values Survey, Pew survey project, and Zogby International have also run face-to-face surveys in different Muslim societies in the years 2002-2003 (Gallup 2002; Inglehart 2003; Pew 2003a; Pew 2003b; Tessler 2002b; Zogby 2002). Comparing the demographics of the respondents to email and written surveys of this project with the literate Muslim respondents to these other surveys indicate clear oversampling of the relatively affluent over the relatively less advantaged and individuals under 40 over older people. These surveys indicated that they over sampled men and the urban literate.

Since I make no attempt at any descriptive estimation of *all* Muslims who support or oppose democracy, it matters little whether the pooled data is a representative sample of all Muslims of the world or not. It is enough that it is representative of the literate Muslims of the middle and upper classes who potentially pay enough heed to political matters.

### C. Focus Group Discussions

An important part of this project was to randomly select groups of 3 to 11 of the respondents to the written-survey and conduct focus-group discussions with them. These discussions took place among Muslims in eight societies (Egypt, Libya, the Sudan, the UAE, Iran, Turkey, Algeria, and the U.S.).

Subjects were selected randomly. They were introduced to the purpose of the survey and the possible benefits. The respondents were given the opportunity to express their opinion for around 30 minutes in a friendly get-together with beverages provided. The number of individuals invited to participate in the focus group discussions was over 600 but only 188 accepted .

Three advantages have been gained from conducting intensive interviews and focus group discussions.

1- This research method permitted respondents to reveal their convictions and uncertainties, their processes of drawing conclusions and emotional reactions, their foci for passion and indifference, and their expertise and ignorance. Using the interviews, it was possible to evaluate the content, complexity, and strength of individual beliefs about democracy, which definitely added depth to the survey analysis.

2- The survey revealed some findings that were substantiated during the focus group discussions. For instance, the female support of democracy was better understood from the statements given by the female respondents who believed that democracy promotes their socio-political positions. Intensive interviews explain this finding by discussing with female respondents what they expect and how they would feel about the effect of democracy on their lives. Because the same conclusions derive from different types of data collected in different ways, we can have greater confidence in their reliability.

3- The intensive interviews and focus group discussions also throw light on certain aspects that are overlooked by quantitative tools. For instance, what if a Shiite Muslim woman makes a novel argument against democracy? Regression analysis will definitely ignore her position if there is statistically enough evidence that most educated Shiite women are pro-democracy. Intensive interviews and focus group discussions bring these potential anomalies to the researcher's attention.

The main disadvantage of the focus group discussion is that it is not as diverse and representative as the survey. However, this disadvantage is of little concern for

the purposes of this project given my primary reliance on the pooled survey data for drawing inferences. The focus group discussions are used solely to put flesh on the bones of the statistical tests.

#### D. Elite Interviews

Five to nine elite interviews with ulama, activists, and intellectuals were conducted during visits to each of the previously listed eight countries, as well as Saudi Arabia. The interviewees were selected on the basis of two criteria: to represent diverse ideological positions toward democracy and because they had been identified either in the written survey or during the focus group discussions as influential opinion leaders in their respective countries. The interviewees were asked to comment and reflect upon the descriptive graphs of the email surveys. Some of them asked for the results to be sent to them before conducting the interview and had extensive comments on them. Others interpreted the findings and used them in later references to defend their political causes.

##### Selection of Countries:

There were four main determinants for selecting the countries in which the written survey, focus group discussions, and elite interviews would be conducted. They should

- 1) represent the geographical and religious diversity of the Middle East and Muslim world,
- 2) represent a wide array of experiences regarding both how Islam and democracy are perceived from the masses' and elites' points of view,
- 3) yield a high number of responses in pilot tests of the email survey from citizens of those countries,
- 4) and offer the researcher reliable connections who would assist in gaining access to potential focus group and survey respondents.

## Appendix 3 Data Processing and Regression Models

### Preparing Individual-level Data

Using the standard statistical procedures, I checked for missing data, outliers, perfect collinearity among variables, and non-normality of variables. Regarding the missing data, using the SAS 8.2 command of PROC MI shows that there are certain variables that contain high percentages of missing responses. The missing responses were clearly missed at random (MAR assumption).

To handle this problem of missing data, the researcher opted to use the technique of *multiple imputation*. Instead of filling in a single value for each missing value, Rubin's multiple imputation procedure replaces each missing value with a set of plausible values that represent the uncertainty about the right value to impute (Rubin 1987). These multiply imputed data sets are then analyzed by using standard procedures for complete data and combining the results from this analysis. No matter which complete-data analysis is used, the process of combining results from different imputed data sets is essentially the same. This results in statistically valid inferences that properly reflect the uncertainty due to missing values. SAS 8.2 has the MI procedure that creates multiply imputed data sets for incomplete  $p$ -dimensional multivariate data. It uses methods that incorporate appropriate variability across  $m$  imputations. Once the  $m$  complete data sets are analyzed using standard SAS/STAT procedures, PROC MIANALYZE can be used to generate valid statistical inferences about these parameters by combining the results. I averaged parameters across data sets to get single point estimates and calculated standard errors using variation within and between datasets. For scalar point estimate, the following formula was used. 7

$$\bar{q} = \frac{1}{M} \sum_{j=1}^M q_j$$

where  $q$  could be regression or logit coefficients,  $M$  is the number of datasets and  $q_j$  is the parameter estimate from the  $j^{\text{th}}$  dataset.

For the scalar standard error estimate, the following formula was used:

$$se_q = \sqrt{\frac{1}{M} \sum_{j=1}^M se_j^2 + \left(1 + \frac{1}{M}\right) \left(\frac{1}{M-1}\right) \sum_{j=1}^M (q_j - \bar{q})^2}$$

where  $se_j$  is the standard error estimate for the  $j^{\text{th}}$  parameter;  $q_j$  is the  $j^{\text{th}}$  parameter estimate; and  $M$  is the number of datasets.

$M$  in this project = 5 and the MI was conducted for each country separately.

Since I use multiple indicators to gauge the same variables, the problem of collinearity was noticeable. The factor analysis helped to combine collinear indicators. There was no real outlier or influential case, which is unlikely in survey research.

### Heteroskedasticity

Almost all the models used in this project are plagued by heteroskedasticity (HSK), a violation of the "equal variance of error term" assumption in OLS regressions. HSK does not lead to biased coefficients, but tends to interfere with standard errors, thus

disordering t-values and potentially masking the significance of a regressor. This is called “loss of efficiency” in econometrics. To solve this problem, I used the White robust estimation of standard errors in both the SUR and multiple logistic regressions.

### Seeming Unrelated Regression and Multiple Logistics

Zellner’s idea of combining several equations into one model to improve estimation efficiency ranks as one of the most successful and lasting innovations in the history of econometrics (Greene 2000). Thus, Zellnar’s seemingly unrelated regression (SUR) was used to account for the contemporaneous correlation between error terms in the two equations of democratic institutions and norms for each society (Srivastava and Giles 1987).

To be more certain about the robustness of the SUR analysis, multiple logistic regressions (MLR) were run as well. The logistic regressions serve to examine the robustness of the SUR coefficients. That is why the stars reported in Table 3.1 reflect the common results between the two types of regressions (SUR and MLR). For instance, the logistic regression in the cases of USA, Libya, and Bahrain showed a positive relationship between Muslims who support political Islam and those who support democratic institutions. Since this result was not supported by the SUR system and does not have a theoretical basis, Table 3.1 does not report the relationship.

Using the logistic regression as a check mechanism has the important advantage of dropping some of the most controversial assumptions of OLS and SUR such as the linear relationship between the dependent and independent variables, multivariate normality, and homoskedastic residuals for each level of the independent variables.

Appendix 4: Principal Component Factor Analysis

Q #	Religiosity (2 questions)	Democratic Institutions (3 questions)	Democratic Norms (4 questions)	Elasticity of Demands for Political Rights (2 questions)
15	1. How many times do you pray (make salat) daily?	<i>Alpha</i> = .875		
18	2. How many times have you had any sort of alcoholic beverages or wine (khamr)? <i>Alpha</i> = .926			
24	1. Voting is some type of enjoining the good and forbidding the evil.	<i>Alpha</i> = .763		
25	2. Public elections of rulers will lead to taboos?			
28	3. Democratic institutions and procedures are against Sharia.			
34	1. Attitude toward participation of Christian minorities in the political process.	<i>Alpha</i> = .91		
35	2. Attitude toward participation of Jewish minorities in the political process.			
36	3. Attitude toward participation of Muslim women in the political process.			
49	4. Attitude toward participation of Muslim minorities in the political process.			
32	1. The Risk Muslims take to express their demands for their political rights.			
39	2. Appreciation for people killed or jailed because of their political rights			

Note: Principal component factor analysis was used with varimax rotation and Kaiser Normalization. The total model predicts 78.8% of cumulative variance. The religiosity and support for democratic institutions scales were reversed so that a positive response expresses more religiosity and greater support for democratic institutions.

Cronbach's estimate of reliability and internal consistency is reported as Alpha. Source: *Islam and Politics Survey*, (2002).

*Notes*

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<sup>i</sup> The respondents had the opportunity to respond to the survey in English, Arabic, Farsi, French or Urdu.

<sup>ii</sup> Most other surveys such as Pew and World Value Survey ask very broad questions such as one's preference of a democracy versus a government with strong leadership. These kinds of questions, though standard, do not capture what aspects of democracy that Muslim advocate and which are not. Beside, they do not capture the impact of Islam on their political attitudes.

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