

When Information Conflicts with Obligations: The Role Of Motivated Cognition

Based on BFI Working Paper 2022-144, “[When Information Conflicts with Obligations: The Role Of Motivated Cognition](#),”
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To effectively disseminate important information on polarized issues such as climate change, vaccination, etc., it is crucial to first identify and intervene against the underlying fundamental values that might prevent individuals’ accurate digestion of the high-stakes information.

If you have strong religious and/or political beliefs, are you open to facts that go against your views? And will you change your mind? Numerous observational studies suggest that the answer is “No” to both questions. Further, the theory of motivated cognition says that you will actively distort, neglect, or deny information that contradicts your fundamental values, and other people will do the same. Importantly, this means that people with disparate fundamental values mentally process the same information differently and form dissimilar beliefs.

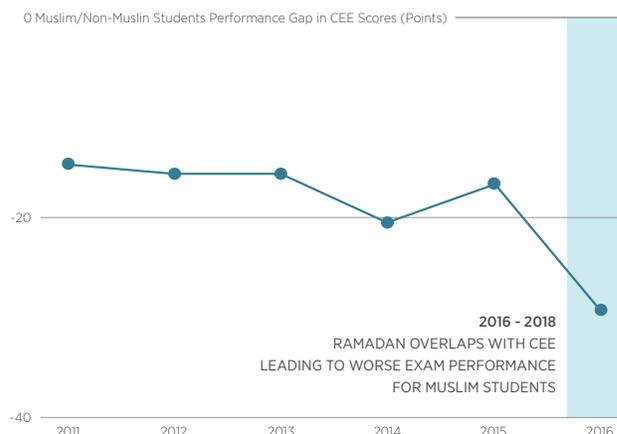
What is the evidence for motivated cognition? Testing this theory is complicated because people with disparate fundamental values also differ in other ways, such as in their cognitive capacities, and they often get exposed to dissimilar information. Therefore, to identify the existence of motivated cognition, one needs to exogenously vary individuals’ fundamental values without altering their information sets, a task seemingly impossible in most ordinary field settings. In other words, how are you going to shift individuals’ fundamental values to see how they respond to the same information?

In this paper, the authors meet this challenge by studying whether religious norms, a core aspect of fundamental values, causally shape religious followers’ acquisition of religion-related information. The authors focus on a unique empirical setting, where the month of Ramadan (the ninth month of the Islamic calendar observed by Muslims who engage in fasting, among other activities) overlapped with China’s extremely high-stakes College Entrance Exam (CEE) between 2016 and 2018. Existing research reveals that taking the exam during Ramadan

leads to substantially worse exam performance for Muslim students. Consequently, Muslim students who were about to take the CEE (during Ramadan) in 2018 were facing a stark conflict: their own religious values vs. the secular cost of fasting during exams.

With motivated cognition, that conflict is not as obvious as it may appear to an outsider. Muslim students who believe they must fast during the CEE might distort the undesirable empirical evidence on how Ramadan affects exam performance to avoid feeling upset about this information. That is, the cost of fasting may not appear as

Figure 1 • Effect of Ramadan Fasting on College Entrance Exam (CEE) Scores



Notes: This figure displays the Hui-Han CEE score gap between 2011 and 2016. It was presented to students in the authors’ survey experiment, with English translations of the Chinese labels.

high to these students as it otherwise might. To test this hypothesis, in 2018, the authors conducted a lab-in-the-field experiment among Muslim students who were about to take the CEE during Ramadan. The authors randomly offered half of the students reading materials in which well-respected Muslim clerics use Quranic reasoning to explain the permissibility of exemption from fasting until after the exam. This “pro-exemption” reading material is expected to change what is perceived by the students to be acceptable fasting behavior (i.e., fundamental values).

The authors then presented these students with a previously unreleased graph (see accompanying Figure), which shows that the CEE performance gap between Muslim and non-Muslim students remained stable between 2011 and 2015, but suddenly enlarged substantially in 2016, when the CEE started to fall in the month of Ramadan. The students were asked, in an incentivized manner, to read from this graph the magnitude of the 2016 CEE performance gap between Muslim and non-Muslim students, a purely objective question. In the absence of motivated cognition, whether they “trust” or “like” the information in this graph should only affect how they use that information to update their priors but should not affect what information they see from the graph. The authors find the following:

- Control students who do not receive the pro-exemption reading material systematically misread the purely objective statistic in the accompanying figure; on average, they underestimate the 2016 CEE score gap between Muslim and non-Muslim students by about 17%.

- In contrast, among students who have read the pro-exemption article, their reading of the same graph is significantly more accurate; they underestimate the gap by only 9.5%, which is a more than 44% reduction in under-estimation compared to the control students. This treatment effect is driven by students who strictly practiced Ramadan fasting in the past, consistent with the intuition that an exemption from fasting should not have salient impacts on students who do not strictly fast anyway.
- This work also reveals suggestive evidence that alleviating motivated cognition makes students better informed about the costs of Ramadan, and thus they find it more acceptable to postpone fasting for the CEE.

Bottom line: These findings offer important insights into motivated cognition that extend beyond religious observance to include such issues as climate change, vaccination, among others. To effectively disseminate important information on polarized issues, it is crucial to first identify and intervene against the underlying fundamental values that might prevent individuals’ accurate digestion of high-stakes information.

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