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Notes:

# Sacred bounds on rational resolution of violent political conflict

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**We report a series of experiments carried out with Palestinian and Israeli participants showing that violent opposition to compromise over issues considered sacred is (i) increased by offering material incentives to compromise but (ii) decreased when the adversary makes symbolic compromises over their own sacred values. These results demonstrate some of the unique properties of reasoning and decision-making over sacred values. We show that the use of material incentives to promote the peaceful resolution of political and cultural conflicts may backfire when adversaries treat contested issues as sacred values.**

cultural conflict | Middle East conflict | negotiation | sacred values

Current approaches to resolving resource conflicts (1) or countering political violence (2) assume that adversaries make instrumentally rational choices. However, adversaries in violent political conflicts often conceptualize the issues under dispute as sacred values (3–7), such as when groups of people transform land from a simple resource into a “holy site” to which they may have noninstrumental moral commitments. Nowhere is this issue more pressing than in the Israeli–Palestinian dispute, which people across the world consistently view as the greatest danger to world peace (8). We conducted experiments with representative samples of Palestinian members of Hamas, Palestinian refugees, and Jewish Israeli settlers to investigate whether decisions about sacred values are noninstrumental.

Instrumental decision-making involves cost–benefit calculations regarding goals and entails abandoning or adjusting goals if the costs outweigh the benefits. Although the field of judgment and decision-making has made enormous progress (9, 10), much more is known about economic decision-making than about behavior motivated by moral considerations. In particular, there is relatively little knowledge, study, or theoretical discussion of sacred values, which differ from instrumental values by incorporating moral (including religious) beliefs (3, 4) that may drive action (5) “independently of its prospect of success” (6). In laboratory experiments, conducted primarily among North American undergraduate students using nonrealistic hypothetical scenarios, people asked to trade off sacred values for instrumental rewards tend to react with outrage and anger, although they may be able to accept trading off one sacred value for another (11–13). The relative ease at which commitments to sacred values are modified in these experiments has led to claims that sacred values are merely “pseudosacred” and that if the costs of a sacred value become too extreme, or the benefit of compromising becomes too great, humans are adept at compromising ostensibly categorical moral commitments (13).

To determine whether reasoning about sacred values is noninstrumental, we conducted field experiments with Palestinians and Jewish Israelis. These experiments differed from previous research in that they focused on issues fundamental to a real political dispute, on issues that are centrally important to the lives of our participants who are key players in the dispute, and used tradeoff scenarios that were realistic. Thus, we were able to evaluate both (i) whether commitments to sacred values are

vulnerable to instrumental calculations and (ii) the way reasoning about sacred values influences the ability to generate peaceful resolutions to violent political disputes such as the Israeli–Palestinian conflict.

Our experiments tested the general hypothesis that, when reasoning about sacred values, people would not apply instrumental (cost–benefit) calculations but would instead apply deontological (moral) rules or intuitions. We predicted that reasoning about sacred values would be noninstrumental in two respects. First, just as religion forbids any mingling of the sacred with the profane (14), we speculated that people follow a deontological rule or intuition that forbids any attempt to measure moral commitments to sacred values along an instrumental metric. We expected that people would react with outrage and support violent opposition to any attempt at compromise over sacred values for instrumental reasons. Moreover, we predicted that stronger incentives to compromise would backfire, because the more salient the attempt to measure sacred values along an instrumental scale, the greater the level of outrage would be. Thus, we hypothesized that adding instrumental benefits to compromise over important issues in a violent political conflict would ironically and irrationally increase outrage and opposition to compromise when those issues had been converted, in the minds of the antagonists, into sacred values.

Although people may resist any attempt to buy off their moral commitments to sacred values, this does not mean that sacred values are of infinite value. Apparently, people are able to measure the relative worth of sacred values they hold and trade off these values when they come into conflict (11–13). The second hypothesis we tested was that antagonism to compromise over sacred values would be mitigated by equitable losses over sacred values by both sides. People appear to have a desire for equitable outcomes that is pursued with a disregard to instrumental consequences (15). Thus, we predicted that those who hold sacred values would be less antagonistic to compromise over those values if the adversary suffers a similar loss over their own sacred values, even if the adversaries’ loss does not instrumentally alter the compromise deal at hand.

We tested these hypotheses in field experiments integrated within surveys of three populations living in the West Bank and Gaza who are key players in the Israeli–Palestinian dispute (16): 601 Jewish Israeli “settlers” (many settlers would be required to evacuate their homes and communities to create a viable Palestinian state); 535 Palestinian refugees (the claim of Palestinian

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The authors declare no conflict of interest.

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refugees to a right of return represents a major obstacle to a two-state solution) (17); and 719 Palestinian students, half of whom identified themselves with Hamas or its smaller Islam ally Palestinian Islamic Jihad (the majority of Palestinian suicide bombers have been student members of Hamas). See [supporting information \(SI\)](#) for an expanded discussion of methods and analysis.

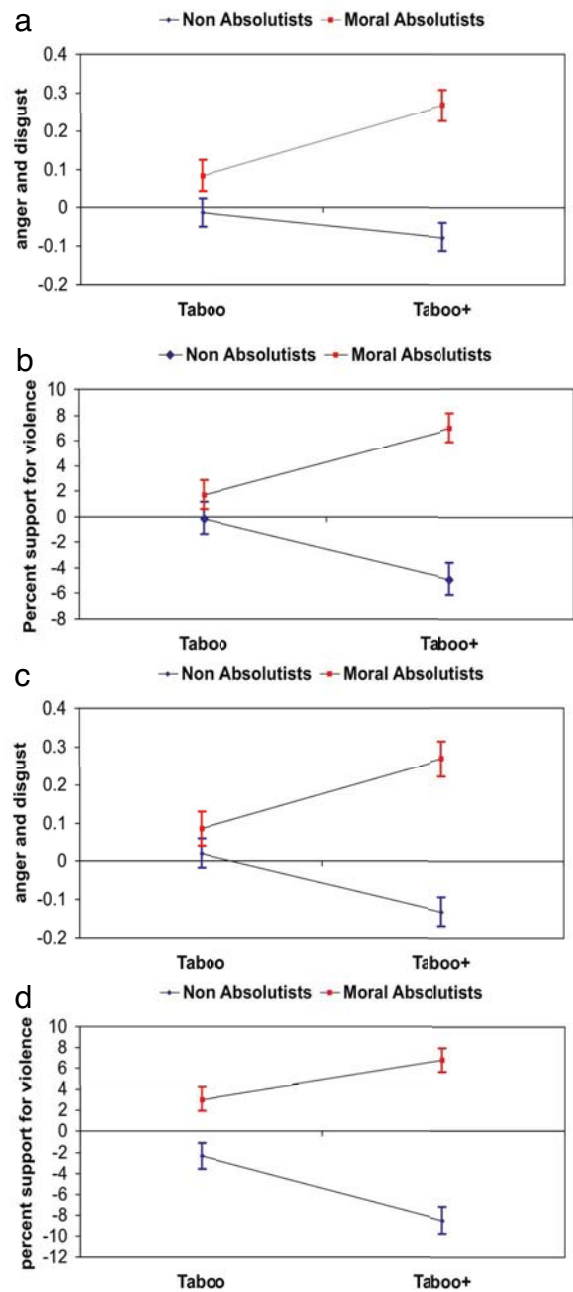
We measured emotional outrage and propensity for violence in response to peace deals involving compromises over issues integral to the Israeli–Palestinian conflict (16, 18): exchanging land for peace (in experiments with settlers); sovereignty over Jerusalem (in experiments with Palestinian students); the right of Palestinian refugees to return to their former lands and homes inside Israel (in experiments with Palestinian refugees); and recognition of the validity of the adversary’s own sacred values (in each sample).

These deals (see *Methods*) were all hypothetical, but involved compromises that are broadly typical of the types of solutions that are frequently offered within political discourse in the region. In our experiments, all participants were opposed to compromise over these issues. In addition, a subset of participants indicated that they had transformed this preference into a sacred value, opposing any tradeoff over the relevant issue in exchange for peace no matter how great the benefit to their people.

Our aim was to compare reactions to different types of deals between these two subsets of participants: (i) moral-absolutists who had transformed the issues under dispute into sacred values; and (ii) non-absolutists who had strong preferences against compromise over these issues but did not regard them as sacred values. Among settlers, 46% of the sample believed that it was never permissible for the Jewish people to “give up” part of the “Land of Israel” no matter how great the benefit. This group contained moral-absolutists with respect to the Land of Israel and may be distinguished from the remainder of settlers who, although opposing ceding land, did not rule out treating land as a fungible resource under extreme circumstances. Among Palestinian students, 54% treated both the principle of the “right of return” and Jerusalem as sacred values. In the Palestinian refugee survey, >80% of participants were moral-absolutists with respect to the principle of the right of return for Palestinian refugees.

In each experiment, one-third of our participants were randomly selected to respond to a peace deal that involved a significant compromise over an important issue in exchange for peace (*Taboo* deal, see *Methods*). For example, Israeli settlers responded to deals that entailed Israeli withdrawal from 99% of the West Bank and Gaza in exchange for peace, Palestinian refugees responded to deals that violated the Palestinian right of return, and Palestinian students responded to a deal that called for the recognition of the legitimacy of the State of Israel. For the moral-absolutists, these deals involved a taboo tradeoff (19) over sacred values; for the non-absolutists, these deals involved compromise over strong preferences (20). Another third of our participants were randomly selected to respond to the same taboo deal with an added instrumental incentive, such as money or a life free of violence (*Taboo+*). The remainder of our participants responded to the taboo deal without an added instrumental incentive but where the adversary also made a taboo tradeoff over one of their own sacred values in a manner that was designed to not add instrumental value to the deal nor detract from the taboo nature of the deal (*Symbolic*).

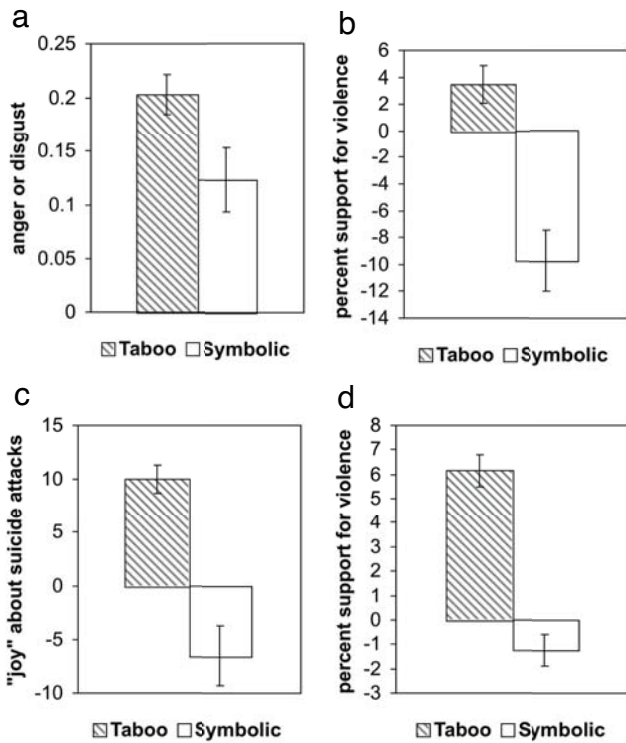
From a rational perspective, the added instrumental incentive in the *Taboo+* deal means that those responding to the *Taboo+* deal should show less outrage and lower preferences for violent opposition compared with those responding to the *Taboo* deal. Although this was the case for non-absolutists who had a strong preference against compromise, moral-absolutists showed the



**Fig. 1.** Palestinians responded to either *Taboo* peace deals or *Taboo+* peace deals, which were *taboo* deals with an added material incentive such as money. (a and b) Palestinian recognition of the sacred right of Israel. (c and d) Compromising Palestinian sovereignty over East Jerusalem. Ironically, adding material incentives to compromise yielded more anger and disgust (a and c) and greater support for violent opposition (b and d) from moral-absolutists for whom deals involved compromises over sacred values. In contrast, non-absolutists for whom deals involved compromises over strong preferences behaved in an instrumentally rational manner; adding material incentives resulted in less opposition to compromise. All measures were mean centered, and error bars report standard errors. In experiments with Israeli settlers the same pattern emerged.

opposite response: enhancing the instrumental value of the tradeoff increased rather than decreased their emotional outrage and their support for violent opposition to the deal (see Fig. 1). This different pattern of reactions to added instrumental incentives was observed in all experiments with Palestinian students and Jewish settlers with respect to support for violent





**Fig. 2.** Response to peace deals. (a and b) Moral-absolutist Israeli settlers. (c and d) Moral-absolutist Palestinian refugees. Moral-absolutists were less likely to respond with anger or disgust (moral-absolutist Israeli settlers in a), less likely to feel joy when hearing about a suicide attack (moral-absolutist Palestinian refugees in c), and predicted lower in-group support for violent opposition (both populations in b and d) when responding to peace deals involving compromises over their sacred values (Taboo) if the adversary made symbolic compromises over one of their own sacred values (Symbolic). All measures were centered on the grand mean, and error bars report standard errors. We found the same results for affective responses of Palestinian students.

responses (all  $P$  values  $< 0.0065$ , one-tailed  $t$  test) and emotional outrage in response to peace deals (all  $P$  values  $< 0.0025$ , one-tailed  $t$  test). Responses of moral-absolutist Palestinian refugees showed the same pattern as moral-absolutist Jewish settlers and Palestinian students.

Although added instrumental benefits increased opposition to compromises over sacred values, we found that opposition decreased when the deal included the adversary making a symbolic compromise over one of their own sacred values (see Fig. 2). This pattern was observed for: (i) measures of emotional outrage to peace deals among moral-absolutist Palestinian students (all  $P$  values  $< 0.0075$ , one-tailed  $t$  test), Jewish settlers ( $P = 0.0025$ , one-tailed  $t$  test), and Palestinian refugees ( $P = 0.0045$ , one-tailed  $t$  test); and (ii) measures of support for violence to oppose peace deals among moral-absolutist Jewish settlers ( $P = 0.06$ , one-tailed  $t$  test) and Palestinian refugees (all  $P$  values  $< 0.007$ , one-tailed  $t$  test). Importantly, symbolic concessions did not seem to enhance confidence in the likelihood that peace deals would be “peacefully and successfully implemented,” leading to a Palestinian state (for Palestinians) or peace (for both Palestinians and Israelis). Symbolic concessions notably reduced extreme opposition to peace deals on the part of moral-absolutists. For example, among Palestinian students, the predicted odds of expressing intense anger and disgust at the peace deals (defined by scoring one standard deviation above the grand mean) decreased by a multiplicative factor of 0.518 (Wald = 6.041,  $P = 0.014$ ) in response to symbolic Israeli

concessions over sacred values; among Israeli settlers intense support for a violent response decreased by a multiplicative factor of 0.25 (Wald = 6.779,  $P = 0.003$ ) in response to symbolic Palestinian concessions; whereas among Palestinian refugees, the predicted odds of responding with “joy” when hearing of a suicide attack decreased by a multiplicative factor of 0.519 (Wald = 6.893,  $P = 0.009$ ) in response to symbolic Israeli concessions. The practical consequences of such changes in the popularity of peace deals and the leaders who promote them are significant. For example, a shift in popularity by a few percentage points of a political leader who advocates political compromise over violence can determine the results of an election.<sup>††</sup> This has persistently been the case in the recent history of the Israeli–Palestinian conflict (21).

Although previous research into judgement and decision-making has demonstrated the ways in which normative rules of rationality are systematically violated when people make decisions aimed at achieving instrumental outcomes such as maximizing profit (9, 10), our results show that people with sacred values may not reason instrumentally. These results have powerful implications for understanding the trajectory of many cultural, resource, and political conflicts, implying that when people transform a resource (such as land), an activity (such as hunting a particular animal or farming a certain crop) (1), or an idea (such as obtaining a nuclear weapon) into a sacred value, attempts to solve disputes in a bargaining setting by focusing on increasing the costs or benefits of different actions can backfire. Instead, when dealing with conflicts involving sacred values, culturally sensitive efforts at identifying symbolic tradeoffs that involve equitable gains or losses over those values may open up new channels for peaceful resolution of otherwise intractable conflicts.<sup>‡‡</sup>

## Methods

### Hypothetical Peace Deals.

#### Palestinian student survey: Experiment 1.

**Taboo.** Palestinians would recognize the sacred and historic right of the Jewish people to Israel. There would be two states: a Jewish state of Israel and a Palestinian state in 99% of the West Bank and Gaza.

**Taboo+.** On their part, Israel will pay Palestine 1 billion U.S. dollars a year for 10 years.

**Symbolic.** On their part, Israel will recognize the historic and legitimate right of the Palestinians to their own state and would apologize for all of the wrongs done to the Palestinian people.

<sup>††</sup>For example, in the 2006 Palestinian legislative elections, Hamas gained a narrow victory (44%) over the secular-nationalist party Fateh (41%) in the popular vote, which translated into a clear majority (57%) of parliamentary seats. Our exit poll indicates that an upswing in support for Hamas from religious voters who strongly opposed the peace process and tend to be more supportive of violence was crucial to this result. See “PSR’s Exit Poll Results on the Election Day of the Second Palestinian Parliament”; available at <http://www.pcpsr.org/survey/polls/2006/exitplcfulljan06e.html#religiosity>.

<sup>‡‡</sup>To illustrate, Isaac Ben Israel, a former Israeli Air Force Major General who currently heads his country’s space agency, stated in an interview on June 4, 2006: “Israel recognizes that the [Hamas-led] Palestinian government is still completely focused on what it considers to be its essential principles . . . For Hamas, a refusal to utter the simple words ‘We recognize Israel’s right to exist’ is clearly an essential part of their core values. Why else would they suffer the international boycott. . . and let their own government workers go without pay, their people go hungry, and their leaders risk assassination?” Ghazi Hamad, a Hamas leader and spokesman for the Palestinian government, stated in an interview on June 20, 2006: “In principle we have no problem with a Palestinian state encompassing all of our lands within the 1967 borders, with perhaps minor modifications on a *dunam* for *dunam* basis [10 dunams = 1 hectare]. But let Israel apologize for our tragedy in 1948, and then we can talk about negotiating over our right of return to historic Palestine.” From the other side, Ben Israel, drove home the point saying, “when we feel Hamas has recognized our right to exist as a Jewish state, then we can deal.” In rational-choice models of decision-making, that something as intangible as an apology should stand in the way of peace does not readily compute.

**Palestinian student survey: Experiment 2.**

**Taboo.** There would be a two-state solution, resulting in a Jewish State of Israel and a Palestinian State in the West Bank and Gaza. Under this deal Palestinians would agree to give up their sovereignty over East Jerusalem.

**Taboo+.** On their part, Israel will pay each Palestinian family 1,000 U.S. dollars a year for 10 years in economic assistance.

**Symbolic.** On their part, Israel would formally declare that it gives up what it believes is its sacred right to the West Bank.

**Settler survey: Experiment 1.**

**Taboo.** Israel would give up 99% of Judea and Samaria. Israel would not absorb any refugees. This treaty would result in two states: a Jewish state of Israel and a Palestinian state.

**Taboo+.** In return, the United States would give Israel 1 billion dollars a year for 100 years.

**Symbolic.** On their part, Palestinians would give up any claims to their right of return, which is sacred to them.

**Settler survey: Experiment 2.**

**Taboo.** Israel would be required to recognize the historic legitimacy of the right of Palestinian refugees to return. However, Israel would not absorb any refugees. This treaty would result in two states: a Jewish state of Israel and a Palestinian state taking up 99% of the West Bank and Gaza.

**Taboo+.** In return, the people of the Jewish state of Israel would be able to live in peace and prosperity, free of the threat of war or terrorism.

**Symbolic.** On their part, Palestinians would be required to recognize the historic and legitimate right of the Jewish people to Eretz Israel.

**Palestinian refugee survey: Experiment 1.**

**Taboo.** Palestinians would be required to give up their right to return to their lands and homes in Israel. There would be two states: a Jewish state of Israel and a Palestinian state in the West Bank and Gaza.

**Taboo+.** In return, the United States and the European Union would give Palestine 1 billion dollars a year for 100 years.

**Symbolic.** On their part, Israel would give up what they believe is their sacred right to the West Bank.

**Palestinian refugee survey: Experiment 2.**

**Taboo.** Palestinians would recognize the historic and legitimate right of the Jewish people to Israel. There would be two states: a Jewish state of Israel and a Palestinian state in the West Bank and Gaza. Palestinian refugees would be allowed to settle only in the state of Palestine, not inside Israel.

**Taboo+.** In return, the Palestinian people would be able to live in peace and prosperity, free of the fear of Israeli violence and aggression.

**Symbolic.** On their part, Israel would symbolically recognize the historic legitimacy of the right of return.

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