

Empirical Evidence for the Devoted Actor Model

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CA+ Online-Only Material: Supplement A

This report presents two studies in very different contexts that provide convergent empirical evidence for the “devoted actor” hypothesis: people will become willing to protect nonnegotiable sacred values through costly sacrifice and extreme actions when such values are associated with groups whose individual members fuse into a unique collective identity. We interviewed and tested (on sacred values, identity fusion, and costly sacrifice) 260 Moroccans from two cities and neighborhoods previously associated with militant jihad, and we conducted a follow-up online experiment with 644 Spaniards fairly representative of the country at large (adding an intergroup formidability outcome measure). Moroccans expressed willingness to make costly sacrifices for implementation of strict sharia and were most supportive of militant jihad when they were fused with a kin-like group of friends and considered sharia law as sacred. Similarly, Spaniards who were fused with a kin-like group of friends and considered democracy as sacred were most willing to make costly sacrifices for democracy after being reminded of jihadi terrorism, and they were also more likely to consider their own group more formidable and jihadis as weak.

This report presents convergent empirical evidence for the “devoted actor” hypothesis (Atran 2016; Atran, Axelrod, and Davis 2007; Atran and Ginges 2015) from the two very different contexts of a field study in radicalized neighborhoods in Morocco and a computer-based study in Spain. The focus is on the link between morally important or “sacred” values (Atran and Ginges 2012), “identity fusion” of self with a close group of like-minded people (Swann et al. 2012), and the willingness to make costly sacrifices and engage in extreme actions in defense of the sacred values when they are perceived to be under threat (Sheikh, Ginges, and Atran 2013). This research is part of a broader project to understand what compels costly sacrifice and extreme behaviors in intergroup conflicts.

To examine the relationship between threats to sacred values and the willingness to defend those values by extreme actions, we interviewed 260 Moroccans (July 2014). Morocco has seen a surge in fundamentalist radicalization in the aftermath of the

Arab Spring. With the perception of a “War on Islam” being waged by Western powers and their allies and of Muslim values under threat, more than 2,000 people have joined—and thousands more stopped by authorities for having attempted to join—the ranks of foreign fighters in Syria, in particular, the Islamic State. Previously, we conducted anthropological fieldwork in two neighborhoods previously associated with militant jihad: Jemaa Mezuak in Tetuan (home to five of seven principal plotters in the 2004 Madrid train bombings and a number of suicide bombers who died in Iraq) and Sidi Moumen in Casablanca (source of terrorist bombing campaigns in 2003, 2005, and 2007; Atran 2010). Here, we focused on experimentally measuring the willingness to make costly sacrifices and engage in extreme actions for the “implementation of sharia law” and the endorsement of militant jihad as a function of the degree people perceived sharia law to be sacred and their personal self to be “fused” with a group of kin-like friends (outside of their family) they considered brothers and sisters.

In a follow-up study, examining the proposed process free from methodological restrictions in the field, we surveyed 644 Spaniards online. Considering recent calls by the Islamic State to reclaim Muslim lands (including Andalusia in Spain), we focused on measuring the willingness to defend democracy as a function of the degree people considered democracy sacred and were fused with a kin-like group of friends and the perceived threat by Muslim fundamentalists to the Spanish democracy.

Field Study: Morocco

In Morocco, we approached participants in public spaces in the two neighborhoods. We interviewed 260 people (50% fe-

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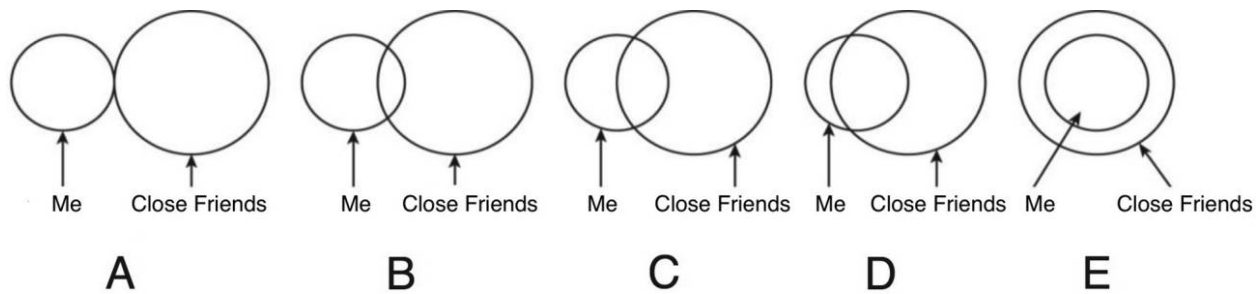


Figure 1. Identity fusion measure.

male), and we specifically approached two age groups: younger people ($M_{\text{age}} = 22$ years, ranging from 18 to 25 years) who were more likely to have participated in the recent protests during the Arab Spring (making real sacrifices) and older people ($M_{\text{age}} = 42$ years, ranging from 35 to 50 years) who were not likely to be involved in the protests. The educational level varied widely, ranging from functionally illiterate (18%) to at least some university education (10%).

First, we assessed sacredness of sharia by asking, “What is your opinion about delaying full imposition of sharia in the country?” Participants who picked “This is not acceptable no matter how great the benefits” from a given set of responses were considered to be holding sharia law as a sacred value. We then assessed participants’ willingness to make costly sacrifices for sharia by asking them about their agreement with five statements: “If necessary, I would be willing to *lose my job or source of income/go to jail/use violence/let my children suffer physical punishment/die* to defend the full imposition of sharia.” These were measured on a seven-point Likert scale ranging from “strongly disagree” to “strongly agree” (Cronbach’s $\alpha = 0.94$). A measure of support of militant jihad was also administered to the participants. It consisted of five statements (e.g., “All countries that are not ruled by Muslims and do not observe sharia should be considered *Dar al-Harb* [abode of war]” and “Suicide bombers will be rewarded by God”), again using a seven-point Likert scale to assess agreement (Cronbach’s $\alpha = 0.90$).

Identity fusion with a kin-like group of friends was assessed using a pictorial identity fusion measure (Swann et al. 2009). Participants were presented with a set of figures depicting two gradually overlapping circles, one representing them and the other representing kin-like friends: “Now think of your friends [outside your family] who are so close to you that you consider them brothers and sisters . . . Please pick the pair of circles that best represents your relationship with this group” (fig. 1). Participants who picked the completely overlapping circles (E) were categorized as fused with the group.

In line with previous associations of Jemaa Mezouak and Sidi Moumen with militant jihad, the proportion of participants considering sharia a sacred value in these neighborhoods was

considerably higher than citywide in Casablanca and Tetuan (see fig. 2).¹

We found that 43% of participants were fused with a kin-like group of friends. Fusion and sacred values were not correlated with each other. We did not find any difference across age groups, but in Sidi Moumen more women than men considered sharia a sacred value (66% vs. 40%), and more men than women were fused with a kin-like group of friends (51% vs. 9%). There were no other gender differences (see table A1 for a breakdown of fusion and sacred values by gender and age group; tables A1, A2 are available in CA+ online supplement A).

To test our hypotheses, we conducted ANOVAs with willingness to make costly sacrifice (or support for militant jihad) as a dependent variable and fusion with a kin-like group of friends and sharia as a sacred value as independent variables. On average, participants in Jemaa Mezouak (Tetuan) were more radicalized than in Sidi Moumen (Casablanca) and exhibited ceiling effects on both dependent measures; in other words, the statements we used were not radical enough, and these participants overwhelmingly agreed with them. Accordingly, we report results separately for the two neighborhoods.

In Sidi Moumen, there was an interaction effect between sharia as a sacred value and fusion ($F_{1,126} = 5.80, P = .02$) on willingness to sacrifice for sharia: while fused participants were more willing to make costly sacrifices than nonfused ones, this was especially pronounced for participants who considered sharia a sacred value (fig. 3).

Only those who considered sharia a sacred value and were fused with a kin-like group of friends exhibited an average value above the midpoint—that is, were more willing than not to make costly sacrifices for sharia. To illustrate the effect among the participants who were fused, those who considered sharia a sacred value were on average more willing to use violence ($M_{\text{diff}} = 1.79, SE = 0.61, P < .01$) and more willing to die ($M_{\text{diff}} = 1.49, SE = 0.66, P = .03$) than those

1. Citywide data on the sacred value of sharia was available from an unrelated study in collaboration with the University of Maryland (see CA+ online supplement A for details).

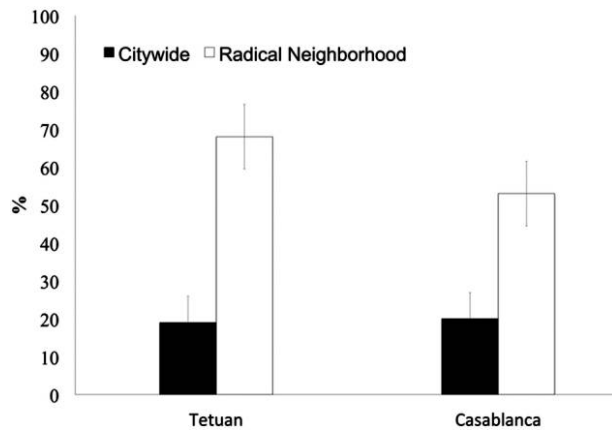


Figure 2. Proportion of people expressing a sacred value of sharia in Morocco.

who did not, again pushing them above the midpoint of the scale. We found a similar interaction effect for support of militant jihad ($F_{1,126} = 4.017, P < .01$): participants who considered sharia a sacred value and were fused with a kin-like group of friends were on average the only group who were above the midpoint of the scale (i.e., supported militant jihad).

In Jemaa Mezuak, we observed an overall higher level of radicalization, leading to a ceiling effect on the costly sacrifice for sharia and militant jihad measures ($M = 5.64, SD = 1.73$ and $M = 5.47, SD = 1.76$, respectively), making statistical analyses difficult: participants who considered sharia as sacred agreed strongly with costly sacrifices and militant jihad on average. Nevertheless, those who were also fused had on average the highest values on both measures ($M = 6.43, SD = 0.73$ and $M = 6.24, SD = 0.82$) reaching the top of the scale.²

In the context of heightened political tensions in Morocco, these results are in line with the devoted actor model: participants who were fused with a kin-like group of friends and considered sharia a sacred value were more willing to make costly sacrifices (including violence and dying) for sharia and were also more likely to support militant jihad, compared to other participants. Encouraged by these results, we proceeded with an experimental study under controlled conditions to examine this process in more detail, using computer-based measures with continuous scales to increase fidelity.

Experimental Study: Spain

To complement our field study, we conducted a longer and controlled study using computer-based measures with continuous scales to increase fidelity (see below). We also added an additional outcome measure of intergroup formidability. In the relatively peaceful context of Spain, there are no sa-

lient tensions or threats comparable to the current political situation in Morocco. Therefore, we reminded our participants of sharia law to induce threat and assessed the willingness to make costly sacrifices to defend liberal democracy. We expected that a reminder of sharia law would induce threat in our participants, considering the fact that one of the major interests of the Islamic State is the reconstitution of a Muslim Spain by reclaiming Andalusia. We also added a control group where no threat was induced to examine the link between sacred values and identity fusion on costly sacrifices under circumstances that do not call for a defense of democracy. Previous data collected in the lab support the proposition that under calm circumstances identity fusion and sacred values may have independent effects on intergroup orientations (Atran and Ginges 2015).

In our study in Spain, $N = 644$ people voluntarily participated online (63% female, average age of 35 years, range = 18–77 years, 14% undergraduates from the Universidad Nacional de Educación a Distancia and 86% from the general population). In contrast to the field study in Morocco, we could use a computer-based questionnaire that allowed us to counterbalance the order of the measures of sacred values and identity fusion.

To assess the level of fusion with a kin-like group of friends, we used the dynamic identity fusion index (DIFI; Jiménez et al. 2015). This novel measure shows convergent validity with the verbal and pictorial measures of fusion and higher predictive validity for sacrifices for the group than the pictorial measure (Jiménez et al. 2015). The DIFI presents two circles of different sizes and colors on the computer screen. In our study, the small circle represented the “self” and was initially positioned in the left quadrant of the screen. The big circle represented “a small group of friends (outside of your family) you consider brothers and sisters” and was fixed in the right margin of the screen. The small circle could be moved by either clicking and dragging with the mouse or pressing control buttons situated at the top of the screen. When the

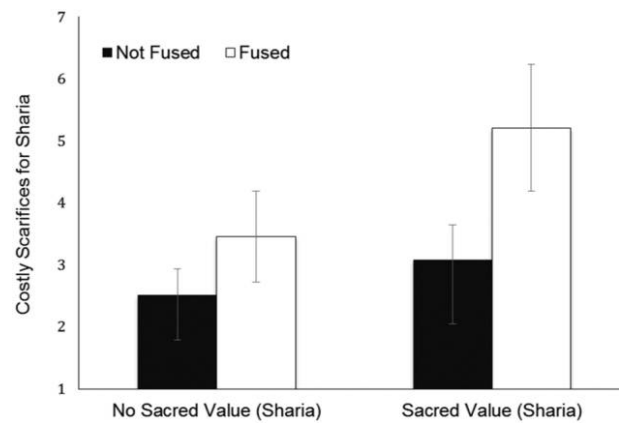


Figure 3. Willingness to make costly sacrifices (including using violence and willingness to die) for sharia (with 95% confidence intervals).

2. All effects reported in this paper did not differ across gender or age groups.

Intergroup Formidability Measure: The two human bodies below represent the formidability of your group (“Spain”) and other group (“Islamic State”). You can increase or decrease the size and strength of both bodies to indicate to what extent Spain is stronger or weaker than the Islamic State.

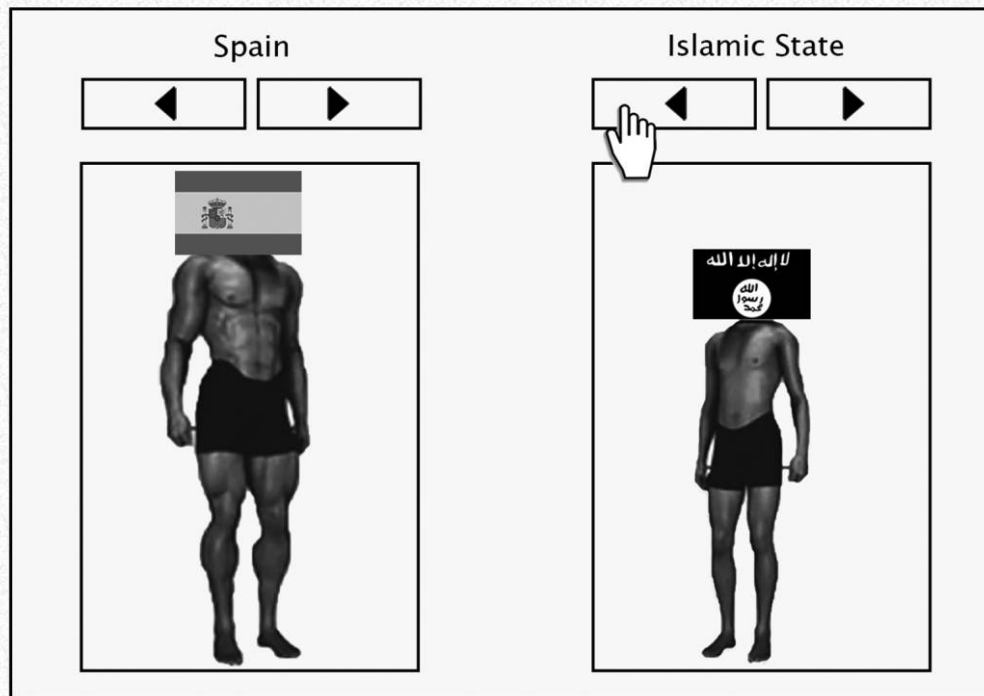


Figure 4. Intergroup formidability measure. A color version of this figure is available online.

two circles overlapped, the blending of colors enhanced the visual analogy of identity fusion. Participants were considered fused with the group when the two circles completely overlapped.³

We assessed sacredness of democracy by asking how much money the participants would be willing to accept for saying publicly that they would give up democracy. Participants who picked “Never, for any amount of money” from the set of given response options (ranging from “Eur 1” to “Eur 1 million”) were considered holding democracy as a sacred value. Subsequently, participants were randomly assigned to either the control or the threat condition. Participants in the control condition were asked to write about how they learned about the study and how they felt at the moment. Participants in the threat condition were asked to write about what they thought of the interpretation of sharia by followers of the Islamic State and al-Qaeda.

After the manipulation, participants responded to the same measure of willingness for costly sacrifices used in the field

3. The results reported here did not differ when the DIFI was treated as a continuous measure and analyzed using regression analyses.

study (this time in defense of democracy; Cronbach’s $\alpha = 0.84$). Subsequently, intergroup formidability was rated by a dynamic version adapted from the perceived muscularity measure described by Fessler, Holbrook, and Snyder (2012). It showed two male bodies on the computer screen, facing each

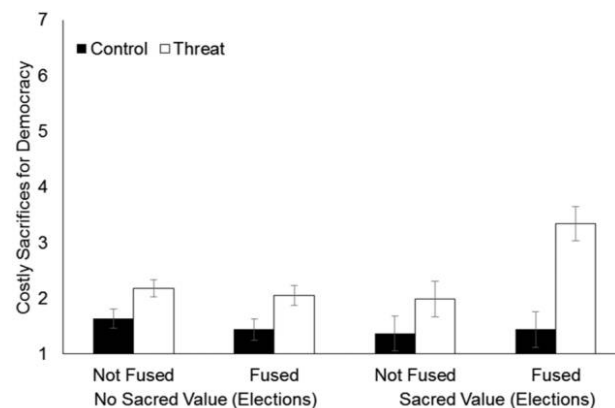


Figure 5. Willingness to make costly sacrifices for democracy (with 95% confidence intervals).

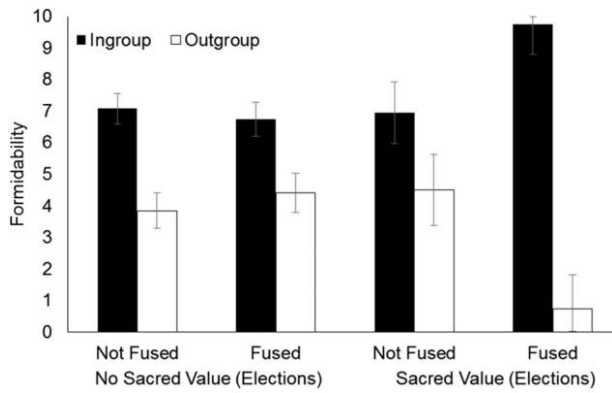


Figure 6. Formidability under threat (with 95% confidence intervals).

other (fig. 4). The left body represented the ingroup (Spaniards), and the right body represented the outgroup (jihadis). The respondents could change the formidability of both ingroup and outgroup bodies independently by clicking the control buttons at the top of the screen, on an 11-point scale ranging from 0 (weak and slender body) to 10 (strong and muscular body). Both male bodies were initially positioned in the middle of this scale, representing a moderately strong body.

We found that 46% of participants were fused with a kin-like group of friends and 23% of participants considered democracy sacred. Again, both measures were uncorrelated. We first conducted an ANOVA with costly sacrifices for democracy as a dependent variable and condition, fusion, and sacred values as independent variables. There was a reliable three-way interaction effect ($F_{1,636} = 11.00, P < .01$). As figure 5 shows, this study replicated the results of the field study in Morocco. Under threat, participants who were fused with a kin-like group of friends and considered democracy a sacred value exhibited on average the highest level of costly sacrifices for democracy (compared to the other conditions; all $P < .01$). In the control condition, there was no effect of identify fusion or sacred value of democracy on the willingness to make costly sacrifices, which may be owed to an overall low willingness to make any sacrifices for democracy (reaching the bottom of our scale). This low support for democracy by Spaniards is in line with earlier work that found only 10.5% of Spaniards fused with political parties (Buhrmester et al. 2012). This is not surprising, as frequent corruption scandals involving all four political parties have left most Spaniards disillusioned with the promise of democracy.

We then conducted a mixed-effect ANOVA with intergroup formidability as a dependent variable; condition, fusion, and sacred values as between factors; and group (ingroup vs. outgroup bodies) as a within factor. There was a reliable four-way interaction ($F_{1,636} = 12.02, P < .01$). As can be seen in figure 6, participants in the threat condition who were fused with a kin-like group of friends and who considered democracy as sacred perceived the ingroup as stronger and the out-

group as weaker than participants in all the other conditions (all $P < .01$). However, as shown in figure 7, participants in the control condition exhibited no difference based on fusion with a kin-like group of friends or the sacredness of democracy, although they consistently considered the ingroup as stronger than the outgroup.

In addition to replicating the results of the field study in Morocco, this controlled experimental study also shows that whereas even under nonthreatening conditions fused people are more willing to make costly sacrifices, it is under threat when fusion and sacredness combine into powerful motivators for sacrifice. This study also suggests that the perception of formidability may foster willingness to make sacrifices for a cause. Fused individuals tend to perceive their group as invincible and opposing groups as weak, which leads them to move against the other groups when they feel under threat.

Conclusion

In our two studies with Moroccans and Spaniards, we found support for the devoted actor hypothesis: men and women alike (see also Hyde 2005) expressed “parochial altruism” the most when they were fused with a kin-like group of like-minded friends and felt a cherished value they considered sacred to be under threat. Specifically, Moroccans expressed willingness to make costly sacrifices for the implementation of sharia when they were fused with a kin-like group of friends and considered sharia law as sacred; they were also most supportive of militant jihad. Parallel to this, Spaniards who were fused with a kin-like group of friends and considered democracy as sacred were most willing to make costly sacrifices for democracy after being reminded of jihadi terrorism; they were also more likely to consider their own group as more formidable and jihadis as weak, which may facilitate aggression against the “enemy.”

Our findings paint a picture of devoted actors who feel viscerally connected with a primary group, have strong values, and are willing to make extreme sacrifices (including willing-

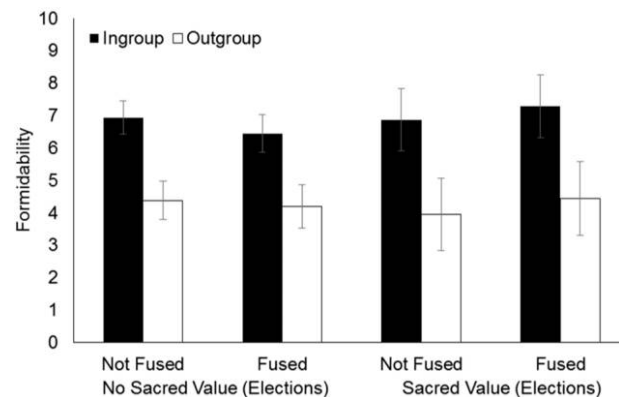


Figure 7. Formidability without threat (control; with 95% confidence intervals).

ness to fight and die) when they believe their values to be under threat. Pushed to the extreme, it is this personal commitment to sustain the primary reference group's exceptional principles and positions, preferences and privileges—and to do so regardless of apparent risks or costs—that characterizes the devoted actor.

Acknowledgments

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