AGGRESSIVE INCLINATIONS IN DEVOTED ACTORS

Abstract

Devoted actors -those who share sacred values with a group with which they are fused- are particularly willing to self-sacrifice to *defend* their group or values when they are threatened. Here we explore whether they are also prone to *aggressive inclinations* toward those who endanger their group or convictions. To that end, we examined the effect of threat and the two component factors of the devoted actor framework -identity fusion and sacred values- on aggressive inclinations. Results indicated that individuals fused with their country (Study 1), those who considered democracy sacred (Study 2), and devoted actors (Studies 3-4) reacted to a threat to the ingroup or to their value by increasing aggressive inclinations against the rival group. This effect was apparently mediated by the perceived physical strength of the ingroup versus foes. Study 4 also revealed that aggressive inclinations are not equivalent to costly sacrifices for groups or values.

Keywords: aggressive inclinations, devoted actors, identity fusion, sacred values, physical formidability

Threat enhances aggressive inclinations among devoted actors via increase in their relative physical formidability

Ingroup bias can readily turn into intergroup hostility when group members perceive material or symbolic dangers. People may verbally express contempt towards the source of threat or demand institutional retaliation. Few individuals, however, are willing to become personally involved in aggressive actions. The current research aims to identify the processes that precipitate aggressive inclinations when one's group is in jeopardy. To that end, we scrutinize the influence of two independent predictors of self-sacrifice that interact under threatening circumstances: identity fusion and commitment to sacred values. Previous studies show that individuals who are fused with a group and consider the group's value(s) as sacred – devoted actors – are extraordinarily willing to make costly sacrifices for the group or the value perceived to be under threat (Gómez et al., 2017; Sheikh, Gómez, & Atran, 2016). Here we propose that threatened devoted actors will exhibit aggressive inclinations against perceived foes at the expense of personal gains, and they will do so driven by a grandiose perception of physical ingroup formidability relative to the rival group. To capture aggressive inclinations we developed a customizable videogame.

Devoted actors and costly sacrifices

The devoted actor framework integrates two well-known predictors of extreme pro-group behavior: identity fusion (Gómez & Vázquez, 2015; Swann, Jetten, Gómez, Whitehouse, & Bastian, 2012) and sacred values (Atran, Axelrod, & Davis, 2007; Tetlock, Kristel, Elson, Green, & Lerner, 2000). Identity fusion is a visceral connection to a group that rests on two central components: a perception of oneness with a group and a sense of reciprocal strength that imbues fused members with a feeling of invulnerability (Gómez, Brooks, et al., 2011). Strongly fused individuals retain an

agentic personal self that is subordinated to the group interests and to the welfare of its members, who are considered as family (Swann, Buhrmester, et al., 2014; Swann, Gómez, et al., 2014). Identity fusion motivates extreme sacrifices for ingroup members, especially under threatening circumstances (e.g., Gómez, Brooks, et al., 2011; Gómez, Morales, Hart, Vázquez, & Swann, 2011).

Besides social bonding, extreme sacrifices may also be inspired by a strong commitment to values that are considered irrevocable and non-negotiable. Sacred values operate as absolute moral imperatives independently of potential outcomes or material incentives (Atran & Ginges, 2012). They may be based on religion (e.g., Sharia law), but secular preferences as a belief or a political system (e.g., democracy) can also be sacred (Ginges, Atran, Sachdeva, & Medin, 2011). People often take their sacred values for granted inasmuch as such values are often part of the moral foundation, or "ultimate postulates" (Rappaport, 1999), upon which the cooperative functioning and continuity of society depends. People are more likely to become acutely aware of their foundational values, and express commitment to their defense, when they perceive them to be imperiled (Atran & Axelrod, 2008; Sheikh, Ginges, Coman, & Atran, 2012).

Identity fusion and sacred values are integrated into the dual framework of the devoted actor, which provides additional understanding of behavior beyond single-factor approaches to account for extreme sacrifices either for a cause or for fellows (Gómez et al., 2017). A study conducted in two Moroccan neighborhoods associated with militant jihad (Sheikh et al., 2016) showed that those participants who were fused with a kin-like group of friends and considered Sharia as sacred were most supportive of militant jihad and most willing to sacrifice to implement Sharia. A follow-up study revealed that intergroup threat maximizes the proneness of devoted actors to assume personal costs for their sacred value. In particular, the Spaniards who were most willing

to endorse extreme sacrifices for democracy were fused with friends, considered democracy sacred, and were reminded of the 2004 terrorist train bombings in Madrid. In short, pro-ingroup or pro-value behavior amplified when identity fusion and sacred values interacted under threatening circumstances.

Frontline investigations with fighters against the Islamic State and online studies with non-radical samples (Gómez et al., 2017) yielded similar conclusions. The convergence of commitment to sacred values and fusion with groups holding those values reinforced the willingness to make costly sacrifices. This suggests that devoted actors are ready to undertake personal costs on behalf of a group or a cause under threatening circumstances. This research does not reveal, however, whether devoted actors also are more likely than non-devoted actors to initiate aggressive actions against perceived enemies.

Threat, perceived formidability and group-related aggression

Aggressive behavior can be elicited by a myriad of genetic, personal, relational, sociocultural and situational factors (Shaver & Mikulincer, 2011). Among those factors, we are interested in the influence of threat. Different kinds of threat can fuel aggressive behavior (e.g., Bushman & Baumeister, 1998; Maass, Cadinu, Guarnieri, & Grasselli, 2003; Talley & Bettencourt, 2008), but endorsement of aggressive reactions depends on the relevance of the aspect (i.e., social identity, values) that is endangered. For example, Israelis fused with Judaism appear to be more supportive of retaliatory activity against Palestinians than non-fused Israelis in response to terrorist attacks (Fredman, Bastian, & Swann, 2017). Individuals who are emotionally invested in the belief that their group possesses unparalleled greatness (collective narcissists, Golec de Zavala, Cichocka, Eidelson, & Jayawickreme, 2009), express intentions to harm an offending outgroup based on their perception of threat from the outgroup and insult to the ingroup. Likewise

we predict that devoted actors –for whom the group and its sacred value are extremely relevant– will respond to threats more aggressively than non-devoted actors. Additionally, we examine a potential underlying factor of aggressive inclinations, namely, perceived formidability of the group versus foes.

When individuals have to decide in a conflict whether to flee, negotiate or attack, they quickly assess the relative fighting capacity of the two competing parties (Durkee, Goetz, & Lukaszewski, 2018; Fessler & Holbrook, 2013). Although this capacity depends on many attributes (e.g., access to weapons), people use physical size and strength to produce a cognitive representation that heuristically summarizes all the determinants of the outcomes in violent conflicts (Fessler, Holbrook, & Snyder, 2012). Just as people automatically estimate the formidability of individuals, they can assess the relative formidability of groups as well. Durkee et al. (2018) found that groups with greater combined formidability were perceived as stronger than groups with lesser combined formidability. Sheikh et al. (2016) showed that devoted actors perceived their ingroup (Spain) as more physically formidable than the outgroup (jihadists) under threatening circumstances, that is, when they were reminded of outgroup values (strict Sharia). Consequently, we propose that devoted actors will exhibit a heightened perception of ingroup formidability as compared to the opposing group when a threat to the value or to the group is salient. Since physical formidability is associated with bellicosity in many cross-cultural studies (Petersen & Dawes, 2017; Sell, Tooby, & Cosmides, 2009; Sell et al., 2017), devoted actors should, in turn, be most likely to engage in aggressive behavior. Thus, we also expect that such aggressive inclinations of devoted actors under threat will be explained by the perceived relative formidability of the ingroup and the threatening group.

Overview of the current research

Since capturing aggressive behavior in the lab poses ethical problems, most studies about aggression rely on intentions as a proxy to actual behavior. Recently, DeWall et al. (2013) developed a new method to assess aggressive inclinations across different settings and relationship contexts, the voodoo doll task. In this task, participants have the opportunity to inflict harm on a doll that represents another person by stabbing the doll with pins. Nine studies suggested that causing harm to the voodoo doll have psychological similarities to causing actual harm to the person the doll represents. In fact, the number of pins that participants inserted into the doll was associated with several self-report indicators of aggression: insulting a close relationship partner during a problem-solving task, showing higher aggressive tendencies and greater anger during a discussion task, and blasting a partner with louder and more prolonged noise during a reaction-time task. McCarthy, Crouch, Basham, Milner, and Skowronski (2016) later found converging evidence for the validity of the voodoo doll task as a proxy for child-directed aggression in a sample of over 1,000 parents.

Although this task provides a reliable and valid measure of aggressive inclinations in interpersonal relationships, there is no clear way to adapt it to an intergroup context. Given this limitation, we developed a videogame[1] that allows measuring differential *aggressive inclinations* towards the ingroup and the outgroup. Like the voodoo task doll, this videogame relies on attacks against symbols as a measure of aggressive inclinations; however, the symbols in this case represent a whole group instead of a single person. The videogame was adapted from the Astro Blaster arcade game created by Sega.

In our Astro Blaster game, participants pilot a spaceship that can fire at the meteorites one finds along the way as the spaceship moves through space. The goal is to

obtain as many points as possible by destroying meteorites. These meteorites can be neutral (a big stone), or represent the ingroup or the outgroup by means of a symbol or a flag. Participants learn that not all meteorites provide the same amount of points. Destroying a neutral meteorite gives no points, destroying an ingroup meteorite gives 100 points and destroying an outgroup meteorites gives 50 points. Participants can maximize their personal gains by destroying ingroup meteorites, because attacking an ingroup meteorite adds twice as many points (100 vs. 50) as destroying an outgroup meteorite. The maximum number of meteorites from each group that could be destroyed is 12 during 60 seconds. Therefore, the maximum score that could be obtained (if all meteorites are destroyed) is 1,800 points, whereas the minimum (if no meteorite is destroyed) is 0 points. In all studies, we operationalized *aggressive inclinations* as the number of outgroup meteorites that participants destroy minus the number of meteorites representing the ingroup. Accordingly, a positive score indicates that participants destroy more outgroup meteorites than ingroup meteorites, whereas a negative score indicates that participants destroy more ingroup meteorites than outgroup meteorites.

Before playing the game, participants reported whether they were fused with their country (Spain) and/or considered democracy sacred, and then they were assigned to a control or a threat condition differing from one study to another. These threats could be either internal (coming from the ingroup) or external (posed by an outgroup): political corruption (Study 1), the bombing attacks perpetrated by jihadi terrorists in Madrid in 2004 (Study 2), an anti-constitutional referendum on the secession of the region of Catalonia from Spain (Study 3), and the extreme interpretation of Sharia (Study 4).

Given that the main outcome measure, aggressive inclinations, is novel in the devoted actor framework, in Studies 1-2 we separately tested the effect of the two

component aspects of the model. Once we obtained preliminary evidence of the impact of each factor on aggressive inclinations, we tested the whole model in Studies 3-4.

We anticipated that a threat (corruption) to the sacred value will increase aggressive inclinations on participants who consider democracy sacred (Study 1), whereas a threat to the group (bombings in Madrid), would increase aggressive inclinations on participants fused with the group (Study 2). Furthermore, we hypothesized that, for devoted actors, a threat to the country unity (secession in Study 3) and to the value of democracy (strict Sharia in Study 4) will amplify hostility toward the outgroup. In addition, all these effects on aggressive inclinations might be explained through the perceived physical strength of the ingroup versus foes.

In Study 4 we also tested whether aggressive inclinations are equivalent to the traditional outcome measure of the devoted actor model, namely, willingness to make costly sacrifices for the group or the value. We predicted that aggressive inclinations and costly sacrifices will be independent (i.e., their association will be low), although both outcomes will be amplified for devoted actors under threat.

We report all measures, manipulations and exclusions in the Method sections. We did not determine sample size a priori. All studies were open for a week and then closed definitely. No additional data were collected after an initial data analysis.

Study 1

Studies 1 and 2 were conducted to independently test whether each of the two components of the devoted actor framework – sacred values and identity fusion – predict aggressive behavior and relative formidability (i.e., the perception of the formidability of the ingroup minus the perception of the formidability of the outgroup). In Study 1 we tested to see if perceiving democracy sacred intensifies the effect of a value-related threat on relative formidability and aggressive inclinations. To that end,

we asked a group of participants to reflect on how the corruption of politicians affects democracy. Based on previous research (Sheikh et al., 2016), we expected an interactive effect between sacred value and salience of threat, such that relative formidability and aggressive inclinations would increase in the threat condition only when the value was perceived as sacred. In addition, we predicted that the interactive effect of threat and sacred value on aggressive inclinations would be mediated by relative formidability.

Method

Participants. A total of 1,245 Spaniards volunteers participated online (59.8% female, M_{age} = 35.27 years, SD = 11.98).

Procedure. Participants were invited to collaborate in a study about intergroup relations. First, we assessed whether participants perceived democracy as a sacred value. To that end, we asked participants how much money would be necessary for them to say publicly that they would renounce democracy. Participants who responded that they would never renounce democracy, no matter how much money they would receive, were categorized as holding sacred values (19.36% had sacred values). Those participants who selected any other option (accepting different quantities of money: €0, €100, €1,000, €10,000, €100,000 and 1 million euros) were categorized as not holding sacred values.

Next, participants were assigned to a threat or control condition. Participants in the *threat condition* were asked to describe how the corruption scandals that had occurred in Spain lately affected democracy in their country. Participants in the *control condition* described how they had known the study. Then, they completed the outcome measures.

Ingroup and *outgroup formidability* were measured by means of a dynamic measure built in HTML and JavaScript (Gómez et al., 2017). This measure was adapted

from a previous 6-item pictorial measure used by Fessler and colleagues (Fessler et al., 2012). This dynamic measure shows two human bodies representing the ingroup and the outgroup, and varying conjointly and proportionally in size and muscularity. Scores ranged between 0 and 10. As we were interested in the intergroup comparison, we subtracted the perception of outgroup formidability from the perception of ingroup formidability to obtain *relative formidability,* which represents an indicator of the perceived physical strength of the ingroup versus foes. A positive sign would then indicate that participants perceived the ingroup as stronger than the outgroup, whereas a negative sign would imply that they perceive the outgroup as stronger than the ingroup. For the sake of brevity, we refer to the threatening group as the "outgroup" although in Studies 1 and 3 this is not strictly accurate. (We elaborate in the discussion.) In Study 1 the outgroup referred to corrupt politicians.

To measure *aggressive inclinations* we asked participants to play our Astro Blaster videogame. In Study 1, participants learned that the ingroup meteorites were represented by a Spanish flag, whereas the outgroup (corrupt politicians) meteorites were represented by a red square.

Results

To test the effect of the sacred value and the experimental manipulation on relative formidability and aggressive inclinations we conducted two linear regression analyses. Condition (0 control, 1 threat), sacred value (0 non sacred, 1 sacred), and the interaction were included as predictors. Age (continuous) and gender (0 female, 1 male) were entered as covariates.[2] Table 1 shows the means and standard deviation for each condition, whereas Table 2 shows the correlations among predictors and outcome variables in all studies.

[Insert Tables 1 and 2]

Relative formidability. The regression on relative formidability yielded a significant effect of the interaction between condition and sacred value, $B = 2.24$, $t(1239) = 2.10$, $p = .036$, 95% CI [0.150, 4.331]. The effect of condition on relative formidability was significant when democracy was considered sacred, $B = 2.71$, $t(1239) = 2.83$, $p = .005$, 95% CI [0.833, 4.586], but not when democracy was not sacred, $B = 0.47$, $t(1239) = 1.00$, $p = .316$, 95% CI [-0.449, 1.387]. The effect of age was also significant (see Supplementary materials).

Aggressive inclinations. The regression on aggressive inclinations yielded a significant effect of the interaction between condition and sacred value, $B = 2.50$, $t(1239) = 3.42$, $p < .001$, 95% CI [1.063, 3.930] as Figure 1 shows. The effect of condition on aggressive inclinations was significant when democracy was considered sacred, $B = 2.78$, $t(1239) = 4.24$, $p < .001$, 95% CI [1.493, 4.067], but not when democracy was not sacred, $B = 0.28$, $t(1239) = 0.88$, $p = .377$, 95% CI [-0.346, 0.913]. The effect of the sacred value was also significant, $B = -1.26$, $t(1239) = -2.38$, $p = .017$, 95% CI [-2.305, -0.222]. No other effects were significant, $ps > .104$.

[Insert Figure 1]

Indirect effects. To test whether relative formidability might mediate the interactive effect of the sacred value and condition on aggressive inclinations we conducted a bootstrapping test (5,000 boots, model 8) with PROCESS (Hayes, 2017). The indirect effect of condition via relative formidability on aggressive inclinations was significant when democracy was sacred, $B = 0.16$, 95% CI [0.032, 0.339], but not when democracy was not sacred, $B = 0.03$, 95% CI [-0.027, 0.097].

Sensitivity power analysis. As our measure of aggressive inclinations is novel, we could not fix an effect size for a priori calculations of sample size. Therefore, we conducted sensitivity analyses in all studies using GPower (Faul, Erdfelder, Lang, &

Buchner, 2007). The output of these analyses is the minimum effect size that can be detected at a given power level. Assuming an alpha significance criterion of .05, a sample size of 1245 participants and five predictors (sacred value, condition, the 2-way interaction, age and gender), we could detect a minimum effect size of $f^2 = .010$ with 80% power.

Discussion

As expected, considering democracy sacred and making salient a threat to that sacred value interacted to increase relative formidability and aggressive inclinations against corrupt politicians. In particular, reflecting on the impact of political corruption led participants who perceived democracy sacred to maximize the relative formidability of their country as opposed to corrupt politicians, and to exhibit more aggressive inclinations as compared to the control condition. In contrast, those participants who did not consider democracy sacred remained insensitive to the threat to democracy. Significantly, relative formidability seemed to mediate the interactive effect of considering democracy sacred and threat on aggressive inclinations.

Study 2

In Study 2, we tested whether identity fusion moderates the impact of a group-related threat on relative formidability and aggressive inclinations. To this end, we asked a group of participants to reflect on the Madrid train-bombing terrorist attack of 2004, the deadliest terrorist attack in the history of Spain (193 killed, nearly 2,000 wounded). Based on previous research, we expected an interactive effect between fusion and salience of threat, such that relative formidability and aggressive inclinations would increase in the threat condition only for fused participants. As in Study 1, we anticipated that relative formidability would mediate the interactive effect of threat and fusion on aggressive inclinations.

Method

Participants. Seven hundred and sixty-one Spaniards (64.5% female, M_{age} = 34.83, *SD* = 11.50) participated in an online study.

Procedure. As in Study 1, participants were invited to collaborate in a study about intergroup relations. Participants first reported their level of fusion with Spain by completing the Dynamic Index of Identity Fusion (DIFI, Jiménez et al., 2015). This index includes two circles of different size representing the self (the small circle) and the group (the big circle). Participants were asked to drag the small circle to the position that best represented their relationship with their country. Those participants who completely introduced the small circle (self) into the big circle (country) were categorized as fused. Those participants for whom overlapping was partial, or who presented no full overlapping between the circles, were categorized as non-fused (21.55% fused).

After reporting their level of fusion with the country, participants were assigned to a threat or control condition. Participants in the *threat condition* were asked to describe what they were doing, and how they felt, on March 11, 2004, when the terrorist train bombings in Madrid occurred. Participants in the *control condition* described what they were doing, and how they felt, on a usual day ten years ago. Then, they completed the measures of formidability (Spaniards vs. Muslims) and played the same videogame as in Study 1 with Muslims as the outgroup.

Results

To test the effect of fusion and the experimental manipulation on relative formidability and aggressive inclinations we conducted two linear regression analyses. Condition (0 control, 1 threat), fusion (0 non-fused, 1 fused) and the interaction were included as predictors. Age and gender were entered as covariates.

Relative formidability. The regression on relative formidability yielded a significant effect of the interaction between condition and fusion, $B = 1.83$, $t(755) = 2.56$, $p = .011$, 95% CI [0.428, 3.241]. The effect of condition on relative formidability was significant for fused individuals, $B = 1.95$, $t(755) = 3.08$, $p = .002$, 95% CI [0.707, 3.201], but not for non-fused, $B = 0.12$, $t(755) = 0.36$, $p = .719$, 95% CI [-0.532, 0.771] (see means and standard deviations in Table 1). The effect of fusion was also significant, $B = 1.83$, $t(755) = 3.44$, $p < .001$, 95% CI [0.788, 2.881], such that fused participants perceived a higher pro-ingroup relative formidability than non-fused. No other effects were significant, ps > .219.

Aggressive inclinations. The regression on aggressive inclinations yielded a significant effect of the interaction between condition and fusion, $B = 1.71$, $t(755) = 2.34$, $p = .019$, 95% CI [0.278, 3.141] as Figure 2 shows. The effect of condition on aggressive inclinations was significant for fused individuals, $B = 2.19$, $t(755) = 3.38$, $p < .001$, 95% CI [0.918, 3.455], but not for non-fused individuals, $B = 0.48$, $t(755) = 1.41$, $p = .159$, 95% CI [-0.187, 1.140]. The effect of fusion was also significant, $B = 1.25$, $t(755) = 2.31$, $p = .021$, 95% CI [0.187, 2.317], such that fused participants showed more aggressive inclinations than non-fused participants. No other effects were significant, ps > .159.

[Insert Figure 2]

Indirect effects. To test whether relative formidability mediates the interactive effect of fusion and condition on aggressive inclinations we conducted a bootstrapping test (5,000 boots, model 8) with PROCESS (Hayes, 2017). The indirect effect of condition via relative formidability on aggressive inclinations was significant for fused participants, $B = 0.27$, 95% CI [0.056, 0.574], but not for non-fused participants, $B = 0.02$, 95% CI [-0.069, 0.119].

Sensitivity power analysis. As in Study 1, we conducted a sensitivity power analysis assuming an alpha significance criterion of .05. With a sample size of 761 participants and five predictors (fusion, condition, the 2-way interaction, age and gender), we could detect a minimum effect size of $f^2 = .017$ with 80% power.

Discussion

As expected, identity fusion and salience of threat interacted to increase relative formidability and aggressive inclinations. In particular, priming the terrorist attack of 2004 for the ingroup led fused participants to maximize the relative formidability of their country as opposed to Muslims, and to increase aggressive inclinations against Muslims. Non-fused participants remained insensitive to the salience of a past threat to the country. Consistent with Study 1, relative formidability apparently mediated the interactive effect of fusion and threat on aggressive inclinations. Once demonstrated that fusion and sacred values separately predict relative formidability favoring the ingroup and aggressive inclinations toward the outgroup, the next step was to examine the interactive effects of both predictors under threat. For this, we used combined threats to the group and to the value in subsequent studies.

Study 3

In Study 3, we checked whether identity fusion and sacred values interactively moderate the impact of threat on relative formidability and aggressive inclinations. To that end, we asked a group of participants to reflect on how an anti-constitutional referendum for independence celebrated in Catalonia (one of the richest regions of Spain) in 2017 affected democracy and their country. Based on previous research, we expected an interaction between fusion, sacred values and salience of threat, such that relative formidability and aggressive inclinations would increase in the threat condition only for devoted actors (fused with country and holding democracy as sacred). As in

prior studies, we predicted that relative formidability would mediate this interactive effect on aggressive inclinations.

Method

Participants. One thousand six hundred and forty-two Spaniards (57.3% female, M_{age} = 34.13, *SD* = 11.60) participated in an online study.

Procedure. We first measured fusion with country and sacred values as in previous studies (40.68% fused, 20.52% with sacred values, and 11.39% devoted actors). Then, participants were assigned to a threat or control condition. Participants in the *threat condition* were asked to describe how an anti-constitutional referendum for independence celebrated in Catalonia affected democracy and their country. Participants in the *control condition* described how they had known the study. Then, they completed the measures of formidability and aggressive inclinations (Spanish vs. pro-secession Catalans).

Results

To test the effect of the experimental manipulation, sacred value, and fusion on the outcome measures, relative formidability and aggressive inclinations, we conducted two linear regression analyses. Condition (0 control, 1 threat), sacred value (0 non sacred, 1 sacred), fusion (0 non-fused, 1 fused) and the 2-way and the 3-way interactions were included as predictors. Age and gender were entered as covariates.

Relative formidability. As expected, the regression on relative formidability yielded a significant effect of the 3-way interaction between sacred values, fusion and condition, B = 4.84, $t(1632) = 4.14$, $p < .001$, 95% CI [2.549, 7.132]. Decomposition of this interaction showed that condition only had a significant effect for devoted actors, and for those who were not fused, but held democracy sacred. Devoted actors showed more pro-ingroup bias with respect to formidability in the threat condition compared to

the control condition, $B = 2.61$, $t(1632) = 3.32$, $p < .001$, 95% CI [1.069, 4.145]. However, those who were not fused but considered democracy sacred showed less pro-ingroup bias in the threat condition compared to the control condition, $B = -1.74$, $t(1632) = -2.55$, $p = .011$, 95% CI [-3.087, -0.402]. The effects of fusion, the interaction between value and condition, age and gender (Ms = 5.73 and 5.25, SDs = 4.61 and 5.00 for women and men, respectively) were also significant (see Supplementary materials).

Aggressive inclinations. The regression on aggressive inclinations yielded a significant effect of the 3-way interaction between sacred values, fusion and condition, $B = 4.49$, $t(1632) = 3.83$, $p < .001$, 95% CI [2.191, 6.786]. Decomposition of this interaction showed that condition only had a significant effect for devoted actors and for those who were not fused, and did not hold democracy as sacred (see Figure 3). Devoted actors showed more aggressive inclinations against pro-secession Catalans in the threat condition than in the control condition, $B = 5.88$, $t(1632) = 7.48$, $p < .001$, 95% CI [4.339, 7.424]. The effect was reversed for those who were not fused and did not hold democracy sacred, $B = -0.66$, $t(1632) = -1.97$, $p = .049$, 95% CI [-1.322, -0.002], and who diminished aggressive inclinations in the threat condition compared to the control condition. The effect of fusion and condition were also significant (see Supplementary materials).

[Insert Figure 3]

Indirect effects. To test whether relative formidability mediates the interactive effect between fusion, value and condition on aggressive inclinations we conducted a bootstrapping test (5,000 boots, model 12) with PROCESS (Hayes, 2017). The indirect effects of condition via relative formidability on aggressive inclinations were significant only for devoted actors, $B = 0.63$, 95% CI [0.381, 0.923], and for those who considered democracy sacred but were not fused, $B = -0.42$, 95% CI [-0.801 to -0.062] (see Supp.).

Sensitivity power analysis. We conducted a sensitivity power analysis assuming an alpha significance criterion of .05. Considering a sample size of 1642 participants and nine predictors (sacred value, fusion, condition, the three 2-way interactions, the 3-way interaction, age and gender), we could detect a minimum effect size of $f^2 = .010$ with 80% power.

Discussion

As expected, condition, sacred values and fusion interacted to increase relative formidability and aggressive inclinations. In particular, reflecting on the impact of secessionism for the sacred value (democracy) and the country (Spain) led devoted actors to maximize the relative formidability of their group and, in turn, exhibit more aggressive inclinations against pro-secession Catalans as compared to the control condition. Those participants who held sacred values but were not fused perceived higher outgroup formidability under threat as compared to the control condition. Those who were not fused and neither held sacred values showed less aggressive inclinations under threat as compared to the control condition. In this study, we focused on a threat generated within the group. In Study 4 we tested whether these effects are replicated when a threat coming from an outgroup is made salient. To obtain converging evidence with preceding research on devoted actors and, at the same time, show that aggressive inclinations are different from the outcomes previously explored by that approach, we also added the traditional dependent variable of the devoted actor framework, the willingness to make costly sacrifices to defend the group or the value.

Study 4

In Study 4, we sought to replicate the results of Study 3 with a different threat to the group and to the value: a strict interpretation of Sharia. As in Study 3, we expected an interaction between fusion, sacred values and salience of threat, such that relative

formidability and aggressive inclinations would increase in the threat condition only for devoted actors. Relative formidability should mediate this interactive effect on aggressive inclinations. Additionally, to test that aggressive inclinations are not equivalent to the traditional outcome measure of the devoted actor framework, we measured participants' willingness to make costly sacrifices for their country and for democracy. We predicted a weak correlation between the two measures of costly sacrifices and aggressive inclinations. Nonetheless, the pattern of results regarding costly sacrifices should be similar to aggressive inclinations. In particular, we also expected a triple interaction between fusion, sacred values and salience of threat, such that devoted actors in the threat condition would show the greatest willingness to make costly sacrifices.

Method

Participants. Six hundred and four Spaniards (60.8% female, M_{age} = 34.41, *SD* = 11.56) participated in an online study.

Procedure. We first measured fusion with country and democracy as a sacred value, as in previous studies (36.59% fused, 23.01% with sacred values, and 12.09% devoted actors). Next, participants were assigned to a threat or control condition. Participants in the *threat condition* read a description of what Sharia is, and what a strict interpretation of Sharia would imply. Then, they were asked to describe how strict Sharia would affect their country and their value. Participants in the *control condition* described how they had known about the study. Then, they completed the same measures of formidability and aggressive inclinations (Spaniards vs. Muslims) as in previous studies.

Willingness to make costly sacrifices for democracy and for the country was assessed by means of two scales 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 democracy/Spain." These items were measured on a seven-point Likert scale ranging from 0 (strongly disagree) to 6 (strongly agree), αs = .84 and .88 for democracy and country, respectively.

Results

To test the effect of the experimental manipulation, sacred value, and fusion on the outcome measures, relative formidability, aggressive inclinations, sacrifices for democracy and for the country, we conducted four linear regression analyses. Condition (0 control, 1 threat), sacred value (0 non sacred, 1 sacred), fusion (0 non-fused, 1 fused) and the 2-way and the 3-way interactions were included as predictors. Age and gender were entered as covariates.

Table 3 shows the means and standard deviations for the outcome variables.

[Insert Table 3]

Relative formidability. As expected, the regression on relative formidability yielded a significant effect of the 3-way interaction between sacred values, fusion and condition, $B = 6.91$, $t(594) = 3.31$, $p = .001$, 95% CI [2.812, 11.002]. Decomposition of this interaction showed that condition only had a significant effect for devoted actors. Devoted actors showed more pro-ingroup relative formidability in the threat condition as compared to the control condition, $B = 6.27$, $t(594) = 4.49$, $p < .001$, 95% CI [3.528, 9.005]. The effects of age and gender (*M*s = 1.97 and 3.34, *SD*s = 5.52 and 5.29 for women and men, respectively) were also significant (see Supplementary materials).

Aggressive inclinations. The regression on aggressive inclinations yielded a significant effect of the 3-way interaction between sacred values, fusion and condition, $B = 4.71$, $t(594) = 2.65$ $p = .008$, 95% CI [1.215, 8.198]. Decomposition of this interaction showed that condition only had a significant effect for devoted actors (see

Figure 4). Devoted actors showed more aggressive inclinations against Muslims in the threat condition as compared to the control condition, $B = 4.26$, $t(594) = 3.58$, $p < .001$, 95% CI [1.925, 6.595]. The effects of condition, fusion and gender (Ms = 1.50 and 2.24, SDs = 4.54 and 4.62 for women and men, respectively) were marginal (see Supplementary materials).

[Insert Figure 4]

Sacrifices for democracy. The regression on sacrifices for democracy yielded a significant effect of the 3-way interaction between sacred values, fusion and condition, $B = 1.30$, $t(594) = 2.86$, $p = .004$, 95% CI [0.407, 2.201]. Decomposition of this interaction showed that condition only had a significant effect for devoted actors. Devoted actors were more willing to sacrifice for democracy in the threat condition as compared to the control condition, $B = 1.52$, $t(594) = 4.98$, $p < .001$, 95% CI [0.922, 2.121]. The effect of age and gender (Ms = 0.94 and 1.37, SDs = 1.13 and 1.26 for women and men, respectively) were also significant (see Supplementary materials).

Sacrifices for the country. The regression on sacrifices for country yielded a significant effect of the 3-way interaction between sacred values, fusion and condition, $B = 1.20$, $t(594) = 2.73$, $p = .007$, 95% CI [0.335, 2.058]. Decomposition of this interaction showed that condition only had a significant effect for devoted actors. Devoted actors were more willing to sacrifice for their country in the threat condition as compared to the control condition, $B = 1.21$, $t(594) = 4.13$, $p < .001$, 95% CI [0.636, 1.789]. The effects age and gender (Ms = 0.76 and 1.28, SDs = 1.05 and 1.36 for women and men, respectively) were also significant, whereas the effect of fusion was marginal (see Supplementary materials).

Indirect effects. To test whether relative formidability mediated the interactive effect between fusion, value and condition on aggressive inclinations as in previous

studies we conducted a bootstrapping test (5,000 boots, model 12) with PROCESS (Hayes, 2017). The indirect effect of condition via relative formidability on aggressive inclinations was significant only for devoted actors, $B = 0.60$, 95% CI [0.135, 1.174], but not for the rest of participants (see Supplementary materials).

Although no more indirect effects were hypothesized, we repeated the same mediational analysis on sacrifices for democracy and for the country. None of the indirect effects were significant, $B = 0.03$, 95% CI [-0.078, 0.174], and $B = -0.04$, 95% CI [-0.197, 0.078], for sacrifices for democracy and for the country, respectively.

Sensitivity power analysis. We conducted a sensitivity power analysis assuming an alpha significance criterion of .05. With a sample size of 604 participants and nine predictors (sacred value, fusion, condition, the three 2-way interactions, the 3-way interaction, age and gender), we could detect a minimum effect size of $f^2 = .026$ with 80% power.

Discussion

As anticipated, condition, sacred values and fusion interacted to increase relative formidability, aggressive inclinations and costly sacrifices for democracy and for the country. In particular, reflecting on the impact of the strict interpretation of Sharia led devoted actors to increase relative formidability in favor of their country, exhibit more aggressive inclinations, and express a higher willingness to make costly sacrifices to defend democracy and their country as compared to the control condition. Once more, increased relative formidability in favor of the ingroup apparently mediated the interactive effect on aggressive inclinations. By contrast, relative formidability did not explain the effects on costly sacrifices.

Complementary analyses

Ingroup and outgroup formidability. We conducted regression analyses on ingroup and outgroup formidability separately to check whether our effects owed to changes in the perception of the ingroup, the outgroup or both. In Study 1, the effect of the interaction between values and condition only yielded a significant effect on outgroup formidability, B = -1.54, $t(1239)$ = -2.84, p = .004, 95% CI [-2.602, -0.478], but not on ingroup formidability, B = 0.70, $t(1239)$ = 1.18, p = .237, 95% CI [-0.461, 1.863]. In Study 2, we found a similar pattern in that the effect of the interaction between fusion and condition only yielded a significant effect on outgroup formidability, B = -1.10, $t(755)$ = -2.31, p = .021, 95% CI [-2.039, -0.168], but not on ingroup formidability, B = 0.73, $t(755)$ = 1.54, p = .125, 95% CI [-0.203, 1.665]. Thus, salience of threat only modifies the perception of outgroup formidability in participants who hold sacred values or who are fused with the group.

However, in Studies 3-4 the 3-way interaction between values, fusion and condition did yield significant effects for both ingroup and outgroup formidability. In Study 3, the effect for ingroup formidability, B = 2.98, $t(1632)$ = 4.44, p < .001, 95% CI [1.667, 4.302], and for outgroup formidability, B = -1.86, $t(1632)$ = -2.43, p = .015, 95% CI [-3.352, -0.360], were significant. Devoted actors under threat perceived the ingroup as more formidable, B = 1.68, $t(1632)$ = 3.72, p < .001, 95% CI [0.793, 2.562], and the outgroup as marginally less formidable, B = -0.93, $t(1632)$ = -1.82, p = .070, 95% CI [-1.934, 0.075] than non-devoted actors. In Study 4, the effect for ingroup formidability, B = 2.65, $t(594)$ = 2.55, p = .011, 95% CI [0.611, 4.694], and for outgroup formidability, B = -4.25, $t(594)$ = -3.06, p = .002, 95% CI [-6.984, -1.524], were significant. Devoted actors under threat perceived the ingroup as more formidable, B = 2.72, $t(594)$ = 3.92, p < .001, 95% CI [1.359, 4.089], and the outgroup as less formidable, B = -3.54 $t(594)$ = -3.81, p < .001, 95% CI [-5.368, -1.717] than non-

devoted actors. Thus, salience of threat modifies devoted actors' perception of both the ingroup and the outgroup simultaneously.

Aggressive inclinations towards the ingroup and the outgroup. We also conducted additional regression analyses to check whether our interactive effects were significant on aggressive inclinations toward the ingroup and toward the threatening group. In Study 1, the effect of the interaction between values and condition yielded significant effects on aggressive inclinations toward the ingroup, B = -1.32, $t(1239)$ = -2.97, p = .003, 95% CI [-2.201, -0.449], and toward the threatening group, B = 1.17, $t(1239)$ = 2.88, p = .004, 95% CI [0.375, 1.969]. In Study 2, the interaction between fusion and condition only yielded a significant effect on aggressive inclinations toward the threatening group, B = 1.32, $t(755)$ = 2.69, p = .007, 95% CI [0.354, 2.280], but not on aggressive inclinations toward the ingroup, B = -0.39, $t(755)$ = -0.65, p = .514, 95% CI [-1.573, 0.788]. In Study 3, the effect on aggressive inclinations toward the ingroup was marginal, B = -1.56, $t(1632)$ = -1.90, p = .057, 95% CI [-3.161, 0.049], whereas it was significant for aggressive inclinations toward the threatening group, B = 2.93, $t(1632)$ = 3.95, $p < .001$, 95% CI [1.475, 4.390]. Devoted actors destroyed less ingroup meteorites, B = -2.47, $t(1632)$ = -4.49, $p < .001$, 95% CI [-3.544, -1.389], and more outgroup meteorites, B = 3.41, $t(1632)$ = 6.85, $p < .001$, 95% CI [2.436, 4.393], than the remainder of participants. In Study 4, the effect on aggressive inclinations toward the ingroup was significant, B = -2.49, $t(594)$ = -2.04, p = .042, 95% CI [-4.892, -0.088], whereas the effect on aggressive inclinations toward the outgroup was marginal, B = 2.22, $t(594)$ = 1.79, p = .074, 95% CI [-0.219, 4.652]. Devoted actors under threat destroyed less ingroup meteorites, B = -2.20, $t(594)$ = -2.69, p = .007, 95% CI [-3.809, -0.597], and more outgroup meteorites, B = 2.06, $t(594)$ = 2.48, p = .013, 95% CI [0.428, 3.686], than the remainder of participants. In brief, salience of threat influenced devoted

actors' number of shots both towards the ingroup (diminishing) and towards the outgroup (increasing) simultaneously.

General Discussion

Devoted actors are highly disposed to sacrifice themselves to protect their group or their sacred values from a perceived threat (Gómez et al., 2017; Sheikh et al., 2016). In two studies (Studies 3-4) we consistently found that devoted actors also express willingness to engage in aggressive behavior against perceived foes even at the expense of personal gains when they feel threatened. Those participants who were fused with their group (Spain), considered their value (democracy) sacred, and were reminded of a collective threat destroyed more outgroup meteorites than ingroup meteorites, although this decision diminished personal gains. Identity fusion and sacred values – the two components of the devoted actor framework– also appeared to independently invigorate aggressive inclinations towards enemies in the face of threat towards the value or the group (Studies 1-2).

Significantly, these effects were apparently mediated by the perception that the ingroup is more formidable than the rival group. Fused individuals in Study 1, those who sacralized democracy in Study 2, and devoted actors in Studies 3-4 attributed more formidability to the ingroup than to enemies and, in turn, engaged in more aggressive behavior. Of course, this evidence should be interpreted cautiously until future longitudinal studies test these proposed causal paths.

As in previous research (e.g., Atran et al., 2016), devoted actors remarkably amplified their willingness to make costly, personal sacrifices to defend democracy and their country when they reflected on how the strict interpretation of Sharia could affect their value and their group. Unlike aggressive inclinations, the effect of threat on devoted actors' willingness to sacrifice was not mediated by relative formidability. This

is not surprising inasmuch as the measure of costly sacrifices captures a general predisposition to defend the group or the value and is independent of the intergroup context. The weak association between aggressive inclinations and willingness to engage in costly sacrifices suggests that these outcomes are of different nature. Future research, then, might examine other potential mediators of the effect on intergroup aggressive inclinations besides relative formidability. The mechanisms found to mediate the effect of fusion on willingness to fight and die for the group (see Gómez, Brooks et al., 2011; Swann, Gómez et al., 2014) probably do not explain intergroup orientations, as they are exclusively focused on intragroup processes (e.g., familial ties with other ingroup members). Thus, the potential mediators of intergroup aggressive inclinations should be referred to the outgroup, or to a comparison between the ingroup and the outgroup (e.g., intergroup anger).

To capture intergroup aggressive inclinations, we developed a videogame that can be customized by changing the symbols representing each group. This videogame is similar to other methods as the voodoo doll task (DeWall et al., 2013) in that it assumes that people transfer characteristics of a group onto the symbol that represents that group. However, our videogame has the additional advantage that it is adaptable to an intergroup context. In the present research we used three different threatening groups (corrupt politicians, Muslims, pro-secession Catalans). It should be noted that results were consistent across four studies although we presented diverse threats and groups.

Our decision to refer to internal enemies as the outgroup could be criticized on the basis of common membership. Corrupt politicians and secessionists are strictly part of the group (Spain) from an external perspective. However, they diverge markedly from expected group norms in that they put the value or the group at risk by seemingly illegitimate means. People usually react to such divergence from the norm by rejecting

or excluding those who do so from the ingroup (Eidelman, Silvia, & Biernat, 2006; Jetten & Hornsey, 2014). The consistency of our findings regardless of the source of threat indicates that people treat ingroup members who diverge from expected norms and outgroups in similar ways.

Our findings suggest that the devoted actor framework (Atran, 2016; Atran, Sheikh, & Gómez, 2014; Gómez et al., 2017) can contribute to the comprehension of complex phenomena as intra and intergroup violence and terrorism. Our findings are novel in that they reveal that identity fusion and sacred values not only predispose individuals to sacrifice themselves for the group or the value (e.g., Gómez et al., 2017), but also to engage in aggressive actions against perceived foes even at the expense of immediate personal costs. Apparently, they do so encouraged by a grandiose perception of ingroup physical formidability, a factor that is commonly associated with anger (Sell et al., 2009) and aggression (Fessler et al., 2012). Thus, identity fusion and sacred values could be added to the set of factors that modulate the perception of formidability (e.g., Fessler & Holbrook, 2013, 2014).

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Notes:

[1] The instructions and code in JavaScript of the videogame, materials and data are available at: https://osf.io/7xnpu/?view_only=e14341ac52cd4839bf981bcc16020434

[2] We included age and gender as covariates because these variables have been found to moderate aggressive reactions (Eagly & Steffen, 1986; Harris & Knight-Bohnhoff, 1996). Additionally, men tend to use videogame more frequently than women (De Lisi & Cammarano, 1996).

References

Atran, S. (2016). The devoted actor: unconditional commitment and intractable conflict across cultures. *Current Anthropology*, *57*, S192-S203. doi: 10.1086/685495

Atran, S., & Axelrod, R. (2008). Reframing sacred values. *Negotiation Journal*, *24*, 221-246. doi: 10.1111/j.1571-9979.2008.00182.x

Atran, S., Axelrod, R., & Davis, R. (2007). Sacred barriers to conflict resolution. *Science*, *317*, 1039–1040. doi: 10.1126/science.1144241

Atran, S., & Ginges, J. (2012). Religious and sacred imperatives in human conflict. S*cience*, *336*, 855-857. doi: 10.1126/science.1216902

Atran, S., Sheikh, H., & Gómez, Á. (2014). Devoted actors sacrifice for close comrades and sacred cause. *Proceedings of the National Academy of Sciences*, *111*, 17702-17703. doi: 10.1073/pnas.1420474111

Bushman, B. J., & Baumeister, R. F. (1998). Threatened egotism, narcissism, self-esteem, and direct and displaced aggression: Does self-love or self-hate lead to violence?. *Journal of Personality and Social Psychology*, *75*, 219-229. doi: 10.1037/0022-3514.75.1.219

De Lisi, R., & Cammarano, D. M. (1996). Computer experience and gender differences in undergraduate mental rotation performance. *Computers in Human Behavior*, *12*, 351-361. doi: 10.1016/0747-5632(96)00013-1

DeWall, C. N., Finkel, E. J., Lambert, N. M., Slotter, E. B., Bodenhausen, G. V., Pond, R. S., Jr, Fincham, F. D. (2013). The voodoo doll task: Introducing and validating a novel method for studying aggressive inclinations. *Aggressive Behavior. 39*, 1-21. doi: 10.1002/ab.21496.

Durkee, P. K., Goetz, A. T., & Lukaszewski, A. W. (2018). Formidability assessment mechanisms: Examining their speed and automaticity. *Evolution and Human Behavior*, *39*, 170-178. doi: 10.1016/j.evolhumbehav.2017.12.006

Eagly, A. H., & Steffen, V. J. (1986). Gender and aggressive behavior: a meta-analytic review of the social psychological literature. *Psychological Bulletin*, *100*, 309. doi: 10.1037/0033-2909.100.3.309

Eidelman, S., Silvia, P. J., & Biernat, M. (2006). Responding to deviance: Target exclusion and differential devaluation. *Personality and Social Psychology Bulletin*, *32*, 1153-1164. doi: 10.1177/0146167206288720

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175-191.

Fessler, D. M., & Holbrook, C. (2013). Friends shrink foes: The presence of comrades decreases the envisioned physical formidability of an opponent. *Psychological Science*, *24*, 797-802. doi: 10.1177/0956797612461508

Fessler, D. M., & Holbrook, C. (2014). Marching into battle: Synchronized walking diminishes the conceptualized formidability of an antagonist in men. *Biology Letters*, *10*, 20140592. doi: 10.1098/rsbl.2014.0592

Fessler, D. M., Holbrook, C., & Snyder, J. K. (2012). Weapons make the man (larger): Formidability is represented as size and strength in humans. *PloS One, 7*, e32751. doi: 10.1371/journal.pone.0032751

Fredman, L. A., Bastian, B., & Swann, W. B. (2017). God or country? Fusion with Judaism predicts desire for retaliation following Palestinian stabbing Intifada. *Social Psychological and Personality Science*, *8*, 882-887. doi: 10.1177/1948550617693059

Ginges, J., Atran, S., Sachdeva, S., & Medin, D. (2011). Psychology out of the laboratory: The challenge of violent extremism. *American Psychologist*, *66*, 507-519. doi: 10.1037/a0024715

Golec de Zavala, A., Cichocka, A., Eidelson, R., & Jayawickreme, N. (2009). Collective narcissism and its social consequences. *Journal of Personality and Social Psychology*, *97*, 1074-1096. doi: 10.1037/a0016904

Gómez, Á., Brooks, M. L., Buhrmester, M. D., Vázquez, A., Jetten, J., & Swann, W. B. (2011). On the nature of identity fusion: Insights into the construct and a new measure. *Journal of Personality and Social Psychology*, *100*, 918–933. doi: 10.1037/a0022642

Gómez, Á., López-Rodríguez, L., Sheikh, H., Ginges, J., Wilson, L., Waziri, H., Vázquez, A., Davis, R., & Atran, S. (2017). The devoted actor's 'will to fight' and the spiritual dimension of human conflict. *Nature of Human Behavior*, *1*, 673–679. doi: 10.1038/s41562-017-0193-3

Gómez, Á., Morales, J. F., Hart, S., Vázquez, A., & Swann, W. B. (2011). Rejected and excluded forevermore, but even more devoted. *Personality and Social Psychology Bulletin*, *37*, 1574–1586. doi: 10.1177/0146167211424580

Gómez, Á., & Vázquez, A. (2015). The power of "feeling one" with a group: Identity fusion and extreme pro-group behaviours [El poder de "sentirse uno" con un grupo: Fusion de la identidad y conductas progrupales extremas]. *Revista de Psicología Social*, *30*, 481–511. doi: 10.1080/02134748.2015.1065089

Harris, M. B., & Knight-Bohnhoff, K. (1996). Gender and aggression II: Personal aggressiveness. *Sex roles*, *35*, 27-42.

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, UE: Guilford Publications.

Jetten, J., & Hornsey, M. J. (2014). Deviance and dissent in groups. *Annual Review of Psychology*, *65*, 461-485. doi: 10.1146/annurev-psych-010213-115151

Jiménez, J., Gómez, Á., Buhrmester, M. D., Vázquez, A., Whitehouse, H., & Swann, W. B. (2015). The dynamic identity fusion index: A new continuous measure of identity fusion for web-based questionnaires. *Social Science Computer Review*, *34*, 215-228. doi: 10.1177/0894439314566178

Maass, A., Cadinu, M., Guarnieri, G., & Grasselli, A. (2003). Sexual harassment under social identity threat: The computer harassment paradigm. *Journal of Personality and Social Psychology*, *85*, 853 -870. doi: 10.1037/0022-3514.85.5.853.

McCarthy, R. J., Crouch, J. L., Basham, A. R., Milner, J. S., & Skowronski, J. J. (2016). Validating the voodoo doll task as a proxy for aggressive parenting behavior. *Psychology of Violence*, *6*, 135-144. doi: 10.1037/a0038456

Petersen, M. B., & Dawes, C. T. (2017). Assessing causal pathways between physical formidability and aggression in human males. *Personality and Individual Differences*, *113*, 161-166. doi: 10.1016/j.paid.2017.03.022

Rappaport, R. (1999). *Ritual and religion in the making of humanity*. Cambridge: Cambridge University Press.

Sell, A., Sznycer, D., Cosmides, L., Tooby, J., Krauss, A., Nisus, S., Cape, C., & Petersen, M. B. (2017). Physically strong men are more militant: A test across four countries. *Evolution and Human Behavior*, *38*, 334-340. doi: 10.1016/j.evolhumbehav.2016.11.002

Sell, A., Tooby, J., & Cosmides, L. (2009). Formidability and the logic of human anger. *Proceedings of the National Academy of Sciences*, *106*, 15073-15078. doi: 10.1073/pnas.0904312106

Shaver, P. R., & Mikulincer, M. (Eds.). (2011). *Herzilya series on personality and social psychology. Human aggression and violence: Causes, manifestations, and consequences.* Washington, DC: American Psychological Association. doi: 10.1037/12346-000

Sheikh, H., Ginges, J., Coman, A., & Atran, S. (2012). Religion, group threat and sacred values. *Judgment and Decision Making*, *7*, 110-118.

Sheikh, H., Gómez, Á., & Atran, S. (2016). Empirical evidence for the devoted actor model. *Current Anthropology*, *57*, S204–S209. doi: 10.1086/686221

Swann, W. B., Buhrmester, M. D., Gómez, Á., Jetten, J., Bastian, B., Vázquez, A., ... Zhang, A. (2014). What makes a group worth dying for? Identity fusion fosters perception of familial ties, promoting self-sacrifice. *Journal of Personality and Social Psychology*, *106*, 912–926. doi: 10.1037/a0036089

Swann, W. B., Gómez, Á., Buhrmester, M. D., López-Rodríguez, L., Jiménez, J., & Vázquez, A. (2014). Contemplating the ultimate sacrifice: Identity fusion channels pro-group affect, cognition, and moral decision making. *Journal of Personality and Social Psychology*, *106*, 713-727. doi: 10.1037/a0035809

Swann, W. B., Jetten, J., Gómez, Á., Whitehouse, H., & Bastian, B. (2012). When group membership gets personal: A theory of identity fusion. *Psychological Review*, *119*, 441–456. doi: 10.1037/a0028589

Talley, A. E., & Bettencourt, B. A. (2008). Evaluations and aggression directed at a gay male target: The role of threat and antigay prejudice 1. *Journal of Applied Social Psychology*, *38*, 647-683. doi: 10.1111/j.1559-1816.2007.00321.x

Tetlock, P. E., Kristel, O. V., Elson, S. B., Green, M. C., & Lerner, J. S. (2000). The psychology of the unthinkable: Taboo trade-offs, forbidden base rates, and

heretical counterfactuals. *Journal of Personality and Social Psychology*, *78*, 853-870. doi: 10.1037/0022-3514.78.5.853

Table 1. Studies 1-3. N, means and standard deviations per condition.

					Relative formidability		Aggressive inclinations	
Study	Condition	Sacred Value	Fusion	*n*	*M*	*SD*	*M*	*SD*
1	Control	No SV		502	-3.38	7.67	3.75	5.14
		SV		113	-4.58	7.18	2.53	5.20
	Threat	No SV		502	-2.94	7.66	4.06	5.07
		SV		128	-1.43	8.32	5.26	4.77
2	Control		Non-fused	278	-0.40	3.87	-0.99	3.91
			Fused	74	1.35	4.06	0.27	3.56
	Threat		Non-fused	319	-0.28	3.80	-0.52	3.98
			Fused	90	3.31	5.23	2.46	5.40
3	Control	No SV	Non-fused	385	5.05	5.04	0.56	4.68
			Fused	261	6.17	4.53	2.24	4.75
		SV	Non-fused	77	5.31	4.72	-0.31	4.86
			Fused	73	6.52	4.02	1.60	5.30
	Threat	No SV	Non-fused	394	5.21	4.56	-0.10	4.55
			Fused	265	5.75	4.69	2.15	4.80
		SV	Non-fused	118	3.56	5.69	0.52	5.27
			Fused	69	9.16	1.37	7.48	1.82

Table 2. Studies 1-4. Correlations between predictors and dependent variables.

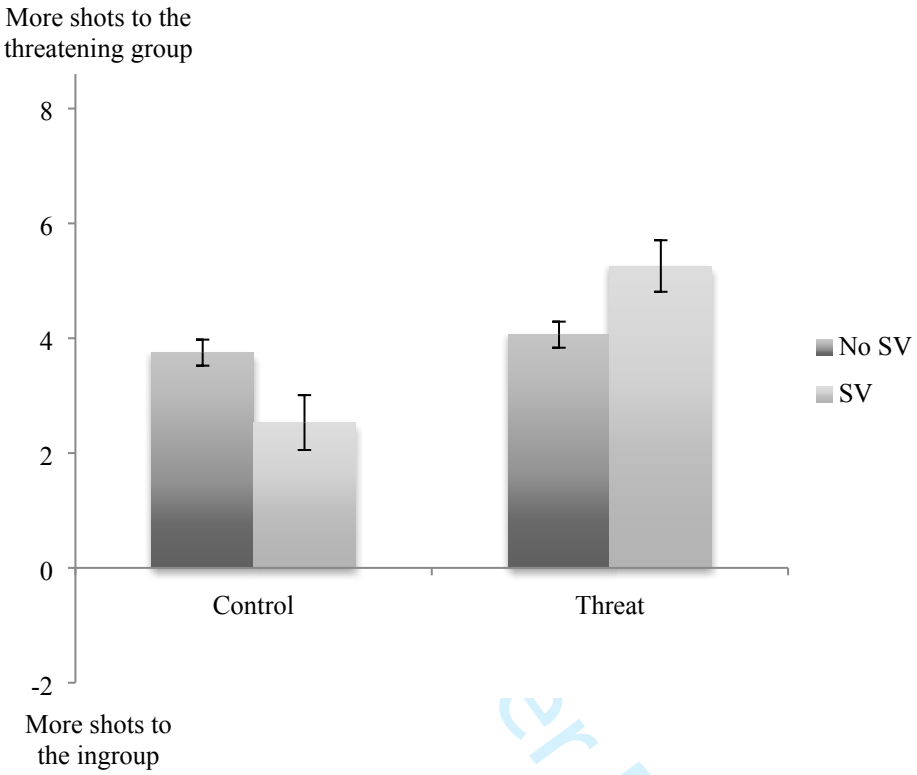
		1	2	3	4	5
Study 1	1. SV					
	2. Fusion					
	3. Relative formidability	.01				
	4. Aggressive inclinations	.01		.08**		
Study 2	1. SV					
	2. Fusion					
	3. Relative formidability		.27**			
	4. Aggressive inclinations		.21**	.20**		
Study 3	1. SV					
	2. Fusion	.01				
	3. Relative formidability	.02	.14**			
	4. Aggressive inclinations	.08**	.24**	.28**		
Study 4	1. SV					
	2. Fusion	.05				
	3. Relative formidability	.10*	.13**			
	4. Aggressive inclinations	.10*	.11**	.17**		
	5. Sacrifices democracy	.01	.03	.10*	.04	
	6. Sacrifices country	.10*	.25**	.10*	.14**	.66**

AGGRESSIVE INCLINATIONS IN DEVOTED ACTORS

Table 3. *N*, means and standard deviations per condition.

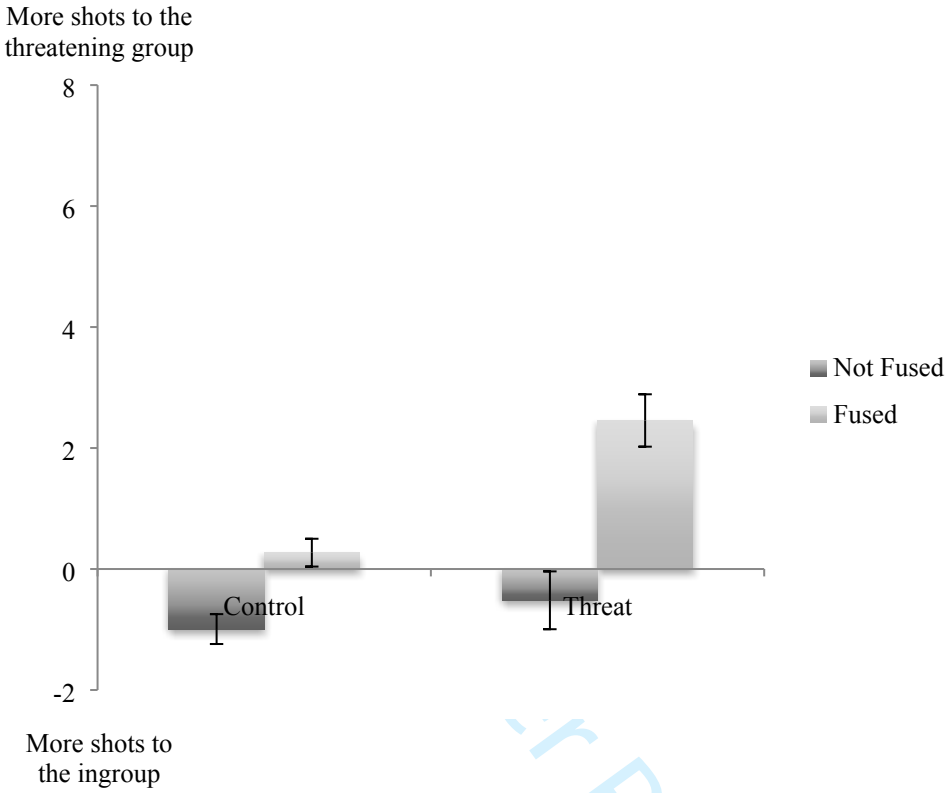
Condition	Sacred Value	Fusion	*N*	Relative formidability		Aggressive inclinations		Sacrifices democracy		Sacrifices country	
Control	No SV	Non-fused	145	1.62	5.22	0.81	4.25	1.12	1.05	0.70	0.90
		Fused	83	2.43	5.06	1.95	4.47	0.97	1.19	1.01	1.09
	SV	Non-fused	39	2.03	5.13	1.64	4.70	0.72	0.95	0.59	0.92
		Fused	27	2.37	5.68	1.41	5.01	0.70	1.01	1.36	1.31
Threat	No SV	Non-fused	156	2.29	5.41	1.70	4.70	1.17	1.23	0.83	1.16
		Fused	81	2.89	5.52	2.15	4.65	1.09	1.23	1.25	1.44
	SV	Non-fused	43	1.93	6.36	2.07	4.73	0.97	1.00	0.63	0.89
		Fused	30	8.70	2.37	5.70	2.74	2.24	1.64	2.60	1.55

Figure 1. Study 1. Aggressive inclinations (threatening group shots minus ingroup shots) as a function of Condition and Sacred Values.



AGGRESSIVE INCLINATIONS IN DEVOTED ACTORS

Figure 2. Study 2. Aggressive inclinations (threatening group shots minus ingroup shots) as a function of Condition and Identity fusion.



AGGRESSIVE INCLINATIONS IN DEVOTED ACTORS

Figure 3. Study 3. Aggressive inclinations (threatening group shots minus ingroup shots) as a function of Condition, Sacred Values and Identity fusion.

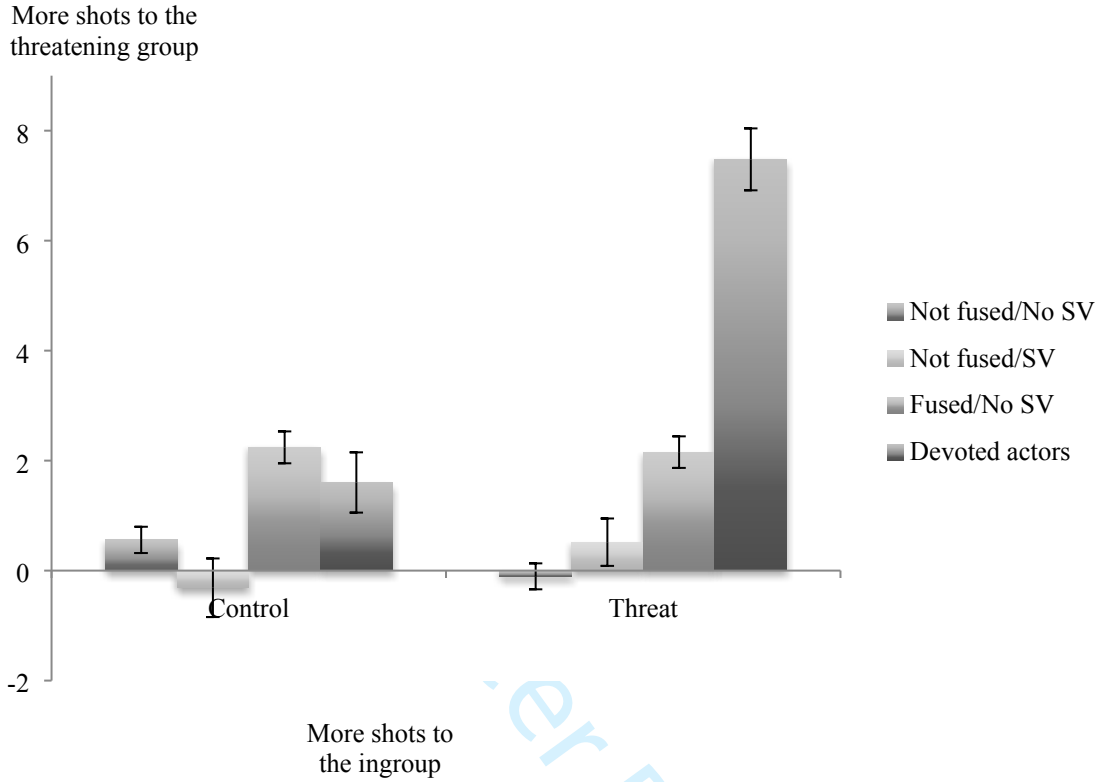


Figure 4. Study 4. Aggressive inclinations (threatening group shots minus ingroup shots) as a function of Condition, Sacred Values and Identity fusion.

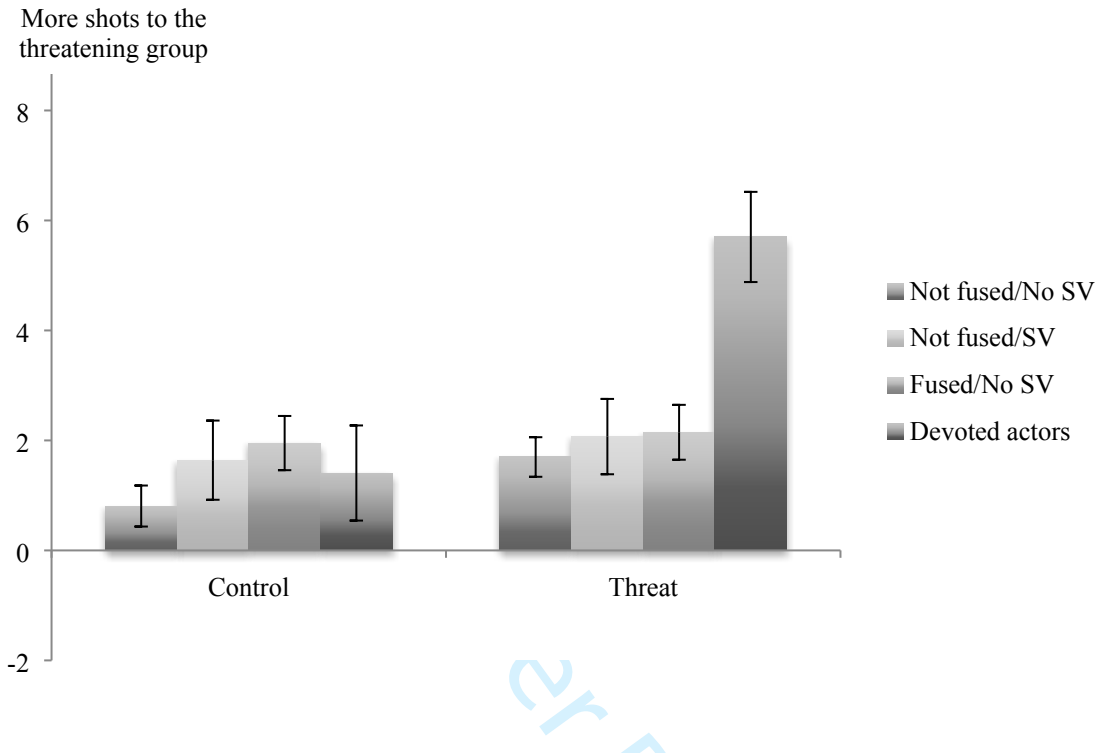


Table 1. Study 1. Regression on Formidability bias

	B	*se*	*t*	*p*	LLCI	ULCI
Constant	-9.8173	0.7198	-13.6388	.0000	-11.2295	-8.4051
Condition	0.4690	0.4680	1.0021	.3165	-.4492	1.3871
Values	-0.4798	0.7743	-0.6197	.5355	-1.9988	1.0392
Condition x Value	2.2407	1.0655	2.1031	.0357	0.1504	4.3310
Gender	0.6098	0.4323	1.4105	.1586	-0.2384	1.4580
Age	0.1726	0.0178	9.7213	.0000	0.1377	0.2074

Conditional effects of the Condition:

Values	*B*	*se*	*t*	*p*	LLCI	ULCI
0	0.4690	0.4680	1.0021	.3165	-0.4492	1.3871
1	2.7097	0.9566	2.8325	.0047	0.8329	4.5864

Table 2. Study 1. Regression on Aggressive inclinations

	B	*se*	*t*	*p*	LLCI	ULCI
Constant	4.3181	0.4936	8.7482	.0000	3.3497	5.2865
Condition	0.2835	0.3209	0.8833	.3772	-0.3461	0.9131
Values	-1.2637	0.5309	-2.3801	.0175	-2.3053	-0.2220
Condition x Value	2.4967	0.7306	3.4172	.0007	1.0633	3.9301
Gender	-0.4825	0.2965	-1.6276	.1039	-1.0642	0.0991
Age	-0.0102	0.0122	-0.8381	.4021	-0.0341	0.0137

Conditional effects of the Condition:

Values	*B*	*se*	*t*	*p*	LLCI	ULCI
0	0.2835	0.3209	0.8833	.3772	-0.3461	0.9131
1	2.7802	0.6560	4.2381	.0000	1.4932	4.0672

Table 3. Study 2. Regression on Formidability bias

	B	*se*	*t*	*p*	LLCI	ULCI
Constant	0.1119	0.5065	0.2209	.8252	-0.8824	1.1062
Condition	0.1197	0.3320	0.3605	.7186	-0.5321	0.7715
Fusion	1.8347	0.5332	3.4407	.0006	0.7879	2.8815
Condition x Fusion	1.8344	0.7166	2.5600	.0107	0.4277	3.2411
Gender	0.0890	0.3084	0.2884	.7731	-0.5165	0.6944
Age	-0.0161	0.0131	-1.2310	.2187	-0.0417	0.0096

Conditional effects of the Condition:

Fusion	*B*	*se*	*t*	*p*	LLCI	ULCI
0	0.1197	0.3320	0.3605	.7186	-0.5321	0.7715
1	1.9541	0.6351	3.0768	.0022	0.7073	3.2009

Table 4. Study 2. Regression on Aggressive inclinations

	B	*se*	*t*	*p*	LLCI	ULCI
Constant	-1.0599	0.5154	-2.0564	.0401	-2.0716	-0.0481
Condition	0.4766	0. 3379	1.4107	.1587	-0.1866	1.1399
Fusion	1.2521	0.5426	2.3076	.0213	0.1869	2.3174
Condition x Fusion	1.7098	0.7292	2.3448	.0193	0.2783	3.1412
Gender	-0.0194	0.3139	-0.0618	.9507	-0.6355	0.5967
Age	0.0022	0.0133	0.1636	.8701	-0.0239	0.0283

Conditional effects of the Condition:

Fusion	*B*	*se*	*t*	*p*	LLCI	ULCI
0	0.4766	0.3379	1.4107	.1587	-0.1866	1.1399
1	2.1864	0.6463	3.3831	.0008	0.9177	3.4551

Table 5. Study 3. Regression on Formidability bias

	B	*se*	*t*	*p*	LLCI	ULCI
Constant	4.4578	0.4069	10.9559	.0000	3.6597	5.2559
Condition	0.0835	0.3354	0.2490	.8034	-0.5744	0.7414
Values	0.2878	0.5834	0.4933	.6219	-0.8565	1.4321
Condition x Value	-1.8280	0.7623	-2.3981	.0166	-3.3231	-0.3328
Fusion	0.9482	0.3796	2.4979	.0126	0.2037	1.6927
Condition x Fusion	-0.4889	0.5281	-0.9258	.3547	-1.5248	0.5469
Value x Fusion	0.2054	0.8510	0.2414	.8093	-1.4638	1.8747
Condition x Value x Fusion	4.8404	1.1682	4.1436	.0000	2.5492	7.1317
Gender	-0.5470	0.2342	-2.3359	.0196	-1.0063	-0.0877
Age	0.0263	0.0102	2.5900	.0097	0.0064	0.0462

Conditional Condition x Value interaction at values of Fusion:

Fusion	*B*	*F*	df1	df2	*p*
0	-1.8280	5.7507	1	1632	.0166
1	3.0125	11.6108	1	1632	.0007

Conditional effects of the Condition at values of the moderators:

Values	Fusion	*B*	*se*	*t*	*p*	LLCI	ULCI
0	0	0.0835	0.3354	0.2490	.8034	-0.5744	0.7414
0	1	-0.4054	0.4074	-0.9950	0.3199	-1.2045	0.3937
1	0	-1.7445	0.6842	-2.5495	0.0109	-3.0866	-0.4024
1	1	2.6070	0.7843	3.3240	0.0009	1.0687	4.1454

Table 6. Study 3. Regression on Aggressive inclinations

	B	*se*	*t*	*p*	LLCI	ULCI
Constant	0.6556	0.4080	1.6070	.1083	-0.1446	1.4558
Condition	-0.6621	0.3363	-1.9687	.0492	-1.3217	-0.0025
Values	-0.8572	0.5850	-1.4654	.1430	-2.0046	0.2901
Condition x Value	1.4846	0.7643	1.9425	.0522	-0.0145	2.9838
Fusion	1.6893	0.3806	4.4384	.0000	0.9428	2.4358
Condition x Fusion	0.5703	0.5295	1.0770	.2816	-0.4683	1.6089
Value x Fusion	0.2239	0.8533	0.2624	.7930	-1.4497	1.8976
Condition x Value x Fusion	4.4887	1.1713	3.8324	.0001	2.1914	6.7861
Gender	-0.1268	0.2348	-0.5400	.5893	-0.5873	0.3338
Age	-0.0014	0.0102	-0.1343	.8932	-0.0213	0.0186

Conditional Condition x Value interaction at values of Fusion:

Fusion	*B*	*F*	df1	df2	*p*
0	1.4846	3.7733	1	1632	.0522
1	5.9734	45.4110	1	1632	.000

Conditional effects of the Condition at values of the moderators:

Values	Fusion	*B*	*se*	*t*	*p*	LLCI	ULCI
0	0	-0.6621	0.3363	-1.9687	.0492	-1.3217	-0.0025
0	1	-0.0918	0.4085	-0.2247	.8223	-0.8930	0.7095
1	0	0.8226	0.6861	1.1990	.2307	-0.5231	2.1682
1	1	5.8816	0.7864	7.4793	.0000	4.3392	7.4240

Table 7. Study 4. Regression on Formidability bias

	B	*se*	*t*	*p*	LLCI	ULCI
Constant	-0.1106	0.7710	-0.1434	.8860	-1.6248	1.4037
Condition	0.7176	0.6075	1.1811	.2380	-0.4756	1.9107
Values	0.6694	0.9530	0.7025	.4827	-1.2021	2.5410
Condition x Value	-0.8957	1.3144	-0.6815	.4958	-3.4770	1.6857
Fusion	0.7904	0.7371	1.0723	.2840	-0.6573	2.2381
Condition x Fusion	-0.4626	1.0255	-0.4511	.6521	-2.4766	1.5514
Value x Fusion	-0.8605	1.5143	-0.5682	.5701	-3.8345	2.1135
Condition x Value x Fusion	6.9072	2.0851	3.3127	.0010	2.8121	11.0023
Gender	1.1312	0.4452	2.5410	.0113	0.2569	2.0054
Age	0.0377	0.0191	1.9732	.0489	0.0002	0.0752

Conditional Condition x Value interaction at values of Fusion:

Fusion	*B*	*F*	df1	df2	*p*
0	-0.8957	0.4644	1	594	.4958
1	6.0115	13.8055	1	594	.0002

Conditional effects of the Condition at values of the moderators:

Values	Fusion	*B*	*se*	*t*	*p*	LLCI	ULCI
0	0	0.7176	0.6075	1.1811	.2380	-0.4756	1.9107
0	1	0.2550	0. 8235	0.3096	.7570	-1.3624	1.8723
1	0	-0.1781	1.1634	-0.1531	.8784	-2.4629	2.1067
1	1	6.2665	1.3944	4.4940	.0000	3.5279	9.0051

Table 8. Study 4. Regression on Aggressive inclinations

	B	*se*	*t*	*p*	LLCI	ULCI
Constant	-0.3144	0.6574	-0.4783	.6326	-1.6055	0.9766
Condition	0.9121	0.5180	1.7608	.0788	-0.1053	1.9294
Values	0.9869	0.8125	1.2146	.2250	-0.6088	2.5826
Condition x Value	-0.5254	1.1206	-0.4688	.6394	-2.7263	1.6755
Fusion	1.1082	0.6285	1.7633	.0784	-0.1261	2.3426
Condition x Fusion	-0.8331	0.8743	-0.9529	.3410	-2.5503	0.8840
Value x Fusion	-1.5935	1.2911	-1.2342	.2176	-4.1292	0.9421
Condition x Value x Fusion	4.7063	1.7778	2.6473	.0083	1.2148	8.1978
Gender	0.6485	0.3796	1.7087	.0880	-0.0969	1.3940
Age	0.0256	0.0163	1.5718	.1165	-0.0064	0.0576

Conditional Condition x Value interaction at values of Fusion:

Fusion	*B*	*F*	df1	df2	*p*
0	-0.5254	0.2198	1	594	.6394
1	4.1810	9.1862	1	594	.0025

Conditional effects of the Condition at values of the moderators:

Values	Fusion	*B*	*se*	*t*	*p*	LLCI	ULCI
0	0	0.9121	0.5180	1.7608	.0788	-0.1053	1.9294
0	1	0.0789	0.7021	0.1124	.9105	-1.3001	1.4579
1	0	0.3867	0.9919	0.3898	.6968	-1.5614	2.3347
1	1	4.2599	1.1889	3.5831	.0004	1.9250	6.5948

Table 9. Study 4. Regression on Sacrifices for Democracy

	B	*se*	*t*	*p*	LLCI	ULCI
Constant	0.6538	0.1688	3.8720	.0001	0.3222	0.9854
Condition	0.0605	0.1330	0.4551	.6492	-0.2008	0.3218
Values	-0.3165	0.2087	-1.5165	.1299	-0.7264	0.0934
Condition x Value	0.1589	0.2878	0.5520	.5812	-0.4064	0.7242
Fusion	-0.1441	0.1614	-0.8926	.3725	-0.4611	0.1730
Condition x Fusion	-0.0021	0.2246	-0.0095	.9924	-0.4432	0.4389
Value x Fusion	-0.0056	0.3316	-0.0169	.9865	-0.6569	0.6457
Condition x Value x Fusion	1.3042	0.4566	2.8562	.0044	0.4074	2.2010
Gender	0.3588	0.0975	3.6805	.0003	0.1673	0.5503
Age	0.0095	0.0042	2.2641	.0239	0.0013	0.0177

Conditional Condition x Value interaction at values of Fusion:

Fusion	*B*	*F*	df1	df2	*p*
0	0.1589	0.3047	1	594	.5812
1	1.4631	17.0510	1	594	.000

Conditional effects of the Condition at values of the moderators:

Values	Fusion	*B*	*se*	*t*	*p*	LLCI	ULCI
0	0	0.0605	0.1330	0.4551	.6492	-0.2008	0.3218
0	1	0.0584	0.1803	0.3239	.7461	-0.2958	0.4126
1	0	0.2194	0.2548	0.8613	.3894	-0.2809	0.7198
1	1	1.5215	0.3054	4.9825	.0000	0.9218	2.1212

Table 10. Study 4. Regression on Sacrifices for Country

	B	*se*	*t*	*p*	LLCI	ULCI
Constant	.0342	.1622	.2105	.8333	-.2845	.3528
Condition	.1497	.1278	1.1708	.2422	-.1014	.4008
Values	-.0032	.2005	-.0159	.9873	-.3970	.3907
Condition x Value	-.1490	.2766	-.5387	.5903	-.6922	.3942
Fusion	.3012	.1551	1.9417	.0526	-.0035	.6058
Condition x Fusion	.0149	.2158	.0692	.9449	-.4089	.4387
Value x Fusion	.3065	.3187	.9618	.3366	-.3194	.9323
Condition x Value x Fusion	1.1968	.4388	2.7275	.0066	.3350	2.0585
Gender	.4391	.0937	4.6878	.0000	.2552	.6231
Age	.0145	.0040	3.5973	.0003	.0066	.0223

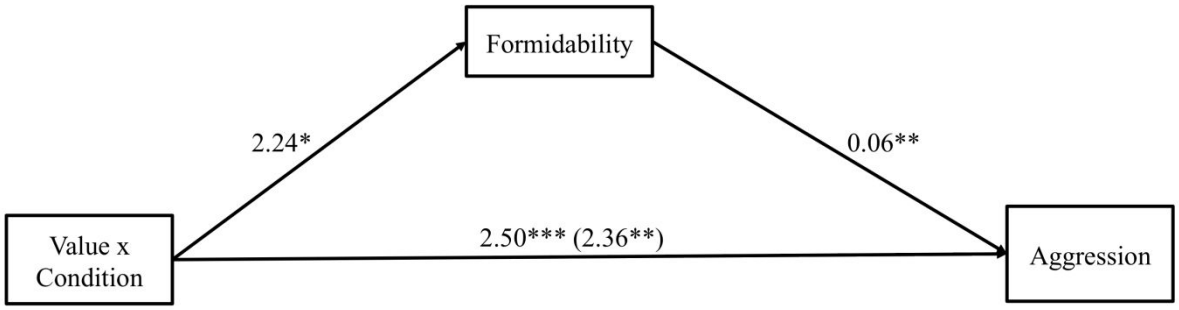
Conditional Condition x Value interaction at values of Fusion:

Fusion	*B*	*F*	df1	df2	*p*
0	-0.1490	0.2902	1	594	.5903
1	1.0478	9.4705	1	594	.0022

Conditional effects of the Condition at values of the moderators:

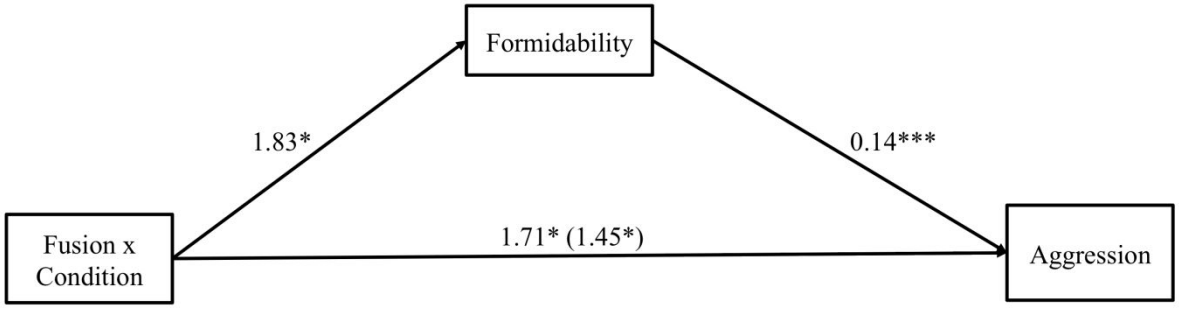
Values	DIFI	*B*	*se*	*t*	*p*	LLCI	ULCI
0	0	0.1497	0.1278	1.1708	.2422	-0.1014	0.4008
0	1	0.1646	0.1733	0 .9499	.3426	-0.1757	0.5050
1	0	0 .0007	0.2448	0.0028	.9978	-0.4801	0.4815
1	1	1.2124	0.2934	4.1317	.0000	0.6361	1.7887

Figure 1. Study 1. Indirect effects via formidability.



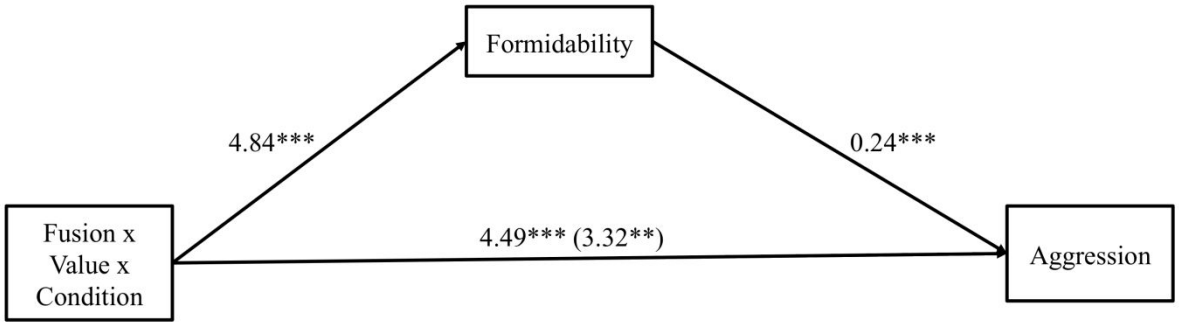
Conditional indirect effect (no sacred value): B = 0.03, 95% CI = -0.0272 to 0.0974
Conditional indirect effect (sacred value): B = 0.16, 95% CI = 0.0324 to 0.3395
Conditional direct effect (no sacred value): B = 0.25, 95% CI = -0.3726 to 0.8827
Conditional direct effect (sacred value): B = 2.62, 95% CI = 1.3295 to 3.9027

Figure 2. Study 2. Indirect effects via formidability.



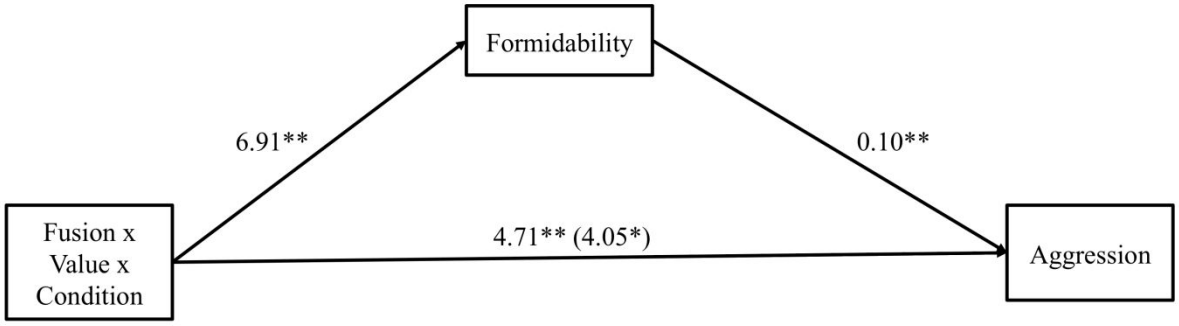
Conditional indirect effect (non fused): B = 0.02, 95% CI = -0.0690 to 0.1188
Conditional indirect effect (fused): B = 0.27, 95% CI = 0.0561 to 0.5738
Conditional direct effect (non fused): B = 0.46, 95% CI = -0.1976 to 1.1174
Conditional direct effect (fused): B = 1.91, 95% CI = 0.6478 to 3.1786

Figure 3. Study 3. Indirect effects via formidability.



Conditional indirect effect (non fused – no sacred value): B = 0.02, 95% CI = -0.1418 to 0.1971
Conditional indirect effect (fused – no sacred value): B = -0.10, 95% CI = -0.2936 to 0.0895
Conditional indirect effect (non fused –sacred value): B = -0.42, 95% CI = -0.8007 to -0.0624
Conditional indirect effect (fused –sacred value): B = 0.63, 95% CI = 0.3812 to 0.9234
Conditional direct effect (non fused – no sacred value): B = -0.68, 95% CI = -1.3227 to -0.0417
Conditional direct effect (fused – no sacred value): B = 0.01, 95% CI = -0.7724 to 0.7841
Conditional direct effect (non fused –sacred value): B = 1.24, 95% CI -0.066 to 2.5519
Conditional direct effect (fused –sacred value): B = 5.25, 95% CI = 3.7511 to 6.7567

Figure 4. Study 4. Indirect effects via formidability.



Conditional indirect effect (non fused – no sacred value): B = 0.07, 95% CI = -0.0441 to 0.2175
Conditional indirect effect (fused – no sacred value): B = 0.02, 95% CI = -0.1524 to 0.1930
Conditional indirect effect (non fused –sacred value): B = -0.02, 95% CI = -0.3103 to 0.2404
Conditional indirect effect (fused –sacred value): B = 0.60, 95% CI = 0.1350 to 1.1743
Conditional direct effect (non fused – no sacred value): B = 0.84, 95% CI = -0.1692 to 1.8568
Conditional direct effect (fused – no sacred value): B = 0.05, 95% CI = -1.3170 to 1.4263
Conditional direct effect (non fused –sacred value): B = 0.40, 95% CI = -1.5339 to 2.3412
Conditional direct effect (fused –sacred value): B = 3.66, 95% CI = 1.3022 to 6.0251

Study 1:
Control vs. Threat to democracy by corruption

Género:

- Femenino
- Masculino

Edad: ___

SACRED VALUES

¿Cuánto dinero haría falta para que dijeras públicamente que renuncias a la democracia? (Podrías quedarte con este dinero o donarlo).

- Cero euros (lo haría gratis)
- Cien euros
- Mil euros
- Diez mil euros
- Cien mil euros
- Un millón de euros
- Nunca, no importa la cantidad de dinero.

MANIPULATION

Control condition

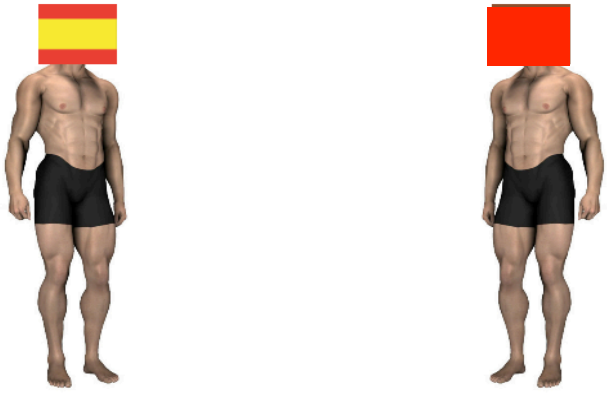
Por favor, escribe debajo cómo has conocido este estudio.

Threat condition

Por favor, explica debajo cómo percibes los escándalos de corrupción que recientemente han ocurrido en España y cómo estos escándalos pueden afectar a la democracia en España.

INGROUP AND OUTGROUP FORMIDABILITY

A continuación se muestran dos cuerpos humanos que representan a tu país y a los políticos corruptos (identificados con una bandera roja). Puedes variar las características de ambos cuerpos moviendo los botones de izquierda a derecha. Por favor, mueve los botones hasta la posición que mejor represente cómo percibes la FUERZA FÍSICA que crees que tienen tu país y los políticos corruptos.



GAME

A continuación vas a jugar a un sencillo videojuego. En este videojuego serás el piloto de una nave espacial que se mueve por el espacio. A medida que avanzas por el espacio irán apareciendo distintos tipos de meteoritos. Unos meteoritos representan a tu país y llevan la bandera de España. Otros meteoritos representan a los políticos corruptos y llevan una bandera roja. Otros meteoritos son neutrales, de modo que no llevan ningún símbolo.

Tu objetivo es conseguir el máximo número de puntos posibles. Para ello, tendrás que disparar a los meteoritos que vayan apareciendo en la pantalla. Debes tener en cuenta que **no todos los meteoritos valen lo mismo**. Si disparas a un meteorito de España obtendrás 100 puntos. Si disparas a un meteorito que representa a los políticos corruptos sólo obtendrás 50 puntos. Disparar a un meteorito neutro no proporciona ningún punto.

Antes de jugar, realizaremos una prueba para que te familiarices con el videojuego y los símbolos. Por favor, pincha para iniciar la prueba.

[Trial]

Ahora comenzará el juego real. Recuerda, destruir un meteorito de España suma 100 puntos, mientras que destruir un meteorito de los políticos corruptos suma 50 puntos.

[Real game]

Study 2:
Control vs. Threat to the group (11M bombings)

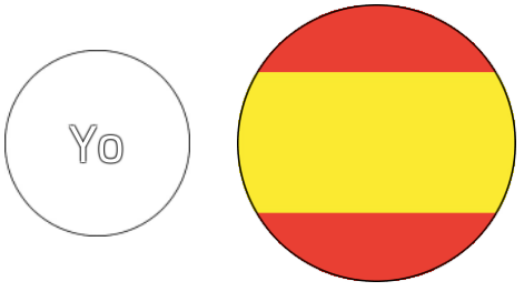
Género:

- Femenino
- Masculino

Edad: ___

FUSION

El siguiente diagrama está formado por dos círculos. El círculo pequeño te representa a ti (Yo) y el círculo grande representa a tu país, España. Puedes pinchar en el círculo pequeño y acercarlo hacia el círculo grande (desplazándolo a la derecha) o alejarlo del círculo grande (desplazándolo a la izquierda).
Por favor, mueve el círculo pequeño hasta la posición que mejor represente cómo percibes la relación que tienes con tu país.



MANIPULATION

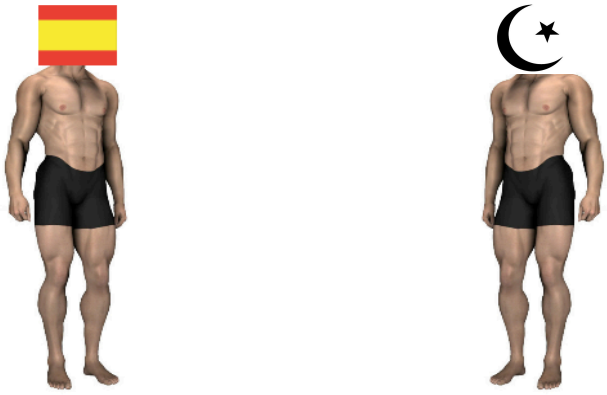
Control condition
Por favor, describe qué estabas haciendo y cómo te sentías un día como hoy hace diez años.

Threat condition
Por favor, describe qué estabas haciendo y cómo te sentiste el 11 de Marzo de 2004, cuando tuvieron lugar los atentados terroristas en Madrid.

INGROUP AND OUTGROUP FORMIDABILITY

A continuación se muestran dos cuerpos humanos que representan a tu país y a los musulmanes (identificados con una media luna). Puedes variar las características de ambos cuerpos moviendo los botones de izquierda a derecha. Por favor, mueve

los botones hasta la posición que mejor represente cómo percibes la FUERZA FÍSICA que crees que tienen tu país y los musulmanes.



GAME

A continuación vas a jugar a un sencillo videojuego. En este videojuego serás el piloto de una nave espacial que se mueve por el espacio. A medida que avanzas por el espacio irán apareciendo distintos tipos de meteoritos. Unos meteoritos representan a tu país y llevan la bandera de España. Otros meteoritos representan a los musulmanes y llevan una media luna. Otros meteoritos son neutrales, de modo que no llevan ningún símbolo.

Tu objetivo es conseguir el máximo número de puntos posibles. Para ello, tendrás que disparar a los meteoritos que vayan apareciendo en la pantalla. Debes tener en cuenta que **no todos los meteoritos valen lo mismo**. Si disparas a un meteorito de España obtendrás 100 puntos. Si disparas a un meteorito de los musulmanes sólo obtendrás 50 puntos. Disparar a un meteorito neutro no proporciona ningún punto.

Antes de jugar, realizaremos una prueba para que te familiarices con el videojuego y los símbolos. Por favor, pincha para iniciar la prueba.

[Trial]

Ahora comenzará el juego real. Recuerda, destruir un meteorito de España suma 100 puntos, mientras que destruir un meteorito de los musulmanes (media luna) suma 50 puntos.

[Real game]

Study 3:
Control vs. Threat to democracy and to the country by secessionism

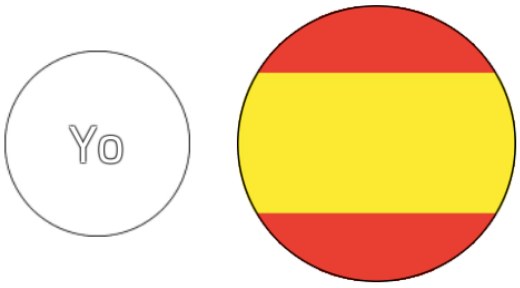
Género:

- Femenino
- Masculino

Edad: ___

FUSION

El siguiente diagrama está formado por dos círculos. El círculo pequeño te representa a ti (Yo) y el círculo grande representa a tu país, España. Puedes pinchar en el círculo pequeño y acercarlo hacia el círculo grande (desplazándolo a la derecha) o alejarlo del círculo grande (desplazándolo a la izquierda).
Por favor, mueve el círculo pequeño hasta la posición que mejor represente cómo percibes la relación que tienes con tu país.



SACRED VALUES

¿Cuánto dinero haría falta para que dijeras públicamente que renuncias a la democracia? (Podrías quedarte con este dinero o donarlo).

- Cero euros (lo haría gratis)
- Cien euros
- Mil euros
- Diez mil euros
- Cien mil euros
- Un millón de euros
- Nunca, no importa la cantidad de dinero.

MANIPULATION

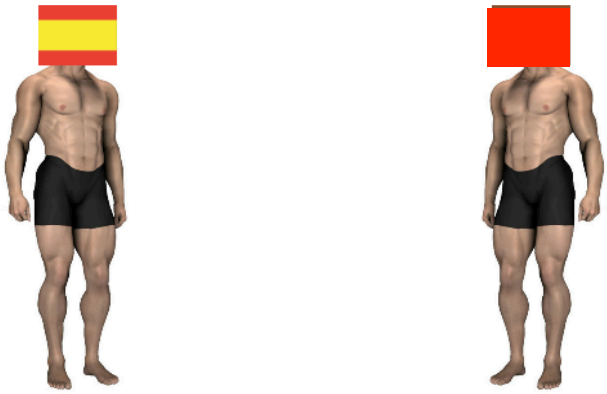
Control condition
Por favor, escribe debajo cómo has conocido este estudio.

Threat condition

Por favor, explica debajo qué piensas acerca del referéndum que se celebró el 9 de noviembre en Cataluña pese a la sentencia en contra del Tribunal Constitucional. Por favor, indica cómo crees que este referéndum afecta a la democracia y a tu país.

INGROUP AND OUTGROUP FORMIDABILITY

A continuación se muestran dos cuerpos humanos que representan a tu país y a los catalanes independentistas (identificados con una bandera roja). Puedes variar las características de ambos cuerpos moviendo los botones de izquierda a derecha. Por favor, mueve los botones hasta la posición que mejor represente cómo percibes la FUERZA FÍSICA que crees que tienen tu país y los catalanes independentistas.



GAME

A continuación vas a jugar a un sencillo videojuego. En este videojuego serás el piloto de una nave espacial que se mueve por el espacio. A medida que avanzas por el espacio irán apareciendo distintos tipos de meteoritos. Unos meteoritos representan a tu país y llevan la bandera de España. Otros meteoritos representan a los catalanes independentistas y llevan una bandera roja. Otros meteoritos son neutrales, de modo que no llevan ningún símbolo.

Tu objetivo es conseguir el máximo número de puntos posibles. Para ello, tendrás que disparar a los meteoritos que vayan apareciendo en la pantalla. Debes tener en cuenta que **no todos los meteoritos valen lo mismo**. Si disparas a un meteorito de España obtendrás 100 puntos. Si disparas a un meteorito que representa a los catalanes independentistas sólo obtendrás 50 puntos. Disparar a un meteorito neutro no proporciona ningún punto.

Antes de jugar, realizaremos una prueba para que te familiarices con el videojuego y los símbolos. Por favor, pincha para iniciar la prueba.

[Trial]

Ahora comenzará el juego real. Recuerda, destruir un meteorito de España suma 100 puntos, mientras que destruir un meteorito de los catalanes independentistas suma 50 puntos.

[Real game]

Study 4:
Control vs. Threat to democracy and to the country by strict Sharia

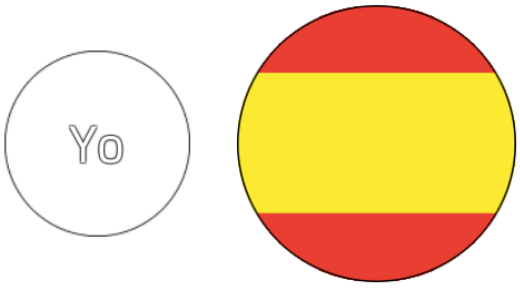
Género:

- Femenino
- Masculino

Edad: ___

FUSION

El siguiente diagrama está formado por dos círculos. El círculo pequeño te representa a ti (Yo) y el círculo grande representa a tu país, España. Puedes pinchar en el círculo pequeño y acercarlo hacia el círculo grande (desplazándolo a la derecha) o alejarlo del círculo grande (desplazándolo a la izquierda).
Por favor, mueve el círculo pequeño hasta la posición que mejor represente cómo percibes la relación que tienes con tu país.



SACRED VALUES

¿Cuánto dinero haría falta para que dijeras públicamente que renuncias a la democracia? (Podrías quedarte con este dinero o donarlo).

- Cero euros (lo haría gratis)
- Cien euros
- Mil euros
- Diez mil euros
- Cien mil euros
- Un millón de euros
- Nunca, no importa la cantidad de dinero.

MANIPULATION

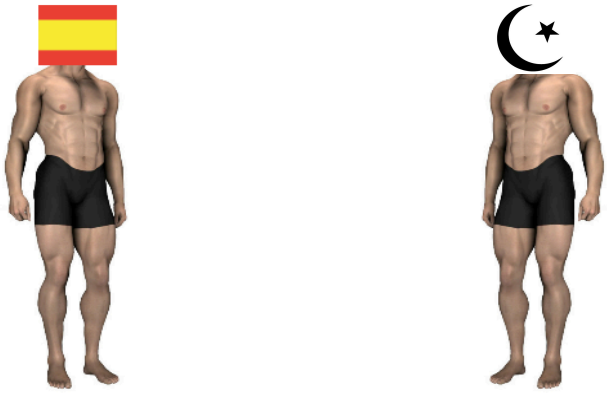
Control condition
Por favor, escribe debajo cómo has conocido este estudio.

Threat condition

La Sharia es el cuerpo de la ley islámica. Contiene un código detallado de conducta e incluye reglas sobre las formas adecuadas de culto, criterios morales y varias prohibiciones. La Sharia no sólo proporciona orientación moral en el sentido en que lo hace la Biblia para los cristianos, sino que también codifica el comportamiento y gobierna todos los aspectos de la vida. La interpretación de esta ley por parte de los seguidores del Estado Islámico (ISIS) y/o Al Qaeda afirma que la ley musulmana o la Sharia permite la esclavitud de los "paganos" (no creyentes). Escriba a continuación lo que piensas de la Sharia y cómo crees que podría afectar a la democracia y a tu país.

INGROUP AND OUTGROUP FORMIDABILITY

A continuación se muestran dos cuerpos humanos que representan a tu país y a los musulmanes (identificados con una media luna). Puedes variar las características de ambos cuerpos moviendo los botones de izquierda a derecha. Por favor, mueve los botones hasta la posición que mejor represente cómo percibes la FUERZA FÍSICA que crees que tienen tu país y los musulmanes.



GAME

A continuación vas a jugar a un sencillo videojuego. En este videojuego serás el piloto de una nave espacial que se mueve por el espacio. A medida que avanzas por el espacio irán apareciendo distintos tipos de meteoritos. Unos meteoritos representan a tu país y llevan la bandera de España. Otros meteoritos representan a los musulmanes y llevan una media luna. Otros meteoritos son neutrales, de modo que no llevan ningún símbolo.

Tu objetivo es conseguir el máximo número de puntos posibles. Para ello, tendrás que disparar a los meteoritos que vayan apareciendo en la pantalla. Debes tener en cuenta que **no todos los meteoritos valen lo mismo**. Si disparas a un meteorito de España obtendrás 100 puntos. Si disparas a un meteorito de los

musulmanes sólo obtendrás 50 puntos. Disparar a un meteorito neutro no proporciona ningún punto.

Antes de jugar, realizaremos una prueba para que te familiarices con el videojuego y los símbolos. Por favor, pincha para iniciar la prueba.

[Trial]

Ahora comenzará el juego real. Recuerda, destruir un meteorito de España suma 100 puntos, mientras que destruir un meteorito de los musulmanes (media luna) suma 50 puntos.

[Real game]

COSTLY SACRIFICES FOR DEMOCRACY

Por favor, responde a las siguientes preguntas considerando que 0 significa "totalmente en desacuerdo" y 6 significa "totalmente de acuerdo".

1. Si fuera necesario, estaría dispuesto/a a renunciar a mi trabajo o a mi fuente de ingresos para defender la democracia.
2. Si fuera necesario, estaría dispuesto/a a ir a la cárcel para defender la democracia.
3. Si fuera necesario, estaría dispuesto/a a utilizar la violencia para defender la democracia.
4. Si fuera necesario, estaría dispuesto/a a dejar que mis hijos sufrieran un daño físico para defender la democracia.
5. Si fuera necesario, estaría dispuesto/a a morir para defender la democracia.

COSTLY SACRIFICES FOR THE COUNTRY

Por favor, responde a las siguientes preguntas considerando que 0 significa "totalmente en desacuerdo" y 6 significa "totalmente de acuerdo".

1. Si fuera necesario, estaría dispuesto/a a renunciar a mi trabajo o a mi fuente de ingresos para defender mi país.
2. Si fuera necesario, estaría dispuesto/a a ir a la cárcel para defender mi país.
3. Si fuera necesario, estaría dispuesto/a a utilizar la violencia para defender mi país.
4. Si fuera necesario, estaría dispuesto/a a dejar que mis hijos sufrieran un daño físico para defender mi país.
5. Si fuera necesario, estaría dispuesto/a a morir para defender mi país.