

## SUMMARY

This brief estimates the impact on pilgrims of performing the Hajj pilgrimage to Mecca. Pilgrim accounts stress that the Hajj leads to a feeling of unity with fellow Muslims, but outsiders have sometimes feared that this could be accompanied by antipathy toward non-Muslims. The authors' method compares successful and unsuccessful applicants in a lottery used by Pakistan to allocate Hajj visas. We find that participation in the Hajj increases observance of global Islamic practices such as prayer and fasting, while decreasing participation in localized practices and beliefs such as the use of amulets and dowry. It increases belief in equality and harmony among ethnic groups and Islamic sects, and leads to more favorable attitudes toward women, including greater acceptance of female education and employment. Increased unity within the Islamic world is not accompanied by antipathy toward non-Muslims. Instead, Hajjis show increased belief in peace, and in equality and harmony among adherents of different religions. The evidence suggests that these changes are more a result of exposure to and interaction with Hajjis from around the world, rather than a changed social role of pilgrims upon return.



# THE IMPACT OF THE HAJJ

*By David Clingingsmith, Asim Ijaz Khwaja and Michael Kremer*

When one thinks of large-scale events that bring together millions of people in one location, many examples come to mind. The most salient example, however, is that of religious pilgrimages, which bring together millions of adherents on a yearly basis. Yet even in this case there is surprisingly little empirical evidence on how participating in such an event can affect the attitudes and beliefs of each individual pilgrim.

The Hajj, the Muslim pilgrimage to Mecca, is one such event. As one of the five pillars of Islam, the Hajj is obligatory for individuals with sufficient financial means. Each year over two million Muslims from all over the world gather for several days in Saudi Arabia for intense prayer and rituals, dressing in similar garments that emphasize their equality. Muslims of different races and ethnicities interact as they pray alongside each other, an entirely new experience for many pilgrims. Many pilgrims describe the Hajj as the most significant event of their lives.

Why should we concern ourselves with the Hajj, and the pilgrims who attend it? To begin with, the Hajj is an inherently communal and international phenomenon, and a unique opportunity to study social interaction. The particular nature of the Hajj means that pilgrims mix across the lines of ethnicity, nationality, sect, and gender that divide them in everyday life. By studying this event, we can examine how greater Muslim interaction and unity could lead to changes in pilgrims' attitudes towards each other and even others. Understanding the impact on pilgrims of participation in the Hajj sheds light not only on Islam and its institutions, but also on the shaping of beliefs and identity more generally. Also, as many in the West increasingly associate orthodoxy in Islam with extremism, intolerance and terrorism, it is particularly important to study an event like the Hajj to examine how such an event that is likely to increase orthodoxy impacts the pilgrims more broadly.

This brief estimates the impact on pilgrims of performing the Hajj pilgrimage to Mecca. Isolating the



impact of an event that is chosen by an individual to participate in is challenging, since those who choose to go are likely to be very different from those who choose not to go. This is addressed by utilizing a method that compares successful and unsuccessful applicants in a lottery used by Pakistan to allocate Hajj visas (see Box 1 for details).

Specifically, we survey 1605 successful and unsuccessful Sunni Hajj applicants from Pakistan, five to eight months after the 2006 Hajj (For more information concerning survey logistics, please see Box 2).

## RESULTS

### *Religion*

As pilgrims can spend up to a month engaged in intense prayer and ritual in the Islamic holy places of Mecca and Medina, it is likely that we would see a change in their religious behavior. We find that even five to eight months after returning from the Hajj, pilgrims are more observant of orthodox practices. The increase in religiosity is captured through a global Islamic religious practice index measuring whether the applicant prayed five times per day, prayed in congregation,

### BOX 1: METHODOLOGY

The main challenge of estimating the effect of an event like the Hajj relates to selection bias, or how individuals who attend the Hajj could differ from the average population. Pilgrims who choose to perform the Hajj are likely to be motivated by a wide spectrum of factors that are hard to identify *ex ante*, and even obvious determinants (such as religious commitment or the desire for spiritual transformation) can be difficult to measure accurately and objectively. Therefore, simply comparing those who perform the Hajj to those who do not is likely to not only capture the effect of performing the Hajj but also to reflect initial differences even prior to the Hajj.

To solve this problem, our study utilizes a natural experiment, which is rare in the social sciences. When doctors want to test a new drug, they give it to a randomly selected treatment group and compare their outcomes to a statistically similar control group. While social scientists seldom have the opportunity to use this method, we are able to do so by taking advantage of the randomized lottery for allocating Hajj visas in Pakistan. We compare the attitudes of 800 successful lottery applicants, the “treatment” group, to an equal number of unsuccessful ones, to determine the true causal impact of the Hajj. This random assignment ensures that those who were successful in the lottery were, on average, identical to those who were unsuccessful. Therefore, comparing the two allows us to isolate the impact of performing the Hajj.

fasted, recited the Qu'ran and engaged in religious remembrance and dialogue. Hajj nearly doubled the number of individuals regularly fasting outside of Ramadan (the obligatory month of fasting) to around nine percent and increased praying *Tahajjud* (supererogatory) prayers by two-thirds. Hajjis are also 13 percent more likely to report that others view them as a religious person.

Interestingly, however, pilgrims are less likely to believe and participate in localized religious practices, such as using amulets or visiting the tombs of saints. This could be because the Hajj reaffirms global practices, and localized practices could decline because either there is competition for time and attention between the two types, or because the Hajj induces a shift in belief.

### ***Tolerance***

Interaction among pilgrims is an important feature of the Hajj, and one that the evidence suggests leads to greater tolerance and empathy for others. Because the Hajj brings together in close proximity Muslims from across the world for over a month, Hajjis observe social behavior from other pilgrims of different nationalities, thus gaining insights into how people interact and behave. Practices like wearing the *ihram* and the shared standardized ritual practices emphasize the pilgrims' common identity. As they have more positive interaction with others, they are likely to update their beliefs. For instance, Hajjis are more likely to state

that various Pakistani ethnic and Muslim sectarian groups are equal, and that it is possible for such groups to live in harmony. They are 22 percent more likely to declare that people of different religions are their equal and 11 percent more likely to state that different religions can live in harmony by compromising over their disagreements.

Especially salient for an international event such as the Hajj, pilgrims return with more positive views towards people from other countries, especially those with whom they are likely to interact. For example, in their views of other nationalities, Hajjis show the largest positive gain for Indonesians, the group they are most likely to observe during the Hajj, other than Saudis.

Closely connected to increased tolerance and acceptance of other nationalities were views towards peace. We find evidence that Hajjis are more peacefully inclined. For example, while not many in our sample are willing to publicly condemn the goals of Osama Bin Laden, Hajjis are almost twice as likely to do so. Hajjis are also more likely to express a preference for peace with India and are 17 percent more likely to declare that it is incorrect to physically punish someone who has dishonored the family. Hajjis also show no evidence of any increased hostility towards the West, and are no more likely to see a role for religion in state matters, particularly with regard to the state enforcing religious injunctions and religious leaders being able to dispense justice on their own.



## BOX 2: SURVEY LOGISTICS

Applicants to the Hajj were surveyed by our research team, using an extensive household-based survey five to eight months after the Hajj, in order to measure the medium-term impact of the pilgrimage. The survey and its implementation were carefully designed in order to obtain accurate information.

The survey's design included feedback from experts on religion, Islam, and Pakistan. It included questions on religious knowledge and practice, tolerance, views on gender, social interaction and roles, political involvement and beliefs, physical and mental health, and business and employment, as well as background information on the household and its members. After the survey was designed, it was translated into Urdu and subjected to three rounds of piloting before its final implementation.

We then randomly selected applicants to be surveyed by using their application address, and each individual was interviewed by a surveyor of his/her own gender. The survey area was restricted for logistical ease to nine administrative districts in Punjab province. The sample was also restricted to Sunni applicants, because there were too few Shi'a applicants to draw separate inferences. Hajj applicants, while older and more likely to be married, look similar to the general adult population, both in terms of human capital levels and household expenditures.

The survey was extensive, and often included several questions that attempt to capture the same underlying outcome. We aggregate this information and present our main results in the form of indices, which group related questions by theme. For example, for views on female education a single index is constructed that asks a series of questions including whether girls should receive education, the level to which they should receive schooling, etc. By using this method, we are able to be confident that the results we find are not due to a single question but are present in the average of several related questions. This also allowed us to reduce any measurement error that could exist in the data.

### *Gender*

In addition to mixing across nationalities, the Hajj entails more gender mixing than would be typical in a Pakistani setting. In Pakistan, in prayer and in social settings, men and women outside of the extended

family and neighbors do not commonly mix. On the Hajj, however, parties of men and women stay and move together for ease of planning and safety. Moreover, the sheer numbers also imply that men pray alongside women.

Paralleling the findings on tolerance, Hajjis report more positive views on women's attributes and abilities, and greater awareness of women's quality of life and about crimes against women in Pakistan. Hajjis are also more likely to support girls' education and female participation in the professional workforce. Hajjis show an eight percent increase in their declared preference for their daughters or granddaughters to adopt professional careers. While these effects are larger for female Hajjis, male Hajjis show similar changes in views.

However, not all views on gender change. In particular, Hajjis are no more likely to question Islamic doctrine, such as unequal inheritance laws across gender, or to express views that potentially challenge male authority within the household, such as the correctness of a woman divorcing her husband. This suggests that Pakistani Hajjis' altered views on women reflect a movement away from local prejudices against women and towards fairer treatment within Islam, rather than a more general trend towards feminism.

### **Health**

Given the nature of the Hajj experience, we also examine the effect of the Hajj on emotional and physical well being. We find that pilgrims, primarily women, are more likely to report negative feelings that suggest distress, and are less likely to report positive feelings of well-being. We measure distress by using a version of the K6 screening scale (a psychological test used to measure mental health), and we determine well being using

an index of questions that assess how often a respondent had a variety of positive feelings in the past 30 days.

This change in well being almost exclusively affects women – male Hajjis had a very low level of underlying distress, or none at all. Women are also more likely to report negative physical health. This may be due to the physically taxing nature of the Hajj rituals, in addition to changed beliefs and greater awareness of the Muslim world outside Pakistan –which is particularly salient for women. During the pilgrimage, people interact and observe thousands of other pilgrims. As Muslim countries vary greatly in the roles and behavior considered appropriate for women, and Pakistan lies on the conservative end of the spectrum, Pakistani pilgrims are given the opportunity to observe the more liberal gender roles of Muslims from other nations. This could lead to changes in women's beliefs and frame of reference (which the psychology literature suggests can lead to stress).

We also measured general satisfaction with life and finances. We constructed an index that includes questions on satisfaction with life overall, the extent to which there was room for improvement in life, and satisfaction with one's financial situation. Regardless of any effects found regarding emotional distress, that Hajj does not affect overall life satisfaction. In addition, we found no results indicating that the financial burden associated with the Hajj affects emotional health.



### BOX 3: SUMMARY OF MAIN RESULTS

- Shift from more localized Islamic views to global practices
- More tolerance towards others of different religion, ethnicity, and race
- More positive views on women's abilities, occupation, and quality of life, but views not in opposition to Islam
- Women experience lower levels of emotional and physical well being

#### WHY DO WE SEE THESE CHANGES?

Our results tend to support the idea that the Hajj helps to integrate the Muslim world, leading to a strengthening of global Islamic beliefs, a weakened attachment to localized religious customs, and a sense of unity and equality with others who are ordinarily separated in everyday life by sect, ethnicity, nationality, or gender, but who are brought together during the Hajj. While the Hajj may help forge a common Islamic identity, there is no evidence that this is defined in opposition to non-Muslims. On the contrary, the notions of equality and harmony tend to extend to adherents of other religions as well.

But why do we see these changes? One likely explanation is the exposure that occurs as pilgrims interact with Muslims from all over the world. The largest effects of the Hajj tend to be for those traveling in small groups, who are the most likely to have a broad range of social interactions with people from different backgrounds during the Hajj. Drawing on the experimental literature on social psychology suggests that the Hajj is able to induce positive views toward others by providing a cooperative setting for interaction. This is likely created by shared rituals and aspects of the Hajj that emphasize a common identity. People leave their everyday environments

and restrictions on mixing across certain lines (Islamic sect or gender, for example), and enter a setting in which they dress identically and collectively undergo an intense and likely bonding experience (in a legitimate religious context).

The nature of the Hajj as a religious event is also likely to be important since it may not only help provide a cooperative environment by setting a common goal, but also the necessary religious legitimacy that allows participants to adopt more liberal views without any apparent contradiction to an increased orthodoxy.

Our findings on the Hajj may further illuminate how social interactions and institutions shape belief and identity and influence the evolution of ideologies and belief systems. Our results suggest that the Hajj may help enable Islam to overcome an evolutionary hurdle faced by potential world religions: maintaining coherence and unity in the face of the tendency for practices and beliefs to diverge through local adaptations, potentially leading to splits. A number of religious institutions have mechanisms to overcome this hurdle. For example, in the Catholic faith, there is a central authority to enforce a certain degree of uniformity.

In Sunni Islam, there is no central authority, which may make the role of pilgrimage particularly important. Whereas the Hajj shapes belief and identity in an Islamic way, a wide variety of other social institutions in society, including non-religious ones, can also forge common aspirations and identity among participants.

We should note, though, that the Hajj study captures the effect of the Hajj on the average Pakistani pilgrim. While we do not find robust differences in the effects when looking across pilgrims of different age or literacy levels, we should be cautious when applying these results to Hajj pilgrims from different countries. Also, as the likely mechanism for the results we see is exposure, the effects of the Hajj could differ for pilgrims who have already been exposed to others. For example, the results could be muted for individuals who have traveled extensively, or who are more likely to interact with people of the opposite gender. Moreover, to the extent that some of the results, such as changes in gender views, also reflect a convergence to the view held by the average Muslim one observes during the Hajj, the Hajj may instead induce more conservative gender views for pilgrims from countries with more liberal gender attitudes than those of the average Hajji.

## **POLICY IMPLICATIONS**

The impact of an event like the Hajj demonstrates that even deep-rooted attitudes such as religious beliefs and views about other social groups can be changed. There is also a broader lesson about exposure to a diversity of peoples. Although lacking a common

language to communicate, mixing with others across national, sectarian, and gender lines can help promote tolerance—not only towards fellow participants but, even more significantly, toward those who are not part of the experience. From a policy perspective, the Hajj highlights the danger of separation and of raising protective walls. If there is a broader lesson to draw from the Hajj study, it is that bridges help and walls hurt.

Moreover, the results suggest that the promotion of tolerance does not, therefore, need to be defined in immediate opposition to religious orthodoxy. In fact, there may be ways, as demonstrated in the Hajj, to leverage religious beliefs to foster compromise and mutual respect.

Another insight to be taken from the Hajj study derives from its ability to take a topic that appears nebulous and hard to quantify and apply scientific tools to it, in order to find true empirical evidence. As the study demonstrates, one can readily apply standard social science tools to concepts like the social role of religion, uncover hard evidence, and potentially shed new light on the policy debate around such topics. This is especially salient today for the Arab and Muslim world. While there is a huge interest in Islam, with much attention devoted to the topics of terrorism and international security, the current literature rarely draws on tools from quantitative social science and often lacks hard evidence.

One of the obstacles policy and opinion makers face is the lack of systematic and



credible evidence that can help inform both a better understanding of the policy challenges faced, and suggest potential remedies to these challenges. Our hope is that this study

contributes to such an understanding and may inspire empirical research in these topics so that policy can respond to fact, rather than what often turns out to be fiction. ♥

.....  
**David Clingingsmith** is Assistant Professor of Economics at the Weatherhead School of Management, Case Western Reserve University.

**Asim Ijaz Khwaja** is Associate Professor of Public Policy at the Harvard Kennedy School, and Research Fellow at the Dubai School of Government.

**Michael Kremer** is the Gates Professor of Developing Societies, Department of Economics, Harvard University.

.....  
This policy brief is based on "Estimating the Impact of the Hajj: Religion and Tolerance in Islam's Global Gathering," by David Clingingsmith, Asim Ijaz Khwaja and Michael Kremer, originally published as Dubai School of Government Working Paper 08-04 and Harvard Kennedy School Working Paper RWPO8-022.

.....  
The views expressed in this policy brief are those of the authors and do not necessarily reflect those of the trustees, officers and other staff of the Dubai School of Government.

© 2008 Dubai School of Government

.....  
**About the Dubai School of Government**

The Dubai School of Government is a research and teaching institution focusing on public policy in the Arab world. Established in 2005 under the patronage of HH Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of the United Arab Emirates and Ruler of Dubai, in cooperation with the John F. Kennedy School of Government at Harvard University, the School aims to promote good governance through enhancing the region's capacity for effective public policy.

Toward this goal, the Dubai School of Government also collaborates with international institutions such as the Lee Kuan Yew School of Public Policy, the World Bank, the UNDP and the Brookings Institution in its research and training programs. In addition, the School organizes policy forums and international conferences to facilitate the exchange of ideas and promote critical debate on public policy in the Arab world.

The School is committed to the creation of knowledge, the dissemination of best practice and the training of policy makers in the Arab world. To achieve this mission, the School is developing strong capabilities to support research and teaching programs including

- applied research in public policy and management;
- master's degrees in public policy and public administration;
- executive education for senior officials and executives; and,
- knowledge forums for scholars and policy makers.

To receive a quarterly newsletter about events, publications and news at the Dubai School of Government, sign up online at [www.dsg.ae](http://www.dsg.ae).

DUBAI SCHOOL OF GOVERNMENT  
Convention Tower, Level 13  
P.O. Box 72229  
Dubai, United Arab Emirates  
Tel: 971-4-329-3290  
Fax: 971-4-329-3291