How Deeply Held are Anti-American Attitudes among Pakistani Youth? Evidence Using Experimental Variation in Information[*]

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April 2012

Abstract

This paper investigates how attitudes towards the US are affected by provision of information. We use an experimentally generated panel of attitudes, obtained by providing urban Pakistanis fact-based statements describing the United States in either a positive or negative light. Anti-American sentiment is high and heterogenous in our sample at the baseline. We find that revised attitudes are, on average, significantly different from the baseline attitudes, indicating that providing information had a meaningful effect on US favorability. Observed revisions are a consequence of both salience of already known information, as well as information acquisition that leads to a convergence in attitudes across respondents with different priors. This provides evidence that (i) public opinions are not purely a cultural phenomenon, and are malleable, and (ii) the tendency of respondents to ignore information not aligned with their priors can be overcome. Our findings make the case for dissemination of accurate information in Pakistan (and in the Muslim World in general) about various aspects of US actions, in order to improve opinion toward the US.

JEL Codes: D83, L80.

1   Introduction

Favorable attitudes towards the US are rarer in the Muslim world than anywhere else (Pew Global Attitudes Project; Gallup World Poll; Kohut and Stokes, 2006). This anti-American sentiment is a concern because it delegitimizes democratic values, weakens America's influence in foreign affairs,[1] and correlates positively with a greater incidence of international terrorism directed towards the US (Koehane and Katzenstein, 2007; Krueger and Maleckova, 2009). In addition, many of the intractable conflicts in the world today involve Muslim countries, and the ability of the US to influence the outcomes of these disputes depends on how it is viewed by the locals. Therefore, understanding the sources of the anti-American sentiment in the Muslim world has far-reaching political implications. However, there remains little direct evidence on what drives these attitudes.

Some experts have argued that anti-Americanism is a cultural phenomenon arising from fundamental disagreements about social norms and values (Huntington, 1996). An alternate explanation is that American foreign policy drives anti-Americanism (Cole, 2006; Esposito, 2007).[2] An additional factor in the Muslim world is the well-known anti-Western slant of media coverage and the manipulation of public perceptions by political leaders and agencies (Ajami, 2001; Reetz, 2006; Fair, 2010). This distortion of information may play an important role in the formation of attitudes and beliefs (Druckman and Lupia, 2000; Glaeser, 2005; Gentzkow and Shapiro, 2006; Mullainathan and Shleifer, 2005). However, evidence on these explanations is scant, and largely remains suggestive and indirect (Gentzkow and Shapiro, 2004; Chiozza, 2009). In this paper, we present direct empirical evidence on how urban Pakistani youth form attitudes towards the US and other entities.

We focus on Pakistan since it presents a particularly interesting case: One, Pakistan is considered a crucial partner in the war on terror.[3] Second, despite being a close geopolitical ally of the US and a major recipient of US foreign aid (in fact, according to the Center for Global Devel-

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[1] Anti-American sentiment is generally cited as being a concern for US foreign policy in three main areas: (1) spurring terrorism toward the US or its citizens, (2) harming US commercial interests abroad, and (3) making it more difficult for the US to achieve its policy goals or to rally support for its specific political objectives (Lindberg and Nossel, 2007). While there is little robust evidence suggesting that anti-Americanism threatens cooperation to fight terror, there seems to be greater consensus that Anti-Americanism is associated with increased flows of personnel into terrorist recruitment streams (Charney and Yakatan, 2005; Berman, 2006), and with impeding diplomacy and inhibiting implementation of US policy (Robichaud and Goldbrenner, 2006).

[2] Consistent with the latter hypothesis, Pew found that late in the Clinton administration in 1999, 23 percent of Pakistanis had a favorable view of the United States. In 2002, in the wake of the Afghanistan war after September 11, the favorability of the US plummeted to 10 percent. When the US proved helpful by diverting military helicopters from Afghanistan to help the earthquake victims in Pakistani Kashmir, it rebounded to 23 percent in 2005. However, since 2006, the numbers have been on a downward trajectory.

[3] For example, US Defense Secretary Leon Panetta, while speaking to reporters on December 13, 2011 said "*Ultimately, we can't win the war in Afghanistan without being able to win in our relationship with Pakistan as well*". Similarly, his predecessor, Robert Gates, speaking at the American Enterprise Institute (AEI) on May 25, 2011, said, "*Pakistan is very important, not just because of Afghanistan but because of its nuclear weapons, because of the importance of stability in the subcontinent.*"

opment, the United States is the largest source of bilateral aid to Pakistan), there is widespread concern in US policy circles about the increasing anti-American sentiment in Pakistan and about the role played by various Pakistani state actors in deliberately fomenting anti-Americanism.[4] Third, as shown in Figure 1, Pakistani attitudes towards the US are negative compared even to responses from other Muslim countries, and have become increasingly negative since 2006.

To understand the drivers of anti-American sentiment, we conduct an information-based experiment embedded within a survey with young urban Pakistanis from distinct backgrounds. We surveyed a random sample of 735 respondents from two cities, and a sample of 1,691 students pursuing Bachelor's-equivalent degrees at three higher educational institutions in the two cities. The students at these educational institutions differ in their religious and socioeconomic backgrounds, and have varied exposure to Western and English-language news sources. Because of the institutional sorting based on socioeconomic and other characteristics, these sub-groups represent very different segments of the Pakistani society. We focus on youth because the Pakistani population is overwhelmingly young (72% are younger than 34 (US Census Bureau, 2011)), and give particular attention to elite groups–defined as college-level students–because these individuals will most likely exert a strong influence in their communities and some will eventually become policy makers and dictate future policy. Our sampling strategy of recruiting students from disparate educational backgrounds allows us to investigate whether particular educational systems mediate the political attitudes of their students (Gentzkow and Shapiro, 2004). The inclusion of a random sample of respondents from the two cities allows us to study the link between attitudes and education–an area of research with little consensus (Krueger and Maleckova, 2003; Abadie, 2006; Berrebi, 2007; Krueger, 2007).

In the survey, we first elicit respondents' *baseline* attitudes towards various countries and those countries' people. Next, as part of the experiment, survey respondents are randomly exposed to one of five possible information treatments, which provided them with fact-based statements describing the US in either a positive or negative light. In the final stage, the respondents' attitudes are re-elicited. This design allows us to explore the controlled effects of the information treatments and to make causal inferences about the determinants of public opinion. Few studies of attitudes follow the same individuals over time, making it rather difficult to make causal interpretations of the patterns in the data. Moreover, in repeated cross-sectional studies, one has to worry about reverse causality, i.e., whether attitudes change in response to international events, or whether events are a consequence of changes in public opinion. Our experimental design overcomes these potential shortcomings. In addition, we collect rich demographic data,

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[4]The US Secretary of State, Hillary Clinton, in a speech to the Asia Society on February 18, 2011, when referring to the dire state of Pakistan's public finances said "*shocking, unjustified anti-Americanism will not resolve these problems*" (http://www.state.gov/secretary/rm/2011/02/156815.htm). Similarly, on her first visit to Pakistan on May 27, 2011, following the raid that killed Osama bin Laden, she commented "*Pakistan should understand that anti-Americanism and conspiracy theories will not make problems disappear*".

which allow us to explore, at a micro level, how attitudes correlate with observable population characteristics, and how the impact of information varies by the respondent's background.

Anti-American sentiment is high in our sample: the mean favorability reported for the US is 2.58 (on a 0-10 scale, where 0 means very unfavorable and 10 means very favorable), which is worse than the average rating of all other countries for which attitudes were elicited, with the exception of India. Opinions are also heterogeneous, with groups that are wealthier and more exposed to Western media holding relatively more favorable attitudes towards the US. The mean attitude reported for the US by students at the most liberal institution –the Western-Style University– is 3.91, and by the students at the most conservative institution –the Islamic University– is 2.27. However, even at the most conservative of institutions, the mean opinion is slightly higher than in the City sample (2.16). This suggests that education, regardless of its content, is positively correlated with US favorability. We find that various characteristics correlate with public opinion in expected ways. For example, the mean favorability for the US reported by consumers of English-language news is 2.79, compared to 2.12 for those who do not consume any English news (statistically significantly different at the 1% level). Similarly, US favorability is positively correlated with parents' income and education, and negatively correlated with religiosity and consumption of news from conservative sources.

Importantly, we find that respondents change their attitudes toward the US after being exposed to both positive and negative information, and do so in a sensible way: attitudes are, on average, revised up (down) for positive (negative) information about the US. Moreover, average revisions are substantial, varying between 2.13% and 17.4% of the standard deviation of the baseline attitudes. This suggests that attitudes toward the US in Pakistan are malleable and not entirely a cultural phenomenon. We also find that the average revision of attitudes is similar across the various groups we surveyed.

The average revisions, however, mask the heterogeneity in response to the information. Nearly half of the respondents in our sample do not revise their attitudes. This is despite the information being ex-ante unknown to most of those respondents. We then argue that these respondents either do not find the information relevant or do not find it credible. Moreover, respondents in the more conservative institutions and in the City sample are significantly more likely to not respond to the information treatments than students at the most liberal institution: about 57% of the respondents in the former group do not revise their attitudes, versus about 20% of the students at the Western-style University. This indicates that attitudes of certain respondents may be less malleable, and that the hypothesis that anti-Americanism is a cultural phenomenon cannot be outright rejected.

How may our information interventions lead to the observed systematic revision of attitudes? In our model of attitude formation, we outline two possible channels: (1) salience, and (2) a pure information channel. The first channel would suggest that respondents respond to the information

even if they were ex-ante aware of it, because of salience and/or availability bias (Tversky and Kahneman, 1973; Schwarz and Vaughn, 2002; Dellavigna, 2009). The second channel is simply a pure information acquisition story- respondents revise their attitudes because of new information.

Our empirical study design allows us to go beyond simply documenting a causal effect of information on attitudes, and also sheds light on the mechanisms that lead to revision of attitudes. To do so, we collected data on respondents' *information priors*, that is, data on whether the various pieces of information provided to them were already known, or whether they were a positive or negative surprise. We use these to classify a respondent as having a *neutral* prior if the respondent reported that the provided information was more or less in line with his ex-ante priors about the information, and as having a *positive* (*negative*) prior if the respondent thought more positively (negatively) about the US than is warranted by the facts provided to him in the treatment. That is, for a respondent with positive priors, the information should come as a negative surprise. We find substantial heterogeneity in respondents' information priors: about 10% have positive priors, a third have negative priors, 13% have neutral priors, and the remaining have mixed priors. That is, respondents are relatively more likely to have negatively exaggerated perceptions about past actions of the US. These systematically erroneous beliefs are consistent with the local media practices of slanted news coverage about US actions (Reetz, 2006; Fair, 2010). Consistent with the patterns in differential exposure to Western and conservative media across the institutions, we also find that information priors are generally more negative (or less positive) as the institutions become more conservative.

Data on information priors shows that both channels –salience of information as well as information processing– lead to the observed attitude revisions. Nearly 40% of respondents with neutral priors (i.e., those ex-ante aware of the information) do revise their opinions about the US, indicative of salience-based updating. Moreover, the salience effect is equally strong for positive as well as negative information treatments. The investigation of the nature of information-based updating is of particular empirical interest, since dissemination of accurate information may not always lead to a convergence of attitudes.[5] Positive-prior (negative-prior) respondents should be negatively (positively) surprised by the information. Therefore, unbiased information-processing would imply that, compared to their counterparts, respondents with positive- (negative-) priors respond more negatively (positively) to the information. We do find evidence of unbiased information-processing for positive-prior respondents. However, the evidence with regards to the revision of negative-prior respondents is mixed: While negative-prior respondents exposed to the positive information treatments do react (weakly) more positively, those exposed to the negative information treatments react (weakly) more negatively. But in the aggregate, consistent with unbiased processing of information, we find that attitudes across respondents of different

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[5]There is evidence that individuals have a propensity to discount new information if it is inconsistent with a prior belief; in that case, information may in fact lead to more dispersed and polarized beliefs (Lord, Ross, and Lepper, 1979; Glaeser, 2004; Mullainathan and Shleifer, 2005).

prior types converge: average revisions of positive-prior respondents are downward, and those of negative-prior respondents are upward.

Overall, we provide evidence that (i) public opinions are not purely a cultural phenomenon, (ii) they are in part shaped by understanding of recent events, (iii) they are malleable in the face of new information, and (iv) actions taken by the US with respect to Pakistan affect Pakistanis' opinions of America and Americans. In addition, we find evidence of mainly unbiased information-processing. This is an encouraging result since it indicates that, in a setting where anti-American sentiment is high, information –regardless of whether it casts the US in a positive or negative light– has an effect on attitudes. It also implies that the tendency of individuals, at least those who are well-educated, to discount information unaligned with their priors can be overcome. Our findings of (negatively) skewed information priors in a sample of highly-educated respondents, and the generally unbiased processing of information make the case for dissemination of accurate information about various aspects of the Pakistan-US relationship, particularly those that are omitted or manipulated by the local media and agencies.[6] However, at the same time, our finding that certain groups – those studying in more conservative institutions, those with less education, and those belonging to lower socioeconomic backgrounds – are less responsive to the information we provide, suggests that an information campaign in the spirit of our "information treatments" would need a more sophisticated design if it were to affect more of the population.

Our paper also complements the (mostly) theoretical literature that models the formation of attitudes and beliefs in the context of biased information environments (Druckman and Lupia, 2000; Glaeser, 2005; Mullainathan and Shleifer, 2005; Gentzkow and Shapiro, 2006).[7] Since individuals may disregard information that is inconsistent with prior beliefs, new information may not always lead to a greater convergence of beliefs. Thus, any empirical investigation of how new information about US actions may affect anti-American sentiment must grapple with the fact that individuals may selectively discard information unaligned with their priors. Our unique data collection methodology which elicits information priors directly from respondents – data that are otherwise not available and generally inferred indirectly from observational data – allows us to cleanly test for whether information-processing is biased. To our knowledge, our study is the first empirical attempt to directly test the implications of this primarily theoretical

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[6]Since anti-Americanism takes on various features in different national contexts, information experiments of the nature conducted in this study need to be replicated in other Muslim countries to understand the generalizability of the findings. However, given the low levels of US favorability in Pakistan (that are lower than those in most other Muslim countries; see Figure 1) and the active role of the local media and state actors in perpetuating anti-Americanism (Reetz, 2006; Fair 2010), the Pakistani setting is one that is arguably less susceptible to information and more prone to unbiased information-processing. Then, that would suggest that such information campaigns with similar samples in other Muslim countries would possibly lead to a convergence of attitudes, and improved opinions about the US.

[7]Our information experiment is similar in spirit to the role played by media: Media disseminates information, but it also chooses how to slant information, and what news items to give coverage to.

literature on attitude/belief formation.

This paper is organized as follows. We describe the study design and data collection methodology in Section 2. In Section 3, we present a simple model of attitude formation, and outline the possible channels through which our interventions may lead to a (systematic) revision of attitudes. The empirical analysis is presented in Section 4, and the mechanisms that lead to revisions in attitudes are discussed in Section 5. Finally, Section 6 concludes.

2   Data

In this section, we describe our sample, data collection methodology, and survey design.

2.1   The Sample

We conducted our study in one Islamic University (IU) and two Modern Universities located in Islamabad/Rawalpindi and Lahore between May and October 2010. In addition, a random sample of the populations in the two cities was also surveyed between July and December 2010 (*City* sample).

Islamic Universities provide a liberal arts curriculum combined with Islamic teachings and courses. For example, Economics is taught with a focus on Islamic principles of finance. These universities have segregated campuses for males and females, and classes are taught in Arabic or English. These institutions tend to be public and, therefore, are accessible to low and middle income groups. Females account for about 40% of the student body at the IU that we surveyed.

The Modern Universities are similar to American colleges. They provide a liberal arts curriculum, classes are taught in English, and campuses are mixed genders. Tuition at such institutions tends to be very expensive so they cater to wealthy students. Females account for about 25 to 30% of the student body at the two institutions that we surveyed. However, because they differ in their students' characteristics and tuition level (as we show below), we classify the two Modern Universities into two separate groups: a Western-style University (WU) and a Liberal University (LU). The Western-style University is more selective and liberal than LU, and it caters to a higher socioeconomic segment within the elite section of the society.

Relative to Islamic Universities, the Modern Universities are quite selective and their entry requirements are such that they primarily accept students who graduate from private high schools (which tend to have higher academic standards and which, in most cases, cater to the rich).

The institutions in our sample are amongst the five largest and most well-regarded institutions in the relevant category in each city. Among all the institutions we contacted, one university refused to participate. At each of the institutions, a random sample of students (unconditional on gender) was selected to participate based on a listing of students provided by the registrar's

office. The average response rate at the universities was about 70%. Overall 1,691 students participated in the experiments, of whom 489 were female.

In addition, for the *City* sample, a random sample of 735 respondents from the two cities was also surveyed, of whom 338 were female. Our sampling frame for the two cities was provided by the (Pakistan) Federal Bureau of Statistics. The overall response rate was 38%, with the refusal rate being higher for females. In the analysis, we pool the data from the two urban centers, since there are no qualitative differences between them in observables and attitudes.

2.1.1 Sample Characteristics

Table 1 presents the characteristics of students at the three institutions in the first three columns, and of the City sample in the last column. The sorting in terms of observables into these institutions is very drastic but is as expected. As we move across the columns from Western-style University (WU) towards Islamic University (IU) in Table 1, the average socioeconomic characteristics deteriorate. For example, the monthly parental income of WU students is nearly twice that of LU students, and about four times that of students at IU. Similar patterns emerge with regards to parents' education and asset ownership. If we compare the students to the City sample (last column of the table), we see that all institutions fare better in terms of most indicators of wealth than the general populations in the two cities.

Students from the various groups also report different levels of self-reported religiosity and the number of prayers per day. Students were asked to rate how religious they considered themselves on a scale from 0 (not religious at all) to 10 (very religious). Religiosity increases as we move across the first three columns of Table 1: the average religiosity is 5.4 for WU students, 5.9 for LU students, and 6.3 for IU students. The former also pray much less frequently every day. Average religiosity and religious practices of the City respondents are similar to those of IU students.

Finally, respondents are exposed to different types of information. We don't find significant differences across institutions with regards to getting news from English-language news sources, or watching BBC or CNN. However, City respondents are significantly less likely to consume English-language media (37% versus about 85% for the students), and much less likely to watch BBC or CNN (18% versus 60% of the students). Consumption of news from conservative sources increases as we move from column (1) to column (3). Remarkably, IU students are almost twice as likely to get their news from conservative right-wing sources, compared to the City sample respondents.

In short, the table shows that there is substantial sorting on observables into institutions. At one end of the spectrum we have young males from humbler backgrounds who attend conservative schools. At the other end of the spectrum we have wealthy students exposed to Western-type of education and with greater access to international media. However, students in the conservative schools tend to have greater exposure to conservative media than City respondents.

2.2 Data Collection

2.2.1 Procedure

Institution Surveys The survey sessions were conducted in groups of 50-100 students in a classroom of the student's institution. The rooms were large enough to ensure respondent anonymity. An anonymous questionnaire was given to each participant, read out by the experimenters and projected on a retro-projector. The survey instrument was administered in Urdu at all institutions except the Western-style University where it was conducted in English, since students there are more used to reading and writing in English.

The survey took about 90 minutes to complete, and consisted of four parts. The first section collected data on determinants of schooling choices; the second consisted of experimental games, that included the trust and dictator game (see Delavande and Zafar, 2011 and 2012); the third collected demographic details of the respondents; attitudes and opinions on various social and political issues were elicited in the fourth section of the survey. We use data collected in the last two sections of the survey in this study. The survey instrument was anonymous and no identifying information was collected from the respondents. Students were compensated Rs. 200 (~USD 2.5) for completing the survey, and were additionally compensated for the experiments (average compensation for which was Rs. 600). The total average compensation of Rs. 800 (~USD 10) was substantial in the context of our setting.

City Sample Survey The face-to-face City questionnaire was in Urdu. Consistent with Pakistani norms, respondents were surveyed by enumerators of the same gender. However, respondents who were literate were given the option of filling out the questionnaire by themselves. The survey instrument was similar to that used in the institutions, except that it did not include any experimental games (section 2 of the institution survey), and the schooling section (section 1) was somewhat modified.

The survey took about an hour to complete, and did not collect any identifying information. One may be concerned that the face-to-face mode may influence respondents' expectations about the enumerator's judgment, and that may induce them to give responses that are socially desirable (Marlowe and Crowne, 1968; Hoffman, McCabe, and Smith, 1994). However, given the widespread anti-Americanism in the Pakistani society (of which we also find evidence), we do not believe this introduces any significant bias in responses. Moreover, the empirical results that we describe later do not seem to support this concern.

Respondents were compensated Rs. 400 (~USD 5) for completing the survey.

2.3   Study Design

We now describe the relevant part of the survey, that collected public opinion data. It essentially consists of three stages.

1. *Baseline Attitudes:* We first survey respondents about their attitudes towards various countries, those countries' people, and various Pakistani institutions. Unlike existing polls, such as those by the Pew Global Attitudes Project, which elicit attitudes by employing either a Likert scale (very favorable, somewhat favorable, somewhat unfavorable, very unfavorable) or a simple "yes/no" response, we use the following wording: *"On a scale from 0 to 10, where 0 means very unfavorable and 10 means very favorable, please tell me your opinion of ..."*. The advantage of this alternate wording is that it allows the responses to be cardinal and interpersonally comparable, and allows respondents to express the intensity of their attitudes.

   Attitudes were elicited for: the United States; Saudi Arabia; India; China; the United Kingdom; Americans; Chinese people; Pakistani government; Pakistani Military; and Pakistan Political Parties. We refer to these attitudes as "*baseline attitudes*".

2. *Information Treatment:* Next, we randomly provided respondents with one of five possible information treatments (Table 2).[8] Each treatment contained two or three pieces of fact-based information along with the news source providing the information, and could be characterized as highlighting a positive or negative aspect of the US-Pakistan relationship (from a Pakistani perspective). Treatment 1 (T1) provided information on US assistance to Pakistan with a negative slant (pointing out for example that, during 2009, the financial assistance that the US provided to Israel was three times as much as the assistance the US provided to Pakistan), while T3 provided information on US assistance in a positive way (pointing out for example that, in 2007, the amount of funds the United States disbursed to Pakistan was 21 times larger than the funds China disbursed to Pakistan, and as many as 27 times the amount of funds Saudi Arabia disbursed to Pakistan). Similarly, T2 provided information on drone attacks (negative), T4 provided information on humanitarian aid from US-based organizations (positive), and T5 provided negative information on other allies of Pakistan (positive). Therefore, T1 and T2 provide negative information about the US, while T3, T4, and T5 provide positive information about the US.[9]

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[8]In the survey, the baseline attitudes and information treatment were separated by a battery of questions on social and political issues.

[9]However, there could be a perception that foreign assistance or humanitarian aid is used politically by the US to enslave a country, and greater aid may instead be construed as an example of "capitalist or imperialist exploitation" (Kizilbash, 1988). In that case, T3 (which reveals that US assistance to Pakistan is large relative to other donors) and T4 (which reveals the extent of humanitarian aid work by US-based organizations) may be interpreted as negative information treatments. This then becomes primarily an empirical question, which we investigate in Section 4.

Immediately after being provided with the information, some of the baseline attitudes were re-elicited as follows: "*We would now like to re-elicit some of your attitudes that were asked earlier. On a scale from 0 to 10, where 0 means very unfavorable and 10 means very favorable, please tell me your opinion of...*". Respondents were encouraged to refer to their previous responses when reporting their attitudes. We refer to these as "*final attitudes*".

3. *Information Priors:* Since the effect of information on attitudes (or beliefs) generally depends on how new the information is, we also collected data on the respondent's prior about the information, i.e., we asked the respondent if each piece of information that we provided to them was already known, or whether it was a positive or negative surprise for them.

   For example, consider the first piece of information provided in Treatment 1: "During 2009, the financial assistance that the US provided to Israel was three times as much as the assistance the US provided to Pakistan (Source: US Aid)". We elicited respondents' priors about this news item as follows: "*Before we gave you this information, did you think that, in 2009, the financial assistance that the US provided to Israel was more than, less than or about three times as much as the assistance the US provided to Pakistan?*".

   We refer to these as "*information priors*". Given that respondents could easily go back and forth in the questionnaire, priors about the information were elicited after the information had been revealed. Moreover, because of concerns that respondents may anchor to numbers presented to them in the information treatments (Tversky and Kahneman, 1974), we chose to elicit priors this way instead of asking them for a point response. We discuss implications of our design in a later section.

Having both positive and negative information treatments allows us to investigate whether responses to the two kinds of information differ in some systematic way. Moreover, since individuals self-select their sources of information in the real world, randomly exposing them to either a positive or negative treatment gets around this endogeneity issue. In principle, having a study design with one positive and one negative information treatment would have sufficed. However, given that we know little about what kinds of information matter for attitudes, we chose to have five different information treatments. The two negative information treatments focus on very different aspects: the relatively low financial assistance that Pakistan receives from the US (relative to some other recipient countries), and different aspects of the drone program. The three positive treatments focussed on either the humanitarian work being done by US organizations, the relatively high financial aid Pakistan receives from the US (relative to some other donors), or negative information about some countries that have close ties with Pakistan. Including treatments with such a wide spectrum of information then reduces the likelihood of respondents not

finding any of these information treatments relevant (in which case we would observe no causal effect of information).[10]

3 Model of Attitude Formation

In this section, we present a simple stylized model of attitude formation. The goal is to illustrate the potential channels through which our study design may lead to a revision of attitudes.

We model attitudes as a combination of preferences and beliefs. For individual i at time t, A_{iCt} is an individual-specific measure of preference towards country C . It is a function of a set of past and future actions by country C judged relevant to individual i at time t, Ω_{iCt}, and individual characteristics $\mathbf{X}_i$:

$$A_{iCt} = f_{it}(\Omega_{iCt}, \mathbf{X}_i),$$

where f_{it} is a strictly monotonic function in its arguments and maps onto the reals, and A_{iCt} is a continuous variable with a higher value indicating a more favorable attitude. Ω_{iCt} is indexed by t because individual i may change, over time, what he thinks is relevant to form his attitude. Similarly f_{it} is indexed by t since the mapping function can be time variant.

Actions in this framework are assumed to be numeric.[11] Individual i may have uncertainty about the numeric values of past actions that C has taken as well as uncertainty about the possible values of future actions that C may take. Let $\{a_{C1}, a_{C2}, ..., a_{CK_i}\}$ be the vector of K_i actions in Ω_{iCt}, and $P_{it}(a_{C1}, a_{C2}, ..., a_{CK_i})$ denote the subjective distribution that respondent i possesses at time t about the values of actions of country C. The size of the vector, K_i, is indexed by i since the set of actions perceived as being relevant is individual specific. Attitude for country C at time t is then given by:

$$A_{iCt} = \int f_{it}(a_{C1}, a_{C2}, ..., a_{CK_i}, \mathbf{X}_i) dP_{it}(a_{C1}, a_{C2}, ..., a_{CK_i}).$$

For ease of presentation, we now assume that the function $f_{it}(.)$ is linear and separable in actions. As we explain later in this section, this assumption does not affect the qualitative

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[10]Since there is little prior knowledge of how relevant different kinds of information are for attitudes formation, we restricted each information treatment to either positive information or negative information about the US, but not both. As we show in the next section, restricting the treatments to either positive or negative information allows us to get clear predictions for how attitudes should be revised. Under reasonable assumptions, that would generally not be possible if a treatment included both kinds of information.

[11]For example, the action in the first piece of information in Treatment 1 is the relative financial assistance Israel received (relative to Pakistan) from the US in 2009. While the true value of the action is three, a respondent's subjective assessment of the value of the action may be different from the objective true value.

implications of the model. Then:

$$A_{iCt} = \sum_{k=1}^{K_i} \alpha_{itk} \int a_{Ck} dP_{it}(a_{Ck}) = \sum_{k=1}^{K_i} \alpha_{itk} E_{it}(a_{Ck}), \tag{1}$$

where α_{itk} is the preference parameter or weight, which could be negative or positive, assigned by individual i to action a_{Ck} at time t, and $E_{it}(a_{Ck})$ is i's subjective expectation (perception) of the value of action a_{Ck} at time t. The α's can be a function of individual characteristics, $\mathbf{X}_i$.

In our survey, individuals are asked to express their preferences on a discrete scale from 0 to 10. A_{iCt} is assumed to be continuous, taking values in the range $[A_{Li}, A_{Hi}]$. We assume that respondents use the function $r(a)$ that rounds the continuous variable A_{iCt} to the nearest integer to report their opinion $A_{iCt}^{reported}$ as follows:

$$A_{iCt}^{reported} = r(10 \times \frac{A_{iCt} - A_{Li}}{A_{Hi} - A_{Li}}).$$

3.1 How May Information Affect Reported Attitudes?

In our experimental design, we provide respondents with a random set of facts that highlight past actions taken by either C or some other countries,[12] and that may directly or indirectly be relevant in relation to the respondent's country (Pakistan). After revelation of the information, we re-elicit the respondent's attitude, $A_{iCt+1}^{reported}$, where the subscript $t + 1$ denotes the post-information elicitation of attitudes. We refer to attitudes elicited prior to the information as *baseline attitudes*, and those elicited after the information provision as *final attitudes*.

Let a_{cT} denote the action taken by country C about the value of which respondent i is informed as part of our information treatment, and let $V(a_{CT})$ be the true value of the action that is revealed in the treatment. In the study, respondents were provided with more than one piece of information about actions taken by country C, but for simple comparative statics, it suffices to discuss the case where the respondent is provided with information about the value of a single action.

We consider below 3 different cases in terms of whether the information we provide is either new or relevant. We also consider the possibility that hearing about a specific piece of information in a survey may change the weights α_{itk} that individual i allocates to actions to form his attitude. The rationale is that our information treatments may make certain events/actions taken by C salient, which in turn may lead the respondent to assign greater weight to that piece of news because of saliency and/or availability bias (Tversky and Kahneman, 1973; Schwarz and Vaughn, 2002; Dellavigna, 2009).

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[12]Most of our information treatments include actions taken by the US.

CASE 1: Information not (ex-ante or ex-post) relevant OR not credible

We first consider the case in which $a_{cT} \notin \Omega_{iCt}$ and $a_{cT} \notin \Omega_{iCt+1}$, that is, the action about which information is provided is not relevant for the formation of attitudes.

We consider two sub-cases:

Sub-case 1.1: Since the information is not relevant for the formation of attitudes, the set of relevant actions for individual i remains unchanged (i.e., $\Omega_{iCt+1} = \Omega_{iCt}$). If the respondent does not change the weights allocated to actions in Ω_{iCt} (i.e., $\alpha_{it+1k} = \alpha_{itk}$) then, $A_{iCt+1}^{reported} = A_{iCt}^{reported}$.

Sub-case 1.2: While a_{cT} is not in i's information set, hearing about the value of a_{cT} may prime the respondent to either include some other action in his information set that wasn't included prior to the revelation of the information (i.e., $\Omega_{iCt+1} \neq \Omega_{iCt}$, and $a_{cT} \notin \Omega_{iCt+1}$), and/or to re-allocate weights assigned to actions already in his information set ($\alpha_{it+1k} \neq \alpha_{itk}$, and $a_{ck} \in \Omega_{iCt}$).

Then $A_{iCt+1} = \sum_{k=1}^{K_i} \alpha_{it+1k} E_{it}(a_{Ck})$. If the change in actual attitude is large enough, $A_{iCt+1}^{reported}$

will be different from $A_{iCt}^{reported}$.

Case 1 also includes the case where the respondent does not find the information credible. Empirically, we cannot distinguish between the two cases, but they have similar implications for revision of attitudes.

CASE 2: Information relevant/credible but already known

Now consider the case where $a_{cT} \in \Omega_{iCt}$, i.e., the action about which information is being provided is relevant for the formation of attitudes, and that the respondent is already aware of the information that we provide, i.e., $E_{it}(a_{CT}) = V(a_{CT})$ (the respondent's subjective expectation of the action equals the true value of the action).

We consider two sub-cases:

Sub-case 2.1: Hearing about the value of a_{CT}, $V(a_{CT})$, in the survey does not change the magnitude of the weights α_{itk}, then, $A_{iCt+1}^{reported} = A_{iCt}^{reported}$.

Sub-case 2.2: Hearing about the information a_{CT} in the survey does change the weights α_{itk} (say, because of saliency), then $A_{iCt+1} = \sum_{k=1}^{K_i} \alpha_{it+1k} E_{it}(a_{Ck})$.

If the change in actual attitude is large enough, $A_{iCt+1}^{reported}$ will be different from $A_{iCt}^{reported}$.

CASE 3: Information relevant/credible and not fully known

Now consider the case where $a_{cT} \in \Omega_{iCt}$ but the respondent was not ex-ante fully aware of the action, i.e., $E_{it}(a_{CT}) \neq V(a_{CT})$. $V(a_{CT}) - E_{it}(a_{CT})$ is the information gap, with a positive (negative) value indicating under-prediction (over-prediction) of the true realization of the event a_{cT} by the respondent. Therefore, the information may cause the respondent to update his beliefs about the value of a_{CT}, and generally $E_{it+1}(a_{CT}) \neq E_{it}(a_{CT})$.

We consider again two sub-cases:

Sub-case 3.1: Hearing about the true value of a_{cT} in the survey does not change the magnitude of the weights α_{itk}, then, $A^{reported}_{iCt+1} = \sum_{k=\{1,..,T-1,T+1,..,K_i\}} \alpha_{itk} E_{it}(a_{Ck}) + \alpha_{itT} E_{it+1}(a_{CT})$.

If the change in actual attitude is large enough, $A^{reported}_{iCt+1}$ will be different from $A^{reported}_{iCt}$.

Sub-case 3.2: Hearing about the true value of a_{cT} in the survey also changes the weights α_{itk}, then $A^{reported}_{iCt+1} = \sum_{k=\{1,..,T-1,T+1,..,K_i\}} \alpha_{it+1k} E_{it}(a_{Ck}) + \alpha_{it+1T} E_{it+1}(a_{CT})$.

If the change in actual attitude is large enough, $A^{reported}_{iCt+1}$ will be different from $A^{reported}_{iCt}$.

There is an additional case, where the information is ex-ante not relevant (i.e., $\alpha_{itT} = 0$). But after exposure to information, the respondent includes the action a_{cT} in his information set ($\alpha_{it+1T} \neq 0$). This is a special case of sub-case 3.2, where the initial weight assigned to the action is zero.

3.2 Systematic Revision of Attitudes

We next outline the scenarios under which our information treatments may lead to a systematic revision in attitudes.

Case 1 is not particularly interesting, since it implies that the information treatments should not have any systematic impact on attitudes.

Now consider the case where the information intervention is relevant. We illustrate the case of a positive information intervention, i.e., information is provided on an action that enters positively in equation (1), which implies that $\alpha_{itT} > 0$.

Under Case 2, revision in attitudes should only be observed if the weights allocated to actions are changing (sub-case 2.2). As mentioned above, revelation of information about specific actions may cause the respondent to put more weight on those actions. This could be a result of saliency, ease of mental recall, or availability bias—each of these would lead the respondent to assign greater weights to those events. Thus, $|\alpha_{it+1T}| > |\alpha_{itT}|$. So for a positive information intervention, this may lead to positive revisions in attitudes.[13]

Under Case 3, if the respondent's subjective expected value were an underestimate of the true value of a_{cT}, the respondent should revise his subjective belief about the event upwards upon receipt of information, i.e., $E_{it+1}(a_{CT}) > E_{it}(a_{CT})$.[14] Then, since the belief enters positively in the formation of attitudes ($\alpha_{itT} > 0$), attitudes should be revised upwards; the converse would be observed for overestimations in prior beliefs about the information. This would be the case regardless of whether the weight assigned to the action is unchanged or changing: since saliency

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[13]We assume that a positive information treatment cannot make negative actions more salient, or that the saliency effect on negative actions in a positive treatment is of second-order nature.

[14]This assumes that the respondent is a rational updater, in the sense that he processes the information in an unbiased way and revises his beliefs in the direction of the information. We discuss implications of this assumption later in this section.

should lead only to a greater weight allocation to the action, a changing weight should lead to even greater revisions.

In other words, information on positive actions of country C (with regards to the respondent's country) should not cause the respondent to revise his attitudes in any systematic way if the information is irrelevant or not credible (Case 1). However, under Cases 2.2 and 3 above, systematic revisions would be observed. Case 2.2 simply predicts positive revisions for positive information. Under Case 3, we should observe a systematic relationship between prior beliefs and revisions in attitudes: information should cause the respondent to revise his attitudes upwards (downward) if his *information prior* about that event is an underestimation (overestimation). The converse would be observed in the case of information on negative actions of country C.

Therefore, our intervention may lead to revisions either because of saliency or information revelation.[15] In the empirical section, we will test the following hypotheses:

1. Does information lead to systematic revision of attitudes?

2. Do respondents who are already aware of the information revise their attitudes?

3. Are respondents' revisions in attitudes systematically related to differences between information priors and actual information?

The answer to 1 should be *No* if our information interventions were either irrelevant or not credible; that would be the case also if attitudes were a purely cultural phenomenon (in which case, any information would be irrelevant). An affirmative answer to 2 would imply that simple provision of already-known information has a causal effect on the weights that respondents allocate to the action (subcase 2.2), while an affirmative answer to 3 would imply that observed revisions are partly a result of new information acquisition, and unbiased processing of information.

Since Cases 2 and 3 have testable implications with regards to the direction of revisions (and not their magnitude), our empirical analysis focuses on the directional change in attitudes.[16]

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[15]There is another channel that may lead to revision in attitudes– an experimenter demand effect, i.e., respondents may revise their attitudes upon receipt of information simply because they believe doing so constitutes appropriate behavior (Zizzo, 2010). In our setting, this should not be a factor since the survey is anonymous and respondents have no explicit incentive to revise their attitudes. More importantly, the demand effect should not lead to any systematic revision in attitudes. As we discuss in the empirical analysis, we find little evidence of our results being driven by a demand effect.

[16]Determining whether respondents are over- or under- reacting to the information (relative to some benchmark) in the revision of their attitudes is not a goal of this paper. Moreover, it is unclear how one would go about doing so since (1) there is no appropriate benchmark – such as the Bayesian analog for beliefs – for attitudes, and (2) quantifying the extent to which respondents should revise their attitudes requires knowledge of the function, $f_{it}(.)$, that maps beliefs to attitudes. One, we have little understanding of the production functions for attitudes (and they almost certainly are context-specific). Second, in principle, the function could be identified by imposing substantial structure on it, but then what one would learn from such an exercise would be quite limited, and of little policy interest.

We now revisit the implications of assuming that the function $f_{it}(.)$ is linear and separable in actions. The linearity assumption simply affects the magnitude of revisions, and not the direction of revisions. Therefore, this assumption is without loss of generality. However, the separability assumption is somewhat more restrictive. It implies that information about the true value of a relevant action, even when ex-ante unknown (i.e., $E_{it}(a_{CT}) \neq V(a_{CT})$), will not lead a respondent to revise his subjective beliefs about the values of other actions in his information set, i.e., $E_{it+1}(a_{Ck}) = E_{it}(a_{Ck})$ for all $a_{Ck} \in \{\Omega_{iCt}\backslash a_{CT}\}$. The separability assumption could be relaxed, as long as it is instead assumed that a respondent revises his beliefs for actions that are positively (negatively) correlated with a_{CT} in the same (opposite) direction as the revision in the subjective expectation of the value of a_{CT}. This would require that, for example, when a respondent is informed that he underestimated the true value of a negative action of country C (and so revises his belief about the true value of that action upward), he revises his beliefs about the true value of other negative (positive) actions upwards (downwards). This is fairly plausible, and this would then yield similar directional implications for attitudes revisions.

Finally, Case 3 assumes that respondents process the information in an unbiased way. However, a key challenge with providing information is overcoming the propensity of individuals to discount the credibility of new information, especially if it is inconsistent with a prior belief. Individuals presented with new information that is inconsistent with a prior belief may be less likely to revise their beliefs and may even develop more polarized beliefs (Lord, Ross, and Lepper, 1979; Glaeser, 2004; Mullainathan and Shleifer, 2005). Thus, if our empirical analysis finds evidence of updating that is consistent with Case 3, that would imply that this propensity of individuals to discount such information can be overcome.

4 Empirical Analysis

4.1 Baseline Attitudes

Anti-American sentiment is high in our sample: the first row of Table 3 shows that the mean favorability reported for the US in the full sample is 2.58, which is worse than the average rating of all other countries rated, with the exception of India. Saudi Arabia and China are the countries with the highest rating, with an average rating of 7.88 and 6.90, respectively. Opinions of the American people are slightly more positive than those of the US (3.84 versus 2.58, with the difference being statistically significant at 1%). The large standard deviations indicate that there is considerable heterogeneity in attitudes in our sample.

Looking at US mean favorability across the groups in column 1, we see that students at the Western-style University have the most favorable opinion of the US (3.91), followed by the Liberal University students (2.69), the Islamic University students (2.27), and the City

respondents (2.16). The attitudes are statistically different across the groups (p-value<0.001 for F-test). There is considerable variation in attitudes even within groups, as indicated by the large standard deviations of attitudes within each group.

Figure 2 further underscores the extent of heterogeneity in attitudes both across and within institutions. The modal US attitude at the Western-style University is 4 (on a 0-10 scale), and zero for each of the other groups; while only 11.5 percent of the Western-style University assign a zero favorability to the US, 35-40% of the students at the Liberal and Islamic University, and nearly 55 percent of the City respondents do so. As can be seen in the figure, a non-trivial proportion of respondents in each of the groups assign an attitude of greater than 5 to the US: 25.8% of students at the Western-style University assign the US a favorability of greater than 5, while the corresponding proportions are 16.8%, 12.8%, and 13.9% for respondents at the Liberal University, Islamic University, and City sample, respectively.

4.1.1 Correlates of Attitudes

The large standard deviations of the attitudes in the full sample, as well as within each institution, indicate that attitudes are quite heterogeneous. While there is no evidence of a definite link between poverty, education, and terrorism in the existing literature (Krueger and Maleckova, 2003; Abadie, 2006; Berrebi, 2007; Krueger, 2007), particular educational systems may mediate the political attitudes of their students (Gentzkow and Shapiro, 2004). As shown in Table 3, students enrolled at institutions with more religious and conservative curricula view the US less favorably. However, even at the most conservative institutions—the Islamic University—the mean opinion is slightly higher than in the City sample. This suggests that education, regardless of its content, is positively correlated with US favorability.

However, since students select their schools, it is premature to conclude that educational content leads to differences in US favorability. Table 4 shows how some of these characteristics correlate with public opinion towards the US and Americans. We see that income, parents' years of schooling, and exposure to English-language media are positively associated with US favorability. On the other hand, religiosity and exposure to conservative right-wing media are negatively associated with US favorability. It is noteworthy that we do not observe any significant differences in US favorability by gender. These relationships also hold in a multivariate regression framework, which controls for the combined effects of these different variables (Appendix Table A1). Overall, attitudes are strongly correlated with observable characteristics, in ways that one would expect.

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4.2 Treatment Effect

We next test if our information treatments had an effect on attitudes. As we explain in Section 3, our treatments should lead to systematic revisions in attitudes if respondents find the information relevant and credible (Cases 2 and 3, as outlined in the model). The mechanisms that may lead to revision are investigated in a later section. In the analysis that follows, we drop observations where respondents revise their attitudes for a given entity by 6 points or more (on a 0-10 scale), under the assumption that in such instances respondents either did not answer the questions seriously, made errors in answering, or did not understand the instructions. For revisions of attitudes towards the US, this drops 226 of the 2,387 observations (that is, 9.5% of the observations).[17]

Given that Treatments 1 and 2 present negative information about the US, we would expect attitudes to shift negatively for these two treatments, and positively for the other three treatments, which present positive information. Figure 3 reports the mean baseline and final attitudes of the US by treatment. It shows that the post-treatment (final) attitudes differ significantly from the baseline attitudes for treatments 2, 3, and 4, indicating that these treatments had a significant effect on average attitudes towards the US. We next estimate an OLS equation where individual change in attitudes is used as a dependent variable, and dummies for the information treatment received are used as independent variables. The coefficients on the treatment dummies then indicate the average change in attitudes attributable to that information treatment. Results for revisions in attitudes towards the US are presented in column 1 of Table 5. The revisions are substantial, varying from 2.13% of the standard deviation of the attitudes at the baseline for T5 to 17.4% of the baseline standard deviation for T4. As expected, T2 led to a downward revision while T3 and T4 led to an upward revision in attitude, which suggests that respondents meaningfully revised their attitudes in response to both positive and negative information (coefficients on T1 and T5 are of the expected signs, but not statistically different from zero).[18,19] This indicates that anti-American sentiment is not entirely based on fundamental cultural values (Huntington, 1996), and that it is malleable.

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[17]More specifically, 8.5% of the observations in T1, 11% in T2, 9.8% in T3, 11.6% in T4, and 6.6% in T5 are dropped (differences not statistically significant across treatments).

[18]That respondents revise their attitudes positively in T3 (which reveals that US assistance to Pakistan is large relative to other donors) and in T4 (which reveals the extent of humanitarian aid work by US-based organizations) suggests that, on average, greater aid and financial assistance from the US are in fact inferred as positive steps, and not as measures of "imperialist exploitation" (Kizilbash, 1988). Therefore, the empirical results seem to be consistent with our categorization of these treatments as positive ones.

[19]The results are qualitatively similar if we do not exclude outliers (i.e., observations where respondents revise their attitudes by six points or more). In fact, as one would expect, keeping these observations leads to larger treatment effects, and we get statistically significant revisions for 4 of the 5 treatments (treatments 2, 3, 4, and 5). In the analysis that follows, for reasons mentioned above, we continue to exclude these observations.

4.2.1 Heterogeneity in Revisions Across Groups

Because each subgroup we surveyed had different baseline opinions about the US, it is interesting to evaluate whether subgroup members revised their attitudes differently when presented with the same information.[20] To test this, we estimate for each treatment the equation:

$$\Delta A_{iC}^{reported} = A_{iCt+1}^{reported} - A_{iCt}^{reported}$$
$$= \alpha + \beta_1 \mathbf{1}[\text{Liberal University}] + \beta_2 \mathbf{1}[\text{Islamic University}] + \beta_3 \mathbf{1}[\text{City Sample}] + \varepsilon_{iC}, \quad (2)$$

where $C = \{\text{US, Americans}\}$, and the indicator $\mathbf{1}[I]$ equals 1 if respondent i belongs to group I. The dependent variable $\Delta A_{iC}^{reported}$ is the revision in attitudes, conditional on treatment. In this specification, the constant α captures the mean revision in attitudes for the Western-style University, and the β's reflect the differential updating for the other groups. For example, the sum $\alpha + \beta_1$ shows the average updating for Liberal University students; if these students update differently than Western-style University students, β_1 would be different from zero. If students at the more conservative institutions selectively pay attention to the information and disregard (overweight) positive (negative) information either due to selection or the influence of their educational systems, then estimates of betas would be negative.

The first five columns in Panel A of Table 6 report the estimates of this equation for the US for each of the five treatments. In most cases, estimates of the β's are not statistically different from zero (only two of the 15 estimates are statistically significant at levels of 90% or higher). It is also notable that, except for Treatment 2, signs of the estimates of beta are generally not negative across the other groups (which would have implied less favorable or more unfavorable revision in response to the information, relative to Western-style University students). We also report the p-value of an F-test for the joint significance of the β's, and cannot reject the null that they are jointly zero at significance levels of 95% or higher.

In the lower panel of Table 6, we include demographic controls to the specification in equation (2). We continue to fail to reject the null that estimates of β's are zero. The only exception is Treatment 2, where the β's are jointly significant (p-value = 0.040); moreover, all the β's are negative in this case. Treatment 2 reveals information about civilian deaths related to the drone attacks, a controversial issue that continues to cause substantial outcry amongst the Pakistani public and local media (Fair, 2010).

Since Table 6 shows that average revisions are similar across the subgroups, one may interpret this as evidence that the different groups – despite differences in baseline attitudes, different educational content, and varying level of exposure to slanted media across the groups – are, on average, equally responsive to information. However, this would only be accurate if the

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[20]Understanding the causal role played by the different educational systems in the formation of attitudes – an important policy question – is beyond the scope of this paper. It is possible that certain educational systems indoctrinate their students (Ali, 2009), but we cannot disentangle that effect from the selection into institutions.

information that we provided to respondents was worth the same to each of the groups. For example, if Western-style University students already possessed the information that we provide in the experiment while the other groups were unaware of it, the revision in attitudes should have differed across groups (if the attitudes formation process is the same for each group). We investigate this next.

4.2.2 Information Priors

We collected data from respondents about their prior knowledge of the information, i.e., we asked the respondent if each piece of information that we provided to them was already known, or whether it was a positive or negative surprise for them. We define a respondent as having a "Positive Prior" ("Negative Prior") if the respondent thought *more positively* (more negatively) about the US than is warranted by the facts in the context of *all* the pieces of information that we provided in the treatment. A respondent is categorized as having a "Neutral Prior" if he reported that *all* the pieces of information were in line with his priors about them. Finally, we categorize respondents as having "Other Priors" if they cannot be classified as having positive, negative, or neutral priors. For example, this would be the case when the respondent has positive prior about one piece of information, and negative or neutral priors about the other pieces of information in the treatment.

To illustrate this, consider Treatment 1 which consists of the following two pieces of information: (1) the financial assistance that the US provided to Israel in 2008 was three times as much as the assistance the US provided to Pakistan, and (2) the military aid that Pakistan had received from the US since 2001 came to half of Pakistan's costs. A respondent assigned to Treatment 1 is categorized as having a *Positive Prior* if he reported that he thought Israel had received *less* than three times as much assistance from the US than Pakistan, and that Pakistan's military aid from US covered *more* than half of its costs. A respondent would be categorized as having a *Negative Prior* for the converse prior beliefs. If a respondent reported that he thought Israel received *about* three times as much assistance from the US than Pakistan, and that Pakistan's military aid from US covered *about* half of its costs, he would be categorized as having a *Neutral Prior*. For a mix of priors about the two pieces of information, the respondent would be categorized as having an *Other Prior*.

The first row in Panel A of Table 7 shows the distribution of information priors in our sample, pooled across the treatments. About 10% of the respondents have positive priors, a third (32%) have negative priors, and 13% have neutral priors. The remaining 45% have mixed priors about the pieces of information. There is, however, substantial heterogeneity in information priors across groups. For example, about 28% of Western-style University students and City sample respondents have negative priors, compared to 36% of Islamic University students with such priors. The low p-values of the F-tests for the equality of proportions across the groups indicate

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that the differences in the distribution of priors across the groups is statistically significant (except for the case of positive priors).

Appendix Table A2 reports the distribution of information priors across institutions, disaggregated by treatments. Two patterns are of note. One, in each of the treatments, the proportion of respondents with negative priors is much greater than the proportion of respondents with positive priors, i.e., respondents ex-ante are more likely to have negative beliefs (rather than positive beliefs) about values of the actions of the US than is warranted by the facts. These systematically erroneous beliefs about actions of the US are consistent with the local media practices of slanted news coverage and prominence to selective (negative) actions of the US (Reetz, 2006; Fair, 2010). Second, information priors are generally more negative (or less positive) as the institutions become more conservative. The patterns of information priors in T2 are particularly striking: Nearly 40% of the respondents at the Islamic University and Liberal University have beliefs that negatively exaggerate the facts associated with the drone program, compared with 25% of the city respondents and 12% of the Western-style University students.

It is interesting to note that the proportion of respondents with negative (positive) priors, as reported in both Tables 7 and A2, is higher (lower) at the most conservative institution–the Islamic University–than in the City sample. That is, students in the more conservative institutions are more likely to have negatively-biased beliefs about actions of the US than a random sample of the cities' populations. One possible explanation for these cross-group patterns is the differential exposure of these groups to conservative as well as English-language news sources (as shown in Table 1). To investigate the extent to which the differences in priors are driven by observable characteristics, we define a variable *Information Prior*, that equals 1 if the respondent has positive priors, -1 if the respondent has negative priors, and 0 if the respondent has neutral priors. A higher value of this variable then indicates an ex-ante more positive opinion of the US with respect to the facts. By construction, this variable is defined for only those respondents who could be categorized as having positive, negative, or neutral priors (and excludes respondents with other priors).

Table 8 analyzes how this variable varies across the groups and the treatments. Since results are otherwise qualitatively similar, we pool the negative treatments (treatments 1 and 2) and positive treatments (treatments 3, 4, and 5). Columns (1) and (2) confirm our earlier finding that, on average, priors are negative for both sets of treatments. The coefficient on the negative treatments is larger in magnitude than that for the positive treatments (the difference is statistically significant at 1%), suggesting a relatively greater prevalence of negative priors with regards to information that is inherently of negative nature for the US.

Column (3) of Table 8 regresses the information prior onto dummies for the two sets of treatments and interactions of the groups with the treatments. In this specification, the coefficient on the treatment dummies captures the mean prior for students at the Western-style University,

while the interaction terms show how the priors differ in the other groups relative to those at the Western-style University. For example, the mean prior for students at the Islamic University for treatments 1 and 2 is -0.136 + (-0.568) = -0.704, and is statistically different (at the 99% level) from the mean prior at the Western-style University students (-0.136). Two things are of note in this specification. One, students at the Liberal University and Islamic University have, on average, significantly more negative priors than students at the Western-style University for the negative treatments (there are, however, no statistically significant differences in average priors for the positive treatments). Second, City respondents have priors that are, on average, similar to those of Western-style University respondents. In Column (4), we add demographic controls to the specification reported in column (3). Estimates of the coefficients on the treatment dummies increase in magnitude, while the coefficients on the treatment 1 and 2 interactions with Liberal University and Islamic University decrease in magnitude but remain statistically different from zero. This suggests that differences in observables explain only part of the differences across the groups. It is unclear whether these differences exist because of sorting on unobservables into institutions, or because of the environment and teachings at the institutions.

In summary, while we observe that average revisions are similar across institutions, we cannot conclude that average reaction to information is similar across the groups. This is because information priors are generally more negative in the more conservative institutions, i.e., respondents in these subgroups should in fact be more positively surprised by the provided information. If students in these other institutions were using the same information-processing rules as Western-style University students, they should in fact have revised their attitudes more favorably in our information treatments.

4.2.3 Non-response to Information

The average treatment effects shown in Table 5 mask the heterogenous responses to the information treatments in our sample. The first cell in column (1a) of Table 9 shows that in fact nearly 55% of our respondents do not revise their attitudes. As shown in the first cell of columns (a) in the table, it is notable that the proportion of respondents who do not revise their attitudes does not vary systematically across treatments.[21] In fact, we cannot reject the null that the proportion of such respondents is similar across treatments (p-value= 0.112, as reported in the last column of the table).

The remaining rows of column (1a) of Table 9 show that the groups differ in their responsiveness to information: only 20% of the Western-style University students do not revise their attitudes, while the proportion of respondents in the other subgroups who do not revise their attitudes exceeds 50%. Looking across the rows in columns numbered (a), we see similar patterns

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[21]For example, it is not the case that the propensity of respondents to not revise their attitudes is higher in the positive treatments (treatments 3, 4, and 5) than it is in the negative treatments.

in each of the five treatments. The low p-values of the F-test reported in the last row of the panel show that the proportion of respondents who do not revise their attitudes differs significantly across the groups.

As explained in Section 3, this would be the case if respondents did not find the information credible or relevant (Case 1), or if the information were already known (Case 2.1). Data on information priors of respondents, described in the previous section, allow us to investigate this. Column (1b) of the table reports the percent of respondents who do not revise their attitudes and for whom the information is ex-ante unknown (that is, they do not have neutral priors). If non-responsiveness to information were largely driven by respondents being ex-ante aware of the provided information, the numbers in each cell of this column would be close to zero. On the other hand, if non-responsiveness to information were primarily a consequence of respondents not finding the information relevant/credible, these numbers would be close to the corresponding ones in column (1a). We find evidence of the latter, i.e., non-responsiveness to information is largely a result of these respondents not finding the information relevant/credible.

The striking finding in Table 9 is that while only a fifth of the respondents in the Western-style University do not find the information credible/relevant (column 1b), the corresponding proportions for the other groups are above 40%. Looking across the treatments in columns numbered (b), we see that the tendency to not respond to the information when it is ex-ante unknown is not correlated with whether the information treatment is positive or negative. That is, the perceived relevance/credibility of the information does not depend on whether the information treatment casts the US in a positive or negative light. In a setting where anti-American sentiment is high, it is plausible that news casting the US in a positive light would more likely to be perceived as being less credible.[22] Yet columns (b) in Table 9 show that the proportion of respondents who do not find the information credible and/or relevant is not higher in the positive treatments (treatments 3, 4, and 5). This then suggests that the unresponsiveness to the information treatments is most likely a result of the respondents not finding the information relevant. That a higher proportion of respondents in the more conservative institutions and in the City sample do not find the information relevant indicates that their attitudes are less malleable (and more likely to be a construct based on cultural values) than those of the Western-style University students.

5   Mechanisms for Attitude Revisions

Section 4.2 shows that our information treatments, on average, do lead to a systematic revision of attitudes, and that there is substantial heterogeneity in prior information beliefs and response to the information. Based on our model of attitude formation in Section 3, this systematic

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[22]There is evidence from research in psychology, memory, and information-processing that people find information that is consistent with their beliefs to be more credible (see references in Mullainathan and Shleifer, 2005).

revision of attitudes could be consistent with Case 2 (salience effect) or Case 3 (information effect). The first channel, salience-based updating, would imply that the provision of already-known information has an effect on attitudes. The second channel, information-based updating, would lead to revision of attitudes because of new information acquisition. Understanding the mechanisms that may lead to attitudes revision is important. We next investigate them.

5.1 Is there Salience-based Updating?

To test for salience-based updating, we investigate whether respondents who are already aware of the information revise their attitudes. Data on prior beliefs of respondents, described in Section 4.2.2, allow us to test for this. If we find evidence that respondents who are ex-ante aware of the information (that is, respondents with neutral priors) update their attitudes, that would be consistent with this kind of updating. The first row in Panel A of Table 10 shows the proportion of respondents with neutral priors who do not revise their opinions about the US. If there were no salience-based updating in our sample, we would expect these proportions to be close to 100 percent. However, the table shows that nearly 40% of the respondents with neutral priors do revise their opinions about the US. Therefore, we cannot rule out salience-based updating partly driving our results.

The remaining rows in Panel A of Table 10 show the variation in salience-based updating across the groups. We see that salience-based updating is most pronounced in the Western-style University, where nearly three-fourths of the respondents with neutral priors revise their attitudes towards the US. Salience-based updating decreases as the institution becomes more conservative, and is least likely to happen amongst City respondents. The differences across the groups are statistically significant. However, we do not find statistically different patterns across treatments (as indicated by the p-values of the F-test reported in the last column of the table).

5.2 Is there (Unbiased) Information-based Updating?

Information-based updating would imply a systematic relationship between information priors of the respondent and the direction of attitudes revision. For respondents with positive priors (which implies that the respondents ex-ante think more positively about the US than is warranted by the revealed facts), *unbiased* information-processing would imply that they respond more negatively (or less positively) to the information treatments relative to their counterparts; that is, the difference in attitude revisions for respondents with positive priors and non-positive priors should be negative. Similarly, since negative-prior respondents should respond more favorably to the news, unbiased information-based updating would imply positive (or less negative) revisions for these respondents relative to their counterparts with non-negative priors. Finally, information-based updating implies that respondents with neutral priors do not react to the information.

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There is, however, (empirical and theoretical) evidence that individuals may not process information in an unbiased way. Individuals presented with new information that is inconsistent with prior beliefs may disregard such information. In such instances of selective attention, increasing the supply of information may in fact lead to more polarized beliefs (Glaeser, 2004; Mullainathan and Shleifer, 2005; Mullainathan and Washington, 2009). This *biased* updating could imply a relationship between information priors and revision of attitudes that is opposite to the one that would emerge from unbiased information-processing. Moreover, in cases where the news is bad, individuals have a tendency to ignore it (Eil and Rao, 2011). For example, in a setting where anti-American sentiment is high, news casting the US in a positive light may be perceived as unreliable, and respondents may not respond to it even when it is new information, while still responding to news that casts the US in a negative light.

Panel A of Table 11 presents the mean revisions for respondents with positive priors and their counterparts. We pool the negative treatments (treatments 1 and 2) and the positive treatments (treatments 3, 4, and 5) in this table. Average revision in the negative treatments for respondents with positive priors is -0.361, compared with a downward revision of 0.241 for respondents with non-positive priors. The difference between the two (reported in column 3) is negative, as would be expected if the information-based updating were unbiased (though the difference is not statistically significant). The second row shows that the difference in mean revisions is negative for the positive treatments as well (as shown in the last column, the difference is statistically significantly different from zero at the 95% level). We reject the null that the two differences reported in column (3) are jointly zero (p-value of 0.08), indicating that respondents with positive priors process the information in an unbiased way.

As explained above and indicated in column (4) of Panel B in Table 11, the difference in revisions between negative-prior respondents and their counterparts should be positive. The middle panel shows that, despite ex-ante having more negative priors about the US than is presented in the information, negative-prior respondents revise their attitudes down more for the negative treatments than respondents who do not have negative priors (-0.331 versus -0.219 for their counterparts), and revise their attitudes up only weakly more for the positive treatments (0.321 versus 0.238 for their counterparts). However, the last column shows that the differences reported in column (3) are not statistically different from zero (we fail to reject the null that both differences are jointly zero; p-value = 0.50).

Results for respondents with neutral priors are reported in the last panel of Table 11. If revisions in attitudes were based entirely on information-processing, respondents with neutral priors should not revise their attitudes. Consistent with this, we find that neutral-prior respondents do not revise their attitudes in the negative treatments (while the mean revision is 0.074, we cannot reject the null that it equals zero; p-value = 0.73). However, neutral-prior respondents do significantly respond to the positive information even when it is ex-ante known (mean upward

revision of 0.289, significant at the 99% level).

5.3   Discussion

Based on the analysis in this section, the revisions in attitudes that we observe seem to be a consequence of (1) salience-based updating, and (2) mostly unbiased information-processing.

With regards to (1), we find that a significant proportion of respondents who reported to be ex-ante aware of the information still revised their attitudes. Moreover, the tendency to respond to already-known information is more pronounced amongst the Western-style University students– arguably the most sophisticated group in our sample. This result may initially strike as being surprising since salience-based updating is primarily a consequence of perceptual limitations, including availability bias, bounds on memory, rule of thumb decision-making heuristics, and selective attention (Tversky and Kahneman, 1973; Mullainathan, 2002; Dellavigna, 2009; Schwartzstein; 2010; Caplin and Martin, 2011), and individuals with higher cognitive ability are usually less susceptible to persuasion (Wood, 1982). However, as discussed in section 4.2.3, we find that Western-style University students are also significantly more likely to find the information credible and relevant. Thus, their greater propensity to exhibit salience-based updating is likely a consequence of their attitudes towards the US being more malleable.

Reassuringly, we do not find asymmetry in salience-based updating, i.e., respondents revise their attitudes in response to both positive and negative news, as shown in Table 10; we fail to reject the null that the proportions are similar across treatments (F-test in the last column of the table). In addition, the last panel of Table 11 shows that respondents with neutral priors –those reporting they are already aware of the information– respond to positive information but not negative information. So it is not the case that respondents in our sample selectively respond to information conforming to their prior (which in the case of a high anti-American sentiment environment would be news that casts the US in a negative light); in fact we find the reverse phenomenon.

The results in the top two panels of Table 11 indicate that there is unbiased as well as biased information-processing. As would be the case in a rational updating model, respondents with positive priors –those who ex-ante have more positive beliefs about the US than the actual facts– revise their attitudes down. However, respondents with negative priors, who should react more positively to the information, in fact react (weakly) more negatively to the negative information (they, however, do react weakly more positively to positive information). That is, when confronted with negative information, these respondents process the information in a biased way.

As mentioned earlier, the anonymity of the survey (and respondents in the institutions filling out the surveys themselves) should minimize the concern that a pure experimenter demand effect (Zizzo, 2010) is driving the observed revisions. However, the patterns of revisions highlighted in this section further cast doubt on this. One, neutral-prior respondents revise in response to

positive information but not negative information. In a setting with low American favorability, an experimenter effect would have led to the reverse phenomenon, since responding to negative information (rather than to positive information) would more likely be constituted as appropriate behavior. Second, Section 5.2 shows there is a systematic relationship between information priors and revisions, that would be unlikely if respondents were simply responding to the information due to demand effects.

Finally, we ask the question of whether our experiment leads to a convergence of attitudes across respondents with different priors. As explained above, that may not be the case when information-processing is biased. Panel B of Table 7 reports the baseline and revised attitudes towards the US, conditional on the prior type. As one would expect, respondents with negative priors have the least favorable opinion of the US at the baseline (mean of 2.36), followed by neutral-prior respondents (2.41), and positive-prior respondents (2.74); respondents with mixed priors are in the middle with a mean attitude of 2.49. The differences in mean baseline opinions across the groups are not statistically significant (Wilcoxon ranksum test conducted for equality of means for the different prior types against positive prior respondents). The last row of the panel shows the final attitudes. Unbiased information-processing would predict downward (upward) revision of attitudes for positive (negative) prior respondents. Consistent with that, average final attitudes of respondents with positive priors decrease to 2.58, and of negative-prior respondents increase to 2.45 (the average baseline and final attitudes within each prior type group are not statistically different). The mean final attitudes across the groups are in a much smaller range after provision of information than before it. That is, on average, attitudes across respondents of different prior types do converge in response to information.

Before concluding, we discuss possible implications of us collecting information priors *after* revelation of information. As explained in Section 2.3, this was done since respondents could easily go back and forth in the questionnaire. The first concern might be that our elicitation method inclines respondents to report that they were already aware of the information, say, to avoid the ego utility consequences of "being wrong". That is, we may be overestimating the extent to which respondents were truly ex-ante aware of the information. However, we do not find much empirical support for this: Table 7 shows that only 13% of respondents report being ex-ante aware of the values all pieces of information (i.e., having neutral priors) in their assigned treatment. Moreover, as one would expect in a setting with high anti-American sentiment and slanted media coverage (Reetz, 2006; Fair, 2010), the proportion of respondents who report having more negative priors about actions of the US (than is warranted by the facts) is far greater than the proportion of respondents who report having positive priors. Second, the analysis in Section 4.2.2 reveals that information priors vary across institutions in a "sensible" way: information priors are relatively more negative in the more conservative institutions, which is consistent with differential exposure to slanted media across the groups. Finally, perhaps the strongest evidence

that our method of eliciting priors introduces minimal bias is that reported baseline attitudes and information priors are internally consistent: as discussed in the previous paragraph, average baseline US favorability is in fact highest for positive-prior respondents, followed by neutral-prior respondents, and finally negative-prior respondents.

6   Conclusion

Using an innovative information experiment embedded in a survey, this paper presents direct evidence on the effects of new information on Pakistani youths' attitudes towards the US. We find that respondents are responsive to the information and revise their attitudes sensibly– attitudes about the US are revised upward (downward) when provided with positive (negative) information about the US. Data collected on respondents' priors about the provided information allow us to show that there is both salience-based updating as well as information-based updating. We find that the distribution of information priors is skewed, with respondents being much more likely to have negative priors about actions of the US than having positive priors. However, the new information is mostly processed in an unbiased way, and leads to a convergence in attitudes across the different prior types. This provides evidence that (i) public opinions are not purely a cultural phenomenon, and are in part shaped by understanding of recent events, (ii) attitudes are malleable in the face of new information, and (iii) the tendency of individuals to discount new information that is inconsistent with their priors can be overcome.

A limitation of our study is that our results are derived from a controlled environment. Attitude revision when presented with new information in a survey/experiment may be very different from instances where individuals acquire the information themselves (Hertwig et al., 2004), and where new information may not be as salient as it is in our setup. In addition, the long-term effects of new information on respondents' attitudes are unclear. An alternative to the novel methodology presented here is to generate an experimental panel by re-surveying respondents over regular intervals separated by, say, a few weeks. Changes in the geopolitical landscape in the Pakistan-US relationship would allow us to observe how attitudes change. Challenges with such an approach include understanding how individuals self-select their exposure to information, and measuring precisely the type of information individuals were exposed to and their priors about the information. Another alternative is to provide information to respondents—similar to how it was done in this study—and then re-survey them after a few weeks. Both these alternatives require longitudinal data, which to our knowledge have not yet become available. Until then, our study provides unique evidence to policy-makers, the research community and the general public on how attitudes toward the US in Pakistan can be shaped with the provision of objective facts about the Pakistan-US relationship.

Given that our sampling strategy focuses on primarily educated individuals, it is unclear how

our results would extend to less-educated populations. However, since these individuals are more likely to rise to positions of policy decision-making and to dictate future policy, understanding the determinants of their attitudes is of particular relevance. Our study is silent about the best way to disseminate objective facts about the US to the Pakistani public and the Muslim world more generally. The information that we provide in our study is after all publicly available, so an important question then is how to make these respondents pay attention to such information, especially when they do find it useful (as indicated by their responsiveness to such information in our study).

Yet, overall, our results demonstrate that dissemination of accurate information about various aspects of the Pakistan-US relationship by directly reaching out to the Pakistani public should be encouraged, as it can make Pakistani youths' attitudes towards the US more informed.[23] There has been, in particular, a recent emphasis on improving communication efforts to discredit extremist propaganda in the media and to alter misperceptions regarding US policy (McHale, 2010).[24] Our results suggest that this is a feasible and promising strategy. In addition, the encouraging effects of our information experiment, in a setting where US favorability is low compared to many other Muslim countries and where the media has a particularly strong anti-West slant, make a case for similar information campaigns in the Muslim World. At the same time, our finding that respondents studying in more conservative institutions, those with less education, and those belonging to lower socioeconomic backgrounds – groups which also have less favorable baseline attitudes towards the US – are less likely to respond to any information presents a challenge for effective design of such communication and information campaigns, and suggests that such campaigns would need a more sophisticated and multi-pronged design if they were to affect more of the population.

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[23] That would also lead to improved attitudes towards the US if the underlying distribution of information priors is negatively skewed, which is very plausible in such settings, and if information processing is largely unbiased.

[24] While historically most US aid to Pakistan has been military, there has been a recent paradigm shift to more humanitarian aid intended to help ordinary Pakistanis and to improve America's image: The Enhanced Partnership with Pakistan Act of 2009 authorizes $7.5 billion in assistance to Pakistan over the next 5 years for these purposes. It specifically states: "The United States should have a coordinated, strategic communications strategy to engage the people of Pakistan...". The full text of the legislation is available at: http://www.gpo.gov/fdsys/pkg/BILLS-111s1707enr/pdf/BILLS-111s1707enr.pdf (accessed on April 17, 2012).

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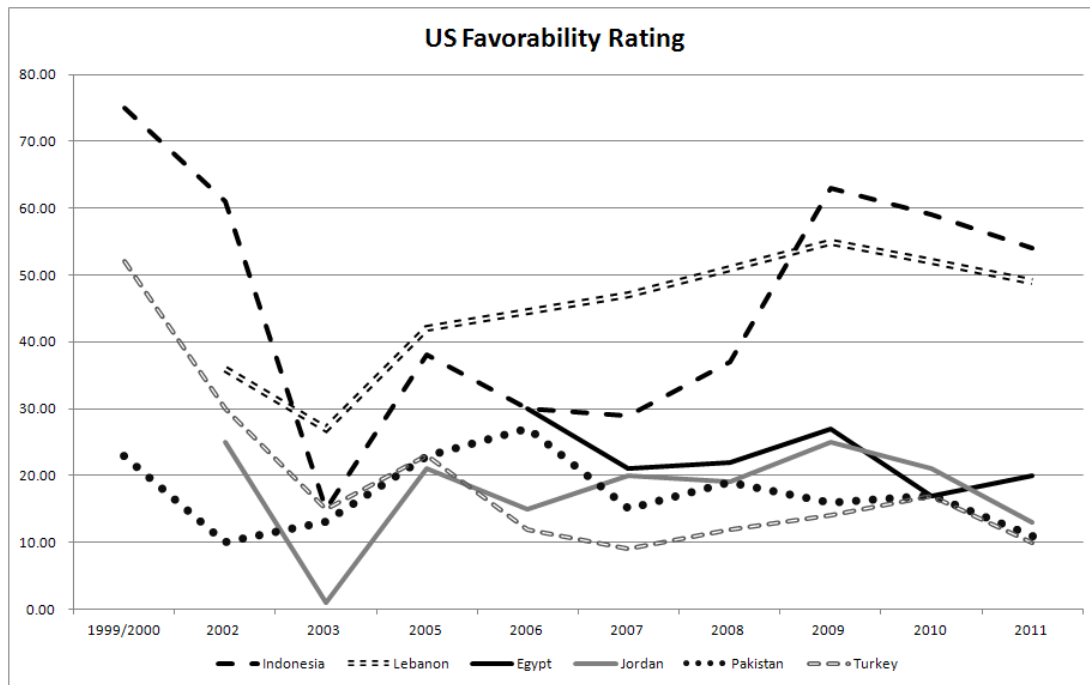
Figure 1: Evolution of US Favorability across selective Muslim Countries (Pew Global Attitudes Project, 2011).
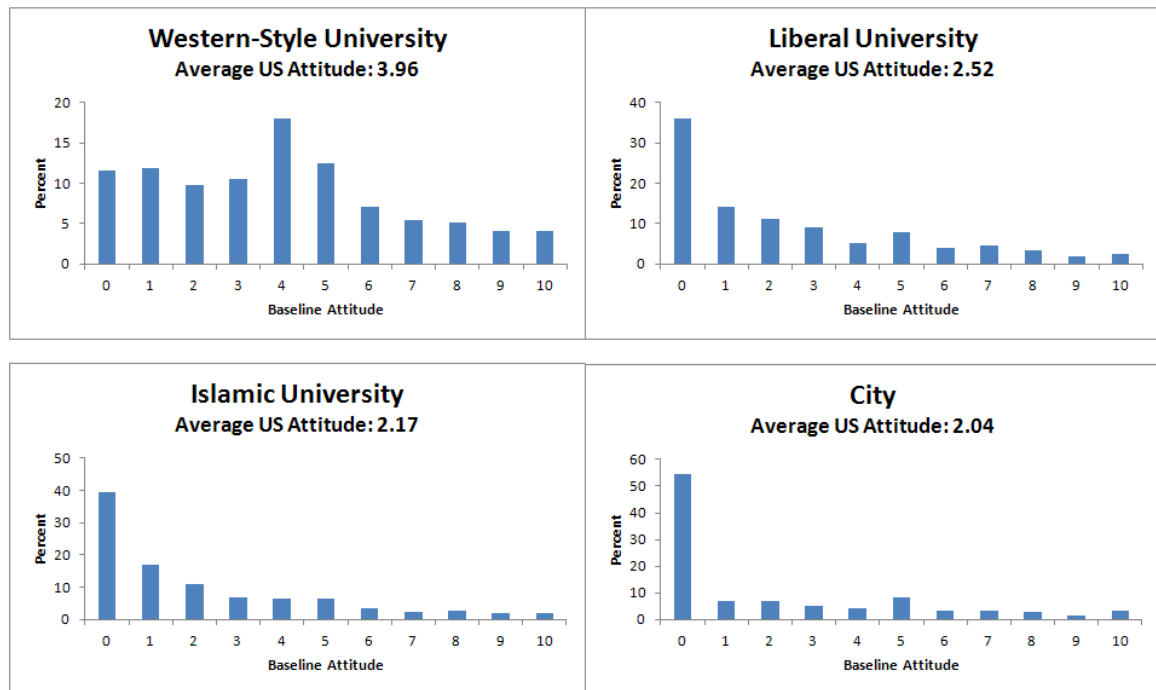
Figure 2: Distribution of Baseline Attitudes towards the US, by Group
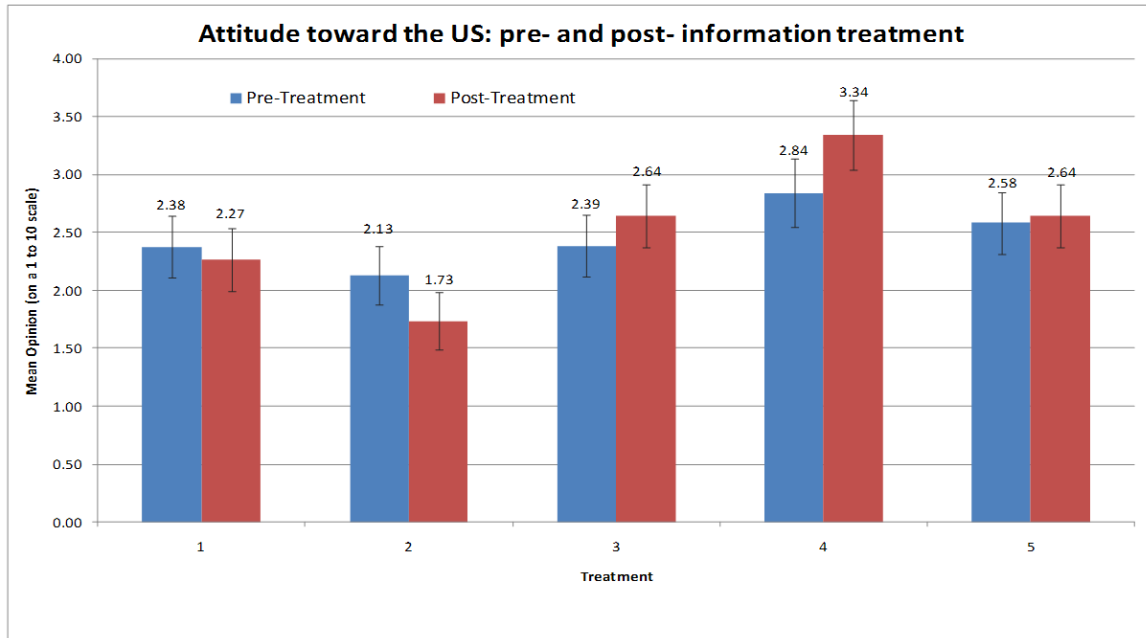
Figure 3: Mean attitudes, pre- and post- information treatment, are reported for the 5 information treatments with 95% confidence intervals. Sign-rank test for treatment effect are: 0.1848 for T1; 0.0000 for T2; 0.0016 for T3; 0.0000 for T4; 0.6732 for T5. That is, the change of attitudes following treatments 2, 3, and 4 is different from zero at 1%.

Table 1: Demographic Characteristics

	Western-Style University	Liberal University	Islamic University	City
	(1)	(2)	(3)	(4)
Number of Observations	361	600	730	735
Age	21	22***	22***	32***
	(3.8)	(2.3)	(2.4)	(13)
% Female	32	15***	39**	46***
Own years of education[a]	-	-	-	12.43
				(3.75)
Father's years of education	14	11***	12***	9.2***
	(1.9)	(6.1)	(3.9)	(5.3)
Mother's years of education	13	11***	7.9***	5.6***
	(2.9)	(4.8)	(4.9)	(5.4)
Parents' monthly income (in 1000s Rs)	184	101***	51***	27***
	(223)	(157)	(87)	(26)
Number of siblings (including self)	2.6	3.9***	4.4***	4.7***
	(1.4)	(2.1)	(2.2)	(2.8)
% Parents own:				
home	92	86***	80***	100***
television	89	84**	84**	71***
cell phone	90	80***	83***	91
computer	83	70***	65***	61***
internet access	75	50***	44***	41***
motorbike	47	62***	47	41
car	83	69***	47***	31***
Religiosity (0-10)[b]	5.4	5.9***	6.3***	6.2***
	(1.6)	(1.8)	(1.7)	(2.2)
Number of times pray each day (0-5)	1.7	2.4***	3.1***	3.2***
	(1.6)	(1.6)	(1.6)	(1.7)
Proportion that fast during Ramadan	.92	.92	.96***	.91
% watch/read English-language news	87	84	83	37***
% watch/read conservative news	33	47***	51***	28
% watch BBC or CNN	63	60	60	18***
% know victim of violent attack[c]	16	20*	33***	14

Mean value reported for each of the continuous variables. Standard deviations in parentheses. The table shows pairwise t-tests for each group's characteristics versus those of the Western-style University. Significant at * p<0.10, ** p<0.05, *** p <0.01.
[a] Respondent's years of schooling. This is blank for the institution students since all of them are students in a Bachelor's program in their institution.
[b] Self-reported religiosity on a scale of zero (not religious at all) to 10 (very religious).
[c] Percent of respondents who have an acquaintance died or injured in the violence in recent years.

Table 2: The Information Treatments

Treatment 1	1. During 2009, the financial assistance that the US provided to Israel was three times as much as the assistance the US provided to Pakistan (Source: US Aid). 2. The military aid that Pakistan has received from the US since 2001 comes to half of Pakistan's costs in the "war on terror". (Source: New York Times, March 23, 2010).
Treatment 2	1. The number of US drone attacks in 2009 was about 1.5 times the number of drone attacks in 2008 (Source: New America Foundation). 2. During 2006-2008, about 40% of the casualties from US drone attacks in Pakistan were civilians (Source: New America Foundation). 3. The US drones are loaded at the Shamsi Airbase (200 miles southwest of Quetta) with the consent of the Pakistani government, and Pakistani Intelligence officials provide targeting information to the United States (Source: Los Angeles Times, February 12, 2009; London Times, February 18, 2009).
Treatment 3	1. In 2007, the amount of funds the United States disbursed to Pakistan were 21 times larger than the funds China disbursed to Pakistan, and as many as 27 times the amount of funds Saudi Arabia disbursed to Pakistan (Pakistan Development Assistance Database). 2. During 2009, the financial assistance that the US provided to Pakistan was 7.5 times larger than the assistance the US provided to India (Source: US Aid). 3. For the next five years, the US has tripled its financial aid to Pakistan (Source: Newsweek, October 21, 2009).
Treatment 4	1. The United States Agency for International Development (US AID) health programs trained healthcare workers and providers who, in turn, prevented over 900,000 children from contracting pneumonia in Pakistan in 2009 (Source: US AID). 2. The United States Agency for International Development (US AID) health programs treated 1.6 million children for diarrhea in Pakistan in 2009 (Source: US AID). 3. The US provides Rs. 2000 per family twice a month to almost 600,000 low income families across Pakistan (i.e., Rs 1200 million) in order to offset the impact of poverty (Daily Times, March 5, 2010).
Treatment 5	1. In 2007, the amount of funds Saudi Arabia disbursed to Pakistan were 4% as much as what the US disbursed to Pakistan (Pakistan Development Assistance Database). 2. In 2008, Chinese officials issued restrictions on Muslim religious practices, such as not allowing Muslim government employees to fast during Ramadan or to attend mosques in general. Restrictions also included the shaving of beards for men and the removal of veils for women. (Source: Human Rights Watch).

Table 3: Mean Attitudes at the Baseline, by Institution

	US	Saudi Arabia	India	China	UK	Americans	Chinese People	Pakistani Government	Pakistani Military	Pakistani Pol Parties
Full Sample	2.58	7.88	2.03	6.90	4.54	3.84	6.57	3.22	7.69	2.86
	(3.00)	(2.50)	(2.49)	(2.32)	(2.64)	(2.70)	(2.30)	(2.96)	(2.80)	(2.75)
Western-style University	3.91	6.41	2.62	7.06	5.41	4.51	6.49	3.99	6.47	3.55
	(2.94)	(2.66)	(2.72)	(2.35)	(2.64)	(2.68)	(2.40)	(2.90)	(3.36)	(2.98)
Liberal University	2.69	8.26	1.93	6.94	4.60	3.77	6.67	3.04	7.95	2.64
	(2.99)	(2.22)	(2.30)	(2.17)	(2.56)	(2.53)	(2.11)	(2.91)	(2.54)	(2.64)
Islamic University	2.27	7.91	2.14	6.64	4.28	3.82	6.39	3.65	7.92	3.17
	(2.82)	(2.45)	(2.45)	(2.12)	(2.39)	(2.37)	(2.06)	(2.83)	(2.62)	(2.64)
City	2.16	8.26	1.72	7.06	4.31	3.60	6.73	2.56	7.86	2.39
	(3.03)	(2.43)	(2.50)	(2.59)	(2.84)	(3.08)	(2.61)	(2.99)	(2.72)	(2.73)
p-value of F-test[a]	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
Number of Observations	2418	2418	2416	2417	2413	2413	2414	2416	2419	2405

[a] P-value of an F-test for equality of means across institutions.
Standard Deviations in parentheses.

Table 4: Variation in Baseline Attitudes by Demographic Characteristics

Characteristics		Opinions about:			
		United States		Americans	
English Proficient[a]	Yes	2.91	(3.10)	4.13	(2.66)
	No	2.27***	(2.87)	3.56***	(2.71)
English News Consumer[b]	Yes	2.79	(3.00)	3.93	(2.56)
	No	2.12***	(2.97)	3.63***	(2.96)
Conservative News Consumer[c]	Yes	2.40	(2.96)	3.63	(2.57)
	No	2.71***	(3.03)	3.98***	(2.77)
Age	Highest Quartile	2.12	(2.93)	3.71	(2.96)
	Lowest Quartile	3.70***	(2.15)	4.56	(2.74)
Parent's Income	Highest Quartile	2.67	(3.10)	3.84	(2.91)
	Lowest Quartile	2.23*	(2.83)	3.86	(2.45)
Female	Yes	2.63	(3.04)	3.56	(2.60)
	No	2.56	(2.99)	3.99***	(2.74)
Father's Education	At Least High School	2.75	(3.04)	3.91	(2.60)
	Less than High School	2.26***	(2.91)	3.72**	(2.87)
Mother's Education	At Least High School	3.05	(3.06)	4.00	(2.61)
	Less than High School	2.21***	(2.91)	3.72***	(2.76)
Religiosity[d]	Highest Quartile	2.19	(2.97)	3.71	(2.75)
	Lowest Quartile	2.76***	(3.06)	3.91	(2.76)
Number of Times Pray per Day	Highest Quartile	2.17	(2.96)	3.76	(2.84)
	Lowest Quartile	2.95***	(3.08)	4.02**	(2.68)
Know Victim of Violence[e]	Yes	2.56	(2.91)	3.94	(2.53)
	No	2.60	(3.03)	3.82	(2.74)

Mean attitudes reported. Standard Deviations in parentheses.
Wilcoxon rank-sum test conducted for equality of means for the two groups for each demographic variable.
p <0.10, ** p<0.05,*** p<0.01.
[a] English Proficiency is a binary variable if respondent reports to be proficient in English.
[b] English news consumer is "Yes" if respondent reads at least 1 English newspaper or listens to at least one English news channel.
[c] Conserv. new consumer is "Yes" if respondent reads or listens to at least one news source that can be categorized as right-wing.
[d] Religiosity is on a scale from 0 to 10 (10 being very religious).
[e] Equals 1 if respondent has an acquaintance who died or was injured in recent violent attacks.

Table 5: Mean Revision in Attitudes by Information Treatment

	US	Saudi Arabia	India	China	UK	Americans	Chinese	Pak Gov.	Pak Military	Pak Pol. Parties
Treatment 1 N = 479	-0.11 (0.08) [3.84]	-0.215*** (0.08) [9.11]	-0.055 (0.07) [2.45]	-0.1 (0.08) [4.48]	-0.097 (0.08) [3.80]	0.09 (0.09) [3.46]	-0.194** (0.09) [8.65]	0.073 (0.09) [2.54]	-0.249*** (0.08) [9.46]	0.111 (0.09) [4.23]
Treatment 2 N = 475	-0.397*** (0.08) [13.87]	-0.322*** (0.08) [13.65]	0.215*** (0.07) [9.57]	-0.127 (0.09) [5.7]	-0.153* (0.08) [5.99]	-0.029 (0.09) [1.11]	-0.124 (0.09) [5.53]	-0.014 (0.09) [0.49]	-0.480*** (0.08) [18.24]	0.087 (0.09) [3.32]
Treatment 3 N = 494	0.255*** (0.08) [8.91]	-0.196*** (0.08) [8.31]	0.055 (0.07) [2.45]	-0.026 (0.08) [1.17]	-0.093 (0.08) [3.64]	0.178** (0.09) [6.84]	-0.12 (0.08) [5.35]	0.265*** (0.09) [9.22]	-0.123 (0.08) [4.67]	0.113 (0.09) [4.31]
Treatment 4 N = 467	0.499*** (0.09) [17.43]	-0.216*** (0.08) [9.16]	-0.021 (0.07) [0.93]	-0.022 (0.08) [0.99]	-0.013 (0.08) [0.51]	0.217** (0.09) [8.33]	-0.045 (0.09) [2.01]	0.209** (0.09) [7.27]	-0.045 (0.08) [1.71]	0.210** (0.09) [8.01]
Treatment 5 N = 473	0.061 (0.08) [2.13]	-0.327*** (0.08) [13.86]	0.049 (0.07) [2.18]	-0.993*** (0.09) [44.53]	-0.048 (0.09) [1.88]	0.041 (0.09) [1.57]	-0.558*** (0.09) [24.89]	0.209** (0.09) [7.27]	-0.03 (0.08) [1.14]	0.106 (0.09) [4.04]
# of observations	2160	2226	2195	2207	2254	2241	2252	2191	2148	2184
Baseline opinion	2.461	7.96	1.868	6.909	4.468	3.824	6.570	3.19	7.82	2.797
Baseline std. dev.	2.863	2.359	2.248	2.23	2.553	2.604	2.242	2.874	2.63	2.623

Revision in attitudes is regressed onto dummies for each of the five treatments. Outliers (defined as adjusting by 6 or more points) removed. Mean revision reported in the first cell. Revision as a percentage of standard deviation in baseline attitudes reported in square brackets. Standard Deviations in Parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table 6: Revision of Attitudes towards the US and Americans, across Institutions

	Revision in Attitudes towards US					Revision in Attitudes towards Americans				
	T1	T2	T3	T4	T5	T1	T2	T3	T4	T5
Panel A - No Demographic Controls										
Liberal University	-0.069 (0.28)	-0.627** (0.29)	-0.045 (0.28)	0.251 (0.29)	0.259 (0.26)	-0.341 (0.31)	-0.256 (0.33)	-0.068 (0.28)	0.837*** (0.31)	0.089 (0.28)
Islamic University	0.209 (0.27)	-0.405 (0.28)	0.042 (0.27)	0.307 (0.29)	0.019 (0.26)	-0.248 (0.30)	-0.302 (0.31)	0.073 (0.27)	0.502* (0.30)	0.515* (0.28)
City Sample	0.455* (0.27)	-0.158 (0.28)	0.441 (0.27)	0.198 (0.29)	0.404 (0.25)	-0.352 (0.29)	-0.117 (0.32)	0.263 (0.27)	0.437 (0.31)	0.236 (0.27)
Constant	-0.305 (0.23)	-0.069 (0.23)	0.119 (0.23)	0.281 (0.24)	-0.145 (0.21)	0.359 (0.24)	0.164 (0.26)	0.094 (0.22)	-0.286 (0.25)	-0.200 (0.22)
F-test[a]	0.089	0.096	0.108	0.756	0.183	0.651	0.749	0.493	0.055	0.183
R-squared	0.015	0.015	0.014	0.003	0.011	0.004	0.003	0.005	0.017	0.011
# of Observations	438	423	444	413	442	443	449	471	434	444
Panel B - Demographic Controls[b]										
Liberal University	-0.437 (0.330)	-0.874** (0.340)	-0.291 (0.321)	0.512 (0.336)	-0.122 (0.300)	-0.274 (0.350)	-0.263 (0.385)	0.111 (0.323)	0.825** (0.360)	-0.01 (0.328)
Islamic University	-0.074 (0.354)	-0.337 (0.343)	-0.033 (0.330)	0.351 (0.367)	-0.264 (0.314)	-0.183 (0.380)	-0.315 (0.389)	0.104 (0.333)	0.598 (0.392)	0.448 (0.344)
City Sample	0.057 (0.371)	-0.194 (0.411)	0.42 (0.369)	0.356 (0.429)	0.055 (0.350)	-0.413 (0.405)	-0.119 (0.475)	0.221 (0.374)	0.435 (0.464)	0.243 (0.390)
Constant	-0.469 (0.637)	0.02 (0.666)	1.275** (0.633)	1.616** (0.699)	0.612 (0.562)	0.671 (0.691)	0.512 (0.771)	-0.452 (0.637)	-1.558** (0.752)	-0.164 (0.624)
F-test	0.349	0.040	0.185	0.507	0.643	0.735	0.820	0.948	0.132	0.408
R-squared	0.037	0.061	0.06	0.052	0.034	0.022	0.026	0.026	0.055	0.024
# of Observations	379	354	366	335	381	382	374	389	359	384

The revision in attitudes is regressed onto institution dummies and a constant term. The excluded category is Liberal University. Standard Deviations in Parentheses. * p<0.10, ** p<0.05, *** p<0.01

The constant term captures the mean revisions for the Western-style University Students, and the institution dummies capture how the mean revisions differ across these other institutions relative to the Western-style University.

[a] p-value of F-test for joint significance of groups (Liberal University, Islamic University, and City Sample).

[b] Demographic controls include English proficiency, English news, conservative news, religiosity, age, parent's income, gender, father's education, mother's education, # of prayers per day, know victim of violence.

Table 7: Distribution of Prior Beliefs about Information, by Institution

	Positive Prior[a]	Negative Prior[b]	Neutral Prior[c]	Other[d]
Panel A				
All	9.47	32.01	13.15	45.37
Western-style University	11.36	28.25	9.42	50.97
Liberal University	8.67	33.83	13.67	43.83
Islamic University	7.30	36.23	11.71	44.77
City Sample	11.35	28.18	16.01	44.46
F-test[e]	0.268	0.000	0.042	0.000
Panel B[f]				
Baseline Attitude towards the US	2.74 [2] (3.03)	2.36 [1] (2.80)	2.41 [1] (3.02)	2.49 [1] (2.82)
Re-elicited Attitude towards the US	2.58 [2] (2.99)	2.45 [1] (2.93)	2.65 [1] (3.04)	2.52 [1] (2.89)

Each cell in Panel A reports the percent of respondents (in the row group) with the column priors.

[a] Dummy that equals 1 if respondent holds more positive beliefs about the US (than is warranted by the facts) for ALL items of news in the relevant information treatment.

[b] Dummy that equals 1 if respondent holds more negative beliefs about the US (than is warranted by the facts) for ALL items of news in the relevant information treatment.

[c] Dummy that equals 1 if respondent reports that the information that is being provided to them in the information treatment was already known.

[d] Dummy that equals 1 if respondent's priors are mixed, i.e., they cannot be coded as positive, negative, or neutral.

[e] F-test for equality of proportions across institutions.

[f] Panel B reports the mean [median] (standard deviation) of attitudes towards the US.

Table 8: Distribution of Information Priors Across Groups

Dependent Variable: Information Prior[a]				
	(1)	(2)	(3)	(4)
Treatment 1|2[b]	-0.455***	-0.549***	-0.136	-0.334*
	(0.04)	(0.14)	(0.10)	(0.17)
Treatment 3|4|5[c]	-0.391***	-0.490***	-0.449***	-0.594***
	(0.03)	(0.14)	(0.07)	(0.16)
Treatment 1|2 × Liberal University			-0.401***	-0.276**
			(0.12)	(0.14)
Treatment 1|2 × Isl. University			-0.568***	-0.420***
			(0.12)	(0.13)
Treatment 1|2 × City			-0.146	-0.014
			(0.12)	(0.14)
Treatment 3|4|5 × Liberal University			0.043	0.091
			(0.09)	(0.10)
Treatment 3|4|5 × Isl. University			0.017	0.097
			(0.08)	(0.10)
Treatment 3|4|5 × City			0.135	0.245**
			(0.08)	(0.11)
Demographic Controls?[d]	No	Yes	No	Yes
R-squared	0.225	0.234	0.247	0.249
Number of Observations	1321	1116	1321	1116

Table reports OLS regression of Information Priors on treatment and group dummies.
Standard errors in parentheses. * p<0.10, ** p<0.05, *** p<0.01.
[a] Information Prior equals 1 if respondent has positive priors; -1 if negative priors; 0
if neutral priors (see Table 7 for these definitions). Higher value means more positive
priors about the actions of the US.
[b] Dummy that equals 1 if respondent received treatment 1 or 2.
[c] Dummy that equals 1 if respondent received treatment 3, 4, or 5.
[b]Demographic controls include English proficiency, English news, conservative news,
religiosity, age, parent's income, gender, father's education, mother's education, #
of prayers per day, and dummy for knowing a victim of violence.

Table 9: Proportion of Respondents who do not Revise Attitudes

	All Treatments		T1		T2		T3		T4		T5		F-test[c]
	%U[a]	%U~Nt[b]	%U	%U~Nt	%U	%U~Nt	%U	%U~Nt	%U	%U~Nt	%U	%U~Nt	
	(1a)	(1b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	

Panel A: Attitudes towards the US

All	55.74	47.59	56.62	50.9	56.74	51.8	56.76	48.4	49.88	46.0	58.37	41.0	0.112
Western-style Uni	23.39	21.35	22.03	20.3	18.97	19.0	27.12	25.4	19.30	17.5	29.03	24.2	0.599
Liberal University	55.35	48.15	60.75	57.9	52.94	51.0	55.56	48.2	46.85	44.1	60.53	40.4	0.201
Islamic University	61.57	54.00	57.60	52.0	61.48	58.5	67.13	55.9	55.56	53.2	65.55	49.6	0.247
City Sample	64.59	52.44	66.67	57.1	71.88	60.2	59.70	50.7	61.34	53.8	63.27	41.5	0.258
F-test[d]	0.000	0.000	0.000	0.060	0.000	0.000	0.000	0.164	0.000	0.103	0.000	0.023	

Panel B: Attitudes towards Americans

All	47.39	40.34	49.21	44.2	41.87	37.9	49.47	42.7	44.93	41.9	51.35	34.9	0.030
Western-style Uni	19.81	18.88	15.63	15.6	17.91	16.4	28.13	28.1	12.7	12.7	24.62	21.5	0.160
Liberal University	48.51	41.68	52.73	50.9	37.61	34.9	49.57	42.7	50.00	45.8	52.14	34.2	0.151
Islamic University	47.13	41.53	50.79	46.8	40.69	39.3	50.67	42.7	45.52	43.3	48.39	35.5	0.399
City Sample	60.03	48.35	60.14	49.7	59.38	50.0	57.86	49.3	56.3	52.1	65.94	41.3	0.560
F-test	0.000	0.000	0.000	0.002	0.000	0.003	0.001	0.127	0.000	0.332	0.000	0.001	

[a] %U is the percent of respondents in the row group/institution who do not revise their attitudes.
[b] %U~Nt is the percent of respondents who do not revise their attitudes AND who do not have neutral priors.
A respondent has neutral priors if (s)he reports that the information that is being provided in the information treatment was already known.
[c] p-value of F-test for equality of proportions of %U across treatments.
[d] p-value of F-test for equality of proportions across institutions.

Table 10: Proportion of Respondents with Neutral Priors who do not Revise their Attitudes

	All Treatments	Treatment 1	Treatment 2	Treatment 3	Treatment 4	Treatment 5	F-test[a]
			Panel A: Attitudes towards the US				
All	62.26	72.50	65.63	72.88	54.84	56.41	0.10
Western University	26.47	40.00	0.00	33.33	50.00	22.73	0.77
Liberal University	52.44	60.00	28.57	60.00	44.44	54.35	0.69
Islamic University	69.41	81.82	57.14	81.82	37.50	67.57	0.15
City	74.36	78.95	93.75	78.95	75.00	64.71	0.20
F test[b]	0.00	0.29	0.00	0.19	0.37	0.00	
			Panel B: Attitudes towards Americans				
All	55.97	62.50	59.38	55.93	45.16	55.77	0.68
Western University	17.65	40.00	50.00	0.00	0.00	13.64	0.38
Liberal University	52.44	40.00	42.86	53.33	55.56	54.35	0.96
Islamic University	51.76	54.55	28.57	54.55	37.50	56.76	0.64
City	72.65	78.95	81.25	68.42	50.00	74.51	0.37
F test	0.00	0.21	0.08	0.17	0.54	0.00	

The table reports the percent of respondents with neutral priors who do not revise their attitudes.
A respondent has neutral priors if s(he) reports that the information that is being provided in the information treatments is already known.
[a] p-value of F-test for equality of proportions across treatments.
[b] p-value of F-test for equality of proportions across institutions.

Table 11: Mean Revision in Attitudes towards the US, controlling for Prior Belief about Information

	(1)	(2)	(3)	(4)	(5)

Panel A: Positive Prior

	Positive Prior[a]	Non-Positive Prior[b]	Diff.[c]	Theoretical Diff.[d]	P-value[e]
Treatment 1|2	-0.361** (2.16)	-0.241*** (1.72)	-0.120	Negative	0.579
Treatment 3|4|5	-0.046 (1.66)	0.301*** (1.73)	-0.347	Negative	0.029

Panel B: Negative Prior

	Negative Prior[f]	Non-Negative Prior	Diff.	Theoretical Diff.	P-value
Treatment 1|2	-0.331*** (1.39)	-0.219*** (1.89)	-0.112	Positive	0.402
Treatment 3|4|5	0.321*** (1.66)	0.238*** (1.76)	0.083	Positive	0.417

Panel C: Neutral Prior

	Neutral Prior[g]	Non-Neutral Prior	Diff.	Theoretical Diff.	P-value
Treatment 1|2	0.074 (1.61)	-0.279*** (1.77)	0.205	-	0.113
Treatment 3|4|5	0.289** (1.62)	0.261*** (1.75)	0.028	-	0.824

Mean revisions reported. Outliers (revisions by 6 or more points) removed.
Standard deviations in parentheses.
***, **, * denote mean revisions are different from zero at 1%, 5%, and 10%, respectively.
[a] Defined as the respondent holding more positive beliefs about the US (than is warranted by the facts) for ALL items of news in the relevant information treatment.
[b] All respondents who do not have Positive Priors are in this category.
[c] Difference in mean revisions for Prior Group - Non-Prior Group. That is, (1) - (2).
[d] Predicted direction of difference based on unbiased information-processing.
[e] P-value of a pairwise Wilcoxon test for the equality of the mean revisions for the prior group and the non-prior group (reported in columns (1) and (2)).
[f] Defined as the respondent holding more negative beliefs about the US (than is warranted by the facts) for ALL items of news in the relevant information treatment.
[g] Defined as the respondent reporting that the information provided to them in the treatment was already known.

Table A1: Correlates of Public Opinions

	US	Saudi Arabia	India	China	UK	Americans	Chinese	Pak Gov	Pak Military	Pak Pol Parties
English proficiency[a]	0.420***	-0.198*	-0.002	0.098	0.313***	0.437***	0.113	-0.18	0.07	-0.344***
	(0.13)	(0.11)	(0.11)	(0.11)	(0.12)	(0.12)	(0.11)	(0.13)	(0.13)	(0.12)
English news[b]	0.446***	-0.336**	0.145	-0.202	0.305**	0.248*	-0.118	0.391**	0.101	0.015
	(0.16)	(0.13)	(0.14)	(0.13)	(0.14)	(0.15)	(0.13)	(0.16)	(0.15)	(0.15)
Conservative news[c]	-0.290**	0.399***	-0.16	-0.087	-0.106	-0.387***	-0.045	0.186	-0.098	0.366***
	(0.14)	(0.11)	(0.12)	(0.11)	(0.12)	(0.13)	(0.11)	(0.14)	(0.13)	(0.13)
Religiosity[d]	-0.04	0.056*	-0.045	-0.014	-0.01	-0.031	-0.039	0.077**	0.066*	0.01
	(0.04)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)
Age	0.011	-0.01	-0.017**	0.007	0.001	0.007	0.011*	-0.040***	-0.011	-0.025***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Parents' Income[e]	0.018***	-0.001	0.002	-0.002	0.008*	0.003	-0.003	0.005	-0.017***	0.003
	(0.01)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)
Female	0.184	0.098	0.328***	-0.323***	0.301**	-0.408***	-0.453***	-0.125	-0.390***	-0.437***
	(0.14)	(0.12)	(0.12)	(0.11)	(0.13)	(0.13)	(0.11)	(0.14)	(0.14)	(0.13)
Father's education[f]	0.004	-0.052***	0.013	-0.008	0.009	0.013	-0.019	-0.013	-0.028**	-0.003
	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)
Mother's education	0.037**	-0.012	0.002	0.006	0.031**	0.01	0.009	-0.017	-0.035**	0.007
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
# of Prayers per day[g]	-0.198***	0.126***	-0.028	-0.02	-0.160***	-0.067	0.045	-0.001	-0.007	0.003
	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.05)	(0.05)	(0.04)
Know Violence Victim[h]	-0.131	-0.263**	0.152	-0.212*	-0.266*	0.147	-0.06	0.091	0.054	-0.04
	(0.16)	(0.13)	(0.14)	(0.13)	(0.14)	(0.15)	(0.13)	(0.16)	(0.15)	(0.15)
Constant	2.162***	8.346***	2.443***	7.212***	4.214***	3.655***	6.779***	3.737***	8.412***	3.513***
	(0.40)	(0.33)	(0.34)	(0.32)	(0.36)	(0.37)	(0.32)	(0.40)	(0.38)	(0.37)
R-squared	0.052	0.045	0.017	0.011	0.04	0.026	0.015	0.025	0.026	0.023
N	2032	2031	2030	2031	2027	2028	2028	2030	2032	2023

This table reports the OLS estimates of a regression of the respondents' baseline attitude onto the row variables.
[a] English Proficiency is a binary variable that equals 1 if respondent reports to be proficient in English.
[b] English News is 1 if respondent reads at least 1 English newspaper.
[c] Conservative New consumer is 1 if respondent reads or listens to at least one news source that is conservative/right-wing.
[d] Religiosity is on a scale from 0 to 10 (10 being very religious).
[e] Income is total monthly income of parents in Rs. divided by 10,000.
[f] Father's years of education (0-16).
[g] Number of times respondent prays every day (on a scale of 0-5).
[h] Dummy that equals 1 if respondent has an acquaintance who died or was injured in recent violent attacks in the country.
Standard Deviations in Parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table A2: Distribution of Prior Beliefs across Treatments and Institutions

	All	Western-Style University	Liberal University	Islamic University	City	F-test[e]
All Treatments						
Positive[a]	9.47	11.36	8.67	7.3**	11.35	0.268
Negative[b]	32.01	28.25	33.83*	36.23***	28.18	0.000
Neutral[c]	13.15	9.42	13.67*	11.71	16.01***	0.042
Other[d]	45.37	50.97	43.83**	44.77*	44.46**	0.000
Observations	*2418*	*361*	*600*	*726*	*731*	
Treatment 1						
Positive	5.57	15.49	5.08**	2.16***	4.46***	0.697
Negative	26.60	29.58	27.12	29.50	22.29	0.133
Neutral	8.25	7.04	4.24	7.91	12.10	0.353
Other	59.59	47.89	63.56**	60.43*	61.15*	0.006
Observations	*485*	*71*	*118*	*139*	*157*	
Treatment 2						
Positive	11.55	14.86	11.21	5.10**	17.39	0.420
Negative	31.55	12.16	38.79***	41.40***	24.64**	0.126
Neutral	6.60	2.70	6.03	4.46	11.59**	0.003
Other	50.31	70.27	43.97***	49.04***	46.38***	0.008
Observations	*485*	*74*	*116*	*157*	*138*	
Treatment 3						
Positive	4.39	4.11	5.00	3.82	4.64	0.544
Negative	11.38	6.85	10.00	13.38	12.58	0.022
Neutral	11.78	4.11	12.50*	14.01**	12.58**	0.198
Other	72.46	84.93	72.5**	68.79***	70.2***	0.000
Observations	*501*	*73*	*120*	*157*	*151*	
Treatment 4						
Positive	0.85	0.00	0.81	1.42	0.75	0.668
Negative	58.39	58.33	54.84	62.41	57.46	0.000
Neutral	6.58	2.78	7.26	5.67	8.96*	0.551
Other	34.18	38.89	37.10	30.50	32.84	0.098
Observations	*471*	*72*	*124*	*141*	*134*	
Treatment 5						
Positive	25.21	22.54	21.31	25.76	29.14	0.923
Negative	33.61	35.21	37.70	36.36	29.14	0.173
Neutral	32.77	30.99	37.70	28.03	33.77	0.135
Other	8.40	11.27	3.28**	9.85	9.93	0.032
Observations	*476*	*71*	*122*	*132*	*151*	

The table reports the percent of respondents with different prior beliefs.

[a]Dummy that equals 1 if respondent holds more positive beliefs about the US (than is warranted by the facts) for ALL items of news in the relevant information treatment.

[b]Dummy that equals 1 if respondent holds more negative beliefs about the US (than is warranted by the facts) for ALL items of news in the relevant information treatment.

[c]Dummy that equals 1 if respondent reports that the information that is being provided to them in the information treatment was already known.

[d] Dummy that equals 1 if respondent's props are mixed (i.e., not positive, negative, or neutral).

[e] p-value of F-test for equality of proportions across institutions.

Wilcoxon rank-sum tests conducted to test if proportion of respondents with positive prior at an institution differs from the proportion at the Western-style University. * p < 0.10, ** p < 0.05, *** p < 0.01