



The Economic Effects of Inter-sectarian Contact

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Final Report

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1. Introduction

The Shia-Sunni sectarian divide within Islam has recently become of great importance economically and politically, not just in the Middle East but globally. At a geo-political level, this has led to competition between states such as Saudi Arabia and Iran with proxy sects in Pakistan, Lebanon, Yemen, Syria and elsewhere. The existence of distrust between two important societal groups creates the potential for conflict in every country with substantial Shia and Sunni populations. In Pakistan, the country of our focus, this has led to terrorism that has killed thousands over the past few decades. Even without terrorism, a lack of trust between societal groups has been shown to lead to lower public good provision (Alesina et al. (1999)), conflict (Migdal (1988)) and lower productivity (Hjort (2014)). Our goal is to understand the existing nature of differences between the two sectarian groups and their interaction and whether contact in a religious sphere and support for harmony from authority figures can reduce prejudice and economic frictions.

The Shia-Sunni division began soon after the advent of Islam, with theological differences becoming larger over time. In modern times, substantial Shias and Sunnis hold incorrect beliefs about the religiosity of the other group, e.g. which and whether important religious rituals are followed by the other sect. Our study area (Pakistan) is particularly relevant because the country has the world's largest share of Muslims after Indonesia and the world's largest share of Shias after Iran. In addition, the Shia-Sunni intersectarian relationship has been difficult since the 1980s when both Saudi Arabia and Iran waged a proxy war against each other in Pakistan. While the violence has died down at times, the underlying beliefs and preferences that led to the violence continue to exist. As shown by Kalin and Siddiqui (2014), less than four in ten Sunnis express some level of agreement with statements about openness to sectarian intermarriage and support to the other side in the event that one's community initiates sectarian violence.

The theoretical framework we use to design our intervention is (Allport et al. (1954))\'contact hypothesis\' about how certain types of interaction between groups can reduce prejudice, with the effects dependent on having common goals, equal status in a particular situation, intergroup cooperation and the support of authorities, law or custom. One such misconception is that the other group does not pray (formal daily prayers are a fundamental religious ritual for both sects). It is important to note that Shias and Sunnis do not differ on any other important and relevant dimension such as ethnicity.

While both sects daily prayers have the same content (read in silence), the precise physical movements differ, from which one can easily infer the sect of the worshipper. It is this incorrect belief about prayer observance, the importance of prayer to both sects, and the observable nature of the difference in prayer movements that we aim to exploit to create contact between the two groups and potentially change beliefs and preferences.

Allport et al. (1954)\s paper led to a huge empirical literature by social psychologists, however, we still lack a deep understanding about what makes contact useful and under which conditions it lowers prejudice (Paluck et al. (2019)). This is evident from Paluck et al. (2019)\s review paper that analyzes 418 experiments on the contact hypothesis and finds that only 27 studies randomized contact, of which only six focused on adults over twenty ve years of age. Furthermore, only one study took place in a developing country and only one measured outcomes using experiments. Most of these studies look at racial or ethnic prejudice (eleven). Only one study measures outcomes using experiments, with two studies using implicit attitude tests, and another vignettes. All the remaining studies use self reported surveys, or different types of tracking. They all pertain directly to prejudiced beliefs and actions, not economic activity.

However, more recently, a few papers by economists and political scientists have further our understanding of the contact hypothesis substantially. Lowe (2021) explores inter-caste contact in India by randomizing cricket teams and shows that cooperative, not adversarial contact leads to a short-term reduction in prejudice against out-group members. Corno et al. (2022) exploit random allocation of

interracial roommates in a South African university and show that White students\' negative stereotypes towards Black students go down and Black students improve their GPA drop out at lower rates. In some earlier work, Scacco and Warren (2018) and Mousa (2019) show that inter-faith contact leads to lower prejudice.

This work has advanced our understanding of the contact hypothesis. However, we believe our work makes three important contributions to this body of research. First, our project randomizes contact among adults of all ages and socio-economic backgrounds in a developing country. Much other work focuses on smaller sub-samples of the populace and is often undertaken in developed countries. Second, we explore intra-religious differences, which have never been explored before as the focus on his research body has been race and faith. This is an important element not only due to its economic and political importance, but also because while intra-religious differences are in many ways similar to issues of race and caste, they nevertheless provide a commonality between the two groups. Third, we measure outcomes using surveys but also incentivized lab-in-the-eld experiments and real world economic activity. Fourth, most of this work does not conduct baseline data collection, which is needed to understand how the contact created by the researchers interacts on top of daily societal interaction.

2. Experimental Design

We explain below our sample, treatments and data collection exercise that took place between May 2022 and February 2023.

2.1 Sample

We conducted the experiment in Haripur district, Khyber Pakhtunkhawa, Pakistan. Haripur is one of the 34 districts in the third largest province of Pakistan. Khyber Pakhtunkhawa is in North West Pakistan and shares a border with Afghanistan. It has been affected substantially by the War on Terror since 2002, which included terrorist organizations targeting members of the Shia sect. This makes this area very relevant to our study. Haripur district has a population of about one million. We selected 32 mosques for our experiment from ten different towns and villages, of which 23 mosques belonged to the majoritarian Sunni sect and nine to the minority Shia sect. We surveyed 457 worshipers frequenting these mosques.

Daily prayers happen five times a day, but we will exclude prayers that happen very early in the morning and very late in the evening. Our volunteers will go during two prayers, one in early afternoon and one at sunset.

2.2 Treatment

We had three treatment arms and one pure control group. Our first treatment included exposing worshipers of a mosque to worshipers of the opposite sect within the mosque. We trained volunteer worshipers and ask them to go and pray in mosques of the opposite sect. Such interaction is quite natural and subtle, but rare. Unlike an information treatment, it is a more concrete proof of religiosity. The religiosity of the minority sect in the mosque is easily visible because both sects visibly pray differently—the act of praying involves physical movement—which allows clear distinction between the sects. The volunteer worshipers went to opposite sect mosques and prayed according to their own sect and hence differently from the majority sect in the mosque. The volunteer worshipers went to mosques for ten days twice a day. As daily prayers do not attract substantial numbers (ranging between ten and thirty worshipers), our volunteers were relatively visible in small crowds. The worshipers visited each others' mosques at the second-last prayer of the day, at sunset, when many people frequent mosques as the prayer takes place after work.

In our second treatment group, the leader of the mosque, the Imam, delivers a message of inter-sectarian harmony shortly before the commencement of prayers. This announcement included a simple verse from the holy book of Muslims, both Sunnis and Shias, the Quran: "Hold fast together to the cable of Allah and be not divided." This is a famous verse from the Quran that focuses on unity and firmness in belief in Allah among Muslims.

In our third treatment group, we combined our first and second treatments.

2.3 Data Collection

First, we measured the number of mosque goers who frequently come to mosque to offer the Maghrib prayer. Then, based on these numbers, we invited those mosque-goers to be part of our survey.

We collected data at baseline and endline with all 457 worshipers in each mosque. Through surveys, we measured the worshipers' demographics, religiosity, beliefs and preferences about their own and the opposite sect. We also had enumerators collect visible information about religiosity from clothes and accessories worn by the worshipers.

We will conduct two incentivized experiments to measure their preferences for the opposite sect and their economic interaction with them. To measure preferences, we offered them a voucher to buy books about their own or the opposite sect at different discounts. We show an English mockup of the voucher we used. We carefully selected four books for this activity in consultation with a religious scholar who is an authority on the subject. We selected two books each from each sect about topics such as daily ritual prayers, the life of the last prophet of Islam and basic religious beliefs. As can be seen in the mockup, we provided discounts of 80 percent for a respondent to purchase a book of the opposite school of thought and only 20 percent for the respondent's own sect. The top row in both conditions shows Sunni books with the discount percentage (retail prices are PKR 80 and PKR 180 respectively). The bottom row in both conditions shows Shia books with the discount percentage (retail prices are PKR 120 and PKR 135 respectively). The voucher is worth PKR 100.

Coupon: Sunni Respondent

Coupon: Shia Respondent

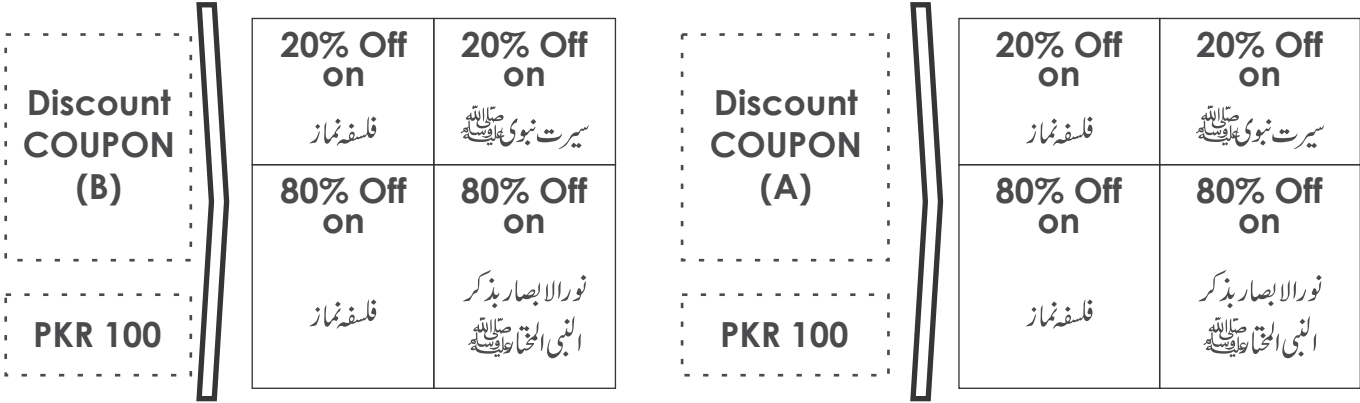


Figure 1: Book Vouchers

At endline, we collected the same data as the baseline with the addition of an experiment on economic interactions. We gave a sub-set of respondents a coupon of PKR 1,000 and gave them names of two plumbers that were visibly from one of the two sects. Once a choice was made, we arranged for the plumber to carry out repairs in the respondent's house within the limits of the amount mentioned on the coupon.

3. Results

3.1 Econometric Specification

We estimate the following regression specification to analyse the effect of our treatments on multiple outcomes related to beliefs and behavior of members of the opposite sect:

$$Y_i = \alpha + \beta_1 (Treatment)_{1i} + \beta_2 (Treatment)_{2i} + \beta_3 (Treatment)_{3i} + (Block\ Fixed\ Effects)_i + \epsilon_i, (1)$$

where Y_i is the outcome of interest for individual i . Here, $Treatment_i$ is a binary variable for each of our three treatments. We include block fixed effects based on age, education, income, religiosity and beliefs about Shias and Sunnis.

3.2 Results

Our outcome of interest is switcher: when a member of one sect chooses a plumber of the opposite sect. We find that neither treatment was sufficient in leading to a switch, however, when combined, we find a statistically significant effect of the treatments. In mosques where we offered both treatments, there is an increase of 0.169 in switching, compared to the control mosques. Hence, when both new information is conveyed and an authority figure supports inter group contact, then participants behavior is substantially effected. Out outcome variable in this case is a binary variable which is 1 when an individual switches to the opposite sect. We use a linear probability model.

Table 1: Shia Sunni Contact

	Sunni Plumber	Shia Plumber	Switcher
Announcement Only	0.101 (0.103)	-0.048 (0.053)	-0.054 (0.053)
Prayer Volunteers Only	0.007 (0.034)	0.016 (0.024)	0.008 (0.025)
Announcement and Volunteers Both	-0.382*** (0.121)	0.156** (0.076)	0.169** (0.076)
Control Mean	-	-	-
Number of Mosques	428	428	428
Block Fixed Eects	X	X	X

Notes: * $p < 0:1$, ** $p < 0:05$, *** $p < 0:01$. The dependent variables are whether a respondent choose a Sunni or a Shia plumber when given the opportunity to select a discounted plumbing service and whether someone switched their choice. The independent variables are assignment of mosques to prayer volunteer visit treatment, mosque leader announcement only treatment or both. Uses block fixed effects, and robust standard errors (top and bottom respectively).

4. Conclusion

Our experiment shows that if the state tried to implement policies that led to a reduction in incorrect perceptions of others and used authority figures to implement such programs, it should lead to substantial positive effects on communal harmony and economic outcomes.

The experiment also shows that piecemeal small interventions on their own may not be sufficient that the state should attempt for more bundled policies that provide a big push. The Government of Punjab has in the past shown interest in such a policy and it is feasible for the state to implement because it owns and manages a large number of mosques in the country with many Imams on its own payroll. Hence, the state can encourage the leaders of mosques to make statements in favor of religious harmony and support members of different sects visiting each others mosques.

The experiment shows these positive effects not on survey-based measures but for real world, routine decisions where out prejudices make the biggest differences. This makes our results quite substantive because when it comes to real-world decisions involving economic choices, our decisions are perhaps the most consequential.

References

- Alesina, A., Baqir, R., and Easterly, W. (1999). Public goods and ethnic divisions. *The Quarterly journal of economics*, 114(4):1243-1284.
- Alesina, A. and La Ferrara, E. (2005). Ethnic diversity and economic performance. *Journal of economic literature*, 43(3):762-800.
- Allport, G. W., Clark, K., and Pettigrew, T. (1954). The nature of prejudice.
- Anderson, S. (2011). Caste as an impediment to trade. *American Economic Journal: Applied Economics*, 3(1):239-263.
- Bandiera, O., Barankay, I., and Rasul, I. (2009). Social connections and incentives in the workplace: Evidence from personnel data. *Econometrica*, 77(4):1047-1094.
- Banerjee, A. V., Chassang, S., and Snowberg, E. (2017). Decision theoretic approaches to experiment design and external validity. In *Handbook of Economic Field Experiments*, volume 1, pages 141-174. Elsevier.
- Baumeister, R. F. and Leary, M. R. (2017). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Interpersonal development*, pages 57-89.
- Bazzi, S., Gaduh, A., Rothenberg, A. D., and Wong, M. (2019). Unity in diversity? how intergroup contact can foster nation building. *American Economic Review*, 109(11):3978-4025.
- Becker, G. S. and Murphy, K. M. (1988). A theory of rational addiction. *Journal of political Economy*, 96(4):675-700.
- Becker, S. O. and Pascali, L. (2019). Religion, division of labor, and conict: Anti-semitism in germany over 600 years. *American Economic Review*, 109(5):1764-1804.
- Berg, J., Dickhaut, J., and McCabe, K. (1995). Trust, reciprocity, and social history. *Games and economic behavior*, 10(1):122-142.
- Bernheim, B. D., Braghieri, L., Martinez-Marquina, A., and Zuckerman, D. (2021). A theory of chosen preferences. *American Economic Review*, 111(2):720{54.
- Bohren, J. A., Imas, A., and Rosenberg, M. (2019). The dynamics of discrimination: Theory and evidence. *American economic review*, 109(10):3395-3436.
- Boisjoly, J., Duncan, G. J., Kremer, M., Levy, D. M., and Eccles, J. (2006). Empathy or antipathy? the impact of diversity. *American Economic Review*, 96(5):1890-1905.
- Bruhn, M. and McKenzie, D. (2009). In pursuit of balance: Randomization in practice in development eld experiments. *American economic journal: applied economics*, 1(4):200-232.
- Bulte, E., Kontoleon, A., List, J., Turley, T., and Voors, M. (2017). From personalized exchange towards anonymous trade: A eld experiment on the workings of the invisible hand. *Journal of Economic Behavior & Organization*, 133:313-330.
- Carrell, S. E., Hoekstra, M., and West, J. E. (2019). The impact of college diversity on behavior toward minorities. *American Economic Journal: Economic Policy*, 11(4):159-82.
- Cattaneo, M. D., Crump, R. K., Farrell, M. H., and Feng, Y. (2019). On binscatter. *arXiv preprint arXiv:1902.09608*.
- Cornell, B. and Welch, I. (1996). Culture, information, and screening discrimination. *Journal of political Economy*, 104(3):542-571.

- Corno, L., La Ferrara, E., and Burns, J. (2022). Interaction, stereotypes, and performance: Evidence from south africa. *American Economic Review*, 112(12):3848-75.
- Dahl, G. B., Kotsadam, A., and Rooth, D.-O. (2021). Does integration change gender attitudes? the effect of randomly assigning women to traditionally male teams. *The Quarterly journal of economics*, 136(2):987-1030.
- Dahlberg, M., Edmark, K., and Lundqvist, H. (2012). Ethnic diversity and preferences for redistribution. *Journal of Political Economy*, 120(1):41-76.
- Dal Bo, E., Finan, F., Folke, O., Persson, T., and Rickne, J. (2018). Economic losers and political winners: Swedens radical right. Unpublished manuscript, Department of Political Science, UC Berkeley, 2(5):2.
- DellaVigna, S., List, J. A., Malmendier, U., and Rao, G. (2020). Estimating social preferences and gift exchange with a piece-rate design.
- Depetris-Chauvin, E., Durante, R., and Campante, F. (2020). Building nations through shared experiences: Evidence from african football. *American Economic Review*, 110(5):1572-1602.
- Desai, S. and Vanneman, R. (2011). National council of applied economic research, indian human development survey-ii (ihds-ii),. Technical report, Technical Report, Ann Arbor, MI: Inter-university Consortium for Political .
- Dinesen, P. T., Schaefer, M., and Sønderskov, K. M. (2020). Ethnic diversity and social trust: A narrative and meta-analytical review. *Annual Review of Political Science*, 23:441-465.
- Ditlmann, R. K. and Samii, C. (2016). Can intergroup contact affect ingroup dynamics? insights from a field study with jewish and arab-palestinian youth in israel. *Peace and Conflict: Journal of Peace Psychology*, 22(4):380.
- Dustmann, C., Vasiljeva, K., and Piil Damm, A. (2019). Refugee migration and electoral outcomes. *The Review of Economic Studies*, 86(5):2035-2091.
- Enos, R. D. (2014). Causal effect of intergroup contact on exclusionary attitudes. *Proceedings of the National Academy of Sciences*, 111(10):3699-3704.
- Ghurye, G. (1932). *Caste and race in india*. london: Kegan paul.
- Glover, D., Pallais, A., and Pariente, W. (2017). Discrimination as a self-fulfilling prophecy: Evidence from french grocery stores. *The Quarterly Journal of Economics*, 132(3):1219-1260.
- Goette, L., Human, D., Meier, S., and Sutter, M. (2012). Competition between organizational groups: Its impact on altruistic and antisocial motivations. *Management science*, 58(5):948-960.
- Halla, M., Wagner, A. F., and Zweimüller, J. (2017). Immigration and voting for the far right. *Journal of the European Economic Association*, 15(6):1341-1385.
- Hangartner, D., Dinas, E., Marbach, M., Matakos, K., and Xepapadeas, D. (2019). Does exposure to the refugee crisis make natives more hostile? *American political science review*, 113(2):442-455.
- Hjort, J. (2014). Ethnic divisions and production in rums. *The Quarterly Journal of Economics*, 129(4):1899-1946.
- Hnatkovska, V., Lahiri, A., and Paul, S. (2012). Castes and labor mobility. *American Economic Journal: Applied Economics*, 4(2):274-307.

- Jackson, M. O. (2011). An overview of social networks and economic applications. *Handbook of social economics*, 1:511-585.
- Jha, S. (2013). Trade, institutions, and ethnic tolerance: Evidence from south asia. *American political Science review*, 107(4):806-832.
- Kalin, M. and Siddiqui, N. (2014). Religious Authority and the Promotion of Sectarian Tolerance in Pakistan, volume 21. JSTOR.
- Kalin, M. and Siddiqui, N. (2020). National identity, religious tolerance, and group conflict: Insights from a survey experiment in Pakistan. *Conflict Management and Peace Science*, 37(1):58-82.
- Kalla, J. L. and Broockman, D. E. (2023). Which narrative strategies durably reduce prejudice? evidence from field and survey experiments supporting the efficacy of perspective-taking. *American Journal of Political Science*, 67(1):185-204.
- Karaca-Mandic, P., Maestas, N., and Powell, D. (2013). Peer groups and employment outcomes: Evidence based on conditional random assignment in the US army. Working Paper.
- Kling, J. R., Liebman, J. B., and Katz, L. F. (2007). Experimental analysis of neighborhood effects. *Econometrica*, 75(1):83-119.
- Lang, K. and Spitzer, A. K.-L. (2020). Race discrimination: An economic perspective. *Journal of Economic Perspectives*, 34(2):68-89.
- Laouenan, M. and Rathelot, R. (2022). Can information reduce ethnic discrimination? evidence from Airbnb. *American Economic Journal: Applied Economics*, 14(1):107-32.
- Lowe, M. (2021). Types of contact: A field experiment on collaborative and adversarial caste integration. *American Economic Review*, 111(6):1807-44.
- Lyall, J., Zhou, Y.-Y., and Imai, K. (2020). Can economic assistance shape combatant support in wartime? experimental evidence from Afghanistan. *American Political Science Review*, 114(1):126-143.
- Marx, B., Pons, V., and Suri, T. (2021). Diversity and team performance in a Kenyan organization. *Journal of Public Economics*, 197:104332.
- Migdal, J. S. (1988). *Strong societies and weak states: state-society relations and state capabilities in the Third World*. Princeton University Press.
- Mousa, S. (2019). Building tolerance: Intergroup contact and soccer in post-ISIS Iraq. *Program on Governance and Local Development Working Paper*, (26).
- Mousa, S. (2020). Building social cohesion between Christians and Muslims through soccer in post-ISIS Iraq. *Science*, 369(6505):866-870.
- Munshi, K. (2019). Caste and the Indian economy. *Journal of Economic Literature*, 57(4):781-834.
- Munshi, K. and Rosenzweig, M. (2015). *Insiders and outsiders: local ethnic politics and public goods provision*. Technical report, National Bureau of Economic Research.
- University of Oklahoma. Institute of Group Relations, U. and Sherif, M. (1961). *Intergroup conflict and cooperation: The Robbers Cave experiment*, volume 10. University Book Exchange Norman, OK.
- Paluck, E. L. (2006). Diversity training and intergroup contact: A call to action research. *Journal of Social Issues*, 62(3):577-595.

Paluck, E. L. and Green, D. P. (2009). Prejudice reduction: What works? a review and assessment of research and practice. *Annual review of psychology*, 60:339-367.

Paluck, E. L., Green, S. A., and Green, D. P. (2019). The contact hypothesis re-evaluated. *Behavioural Public Policy*, 3(2):129-158.

Paluck, E. L., Porat, R., Clark, C. S., and Green, D. P. (2021). Prejudice reduction: Progress and challenges. *Annual review of psychology*, 72:533-560.

Pettigrew, T. F. (1998). Intergroup contact theory. *Annual review of psychology*, 49(1):65-85.

Pettigrew, T. F. and Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of personality and social psychology*, 90(5):751.

Rao, G. (2019). Familiarity does not breed contempt: Generosity, discrimination, and diversity in delhi schools. *American Economic Review*, 109(3):774-809.

Ross, L. and Nisbett, R. E. (2011). *The person and the situation: Perspectives of social psychology*. Pinter & Martin Publishers.

Scacco, A. and Warren, S. S. (2018). Can social contact reduce prejudice and discrimination? evidence from a field experiment in nigeria. *American Political Science Review*, 112(3):654-677.

Schindler, D. and Westcott, M. (2021). Shocking racial attitudes: black gis in europe. *The Review of Economic Studies*, 88(1):489-520.

Small, M. L. and Pager, D. (2020). Sociological perspectives on racial discrimination. *Journal of Economic Perspectives*, 34(2):49-67.

Tabellini, M. (2020). Gifts of the immigrants, woes of the natives: Lessons from the age of mass migration. *The Review of Economic Studies*, 87(1):454-486.

Tajfel, H., Billig, M. G., Bundy, R. P., and Flament, C. (1971). Social categorization and intergroup behaviour. *European journal of social psychology*, 1(2):149-178.

Zhou, Y.-Y. and Lyall, J. (2020). Prolonged social contact with internally displaced migrants does not reduce prejudice among locals in wartime settings.

5. Appendix

5.1 Shia Sunni Context

The Shia-Sunni division began soon after the advent of Islam, with theological differences becoming larger over time. In modern times, substantial Shias and Sunnis hold incorrect beliefs about which rituals the other sect follows and how. One such misconception is that the other group does not pray, as formal daily prayers are a fundamental religious ritual for both sects (Davis 2007). While both sects daily prayers have the same content (read in silence), the precise physical movements differ, from which one can easily infer the sect of the worshipper. It is this incorrect belief about prayer observance, the importance of prayer to both sects, and the observable nature of the difference in prayer movements that we aim to exploit to create contact between the two groups and potentially change beliefs and preferences. It is important to note that Shias and Sunnis do not differ on any other important and relevant dimension such as ethnicity.