

Predicting Radicalism After Perceived Injustice: The Role of Separatist Identity, Sacred Values, and Police Violence

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Supplementary Materials: Code, Data, Materials [see [Index of Supplementary Materials](#)]



Abstract

Perceptions of injustice are central to fueling violent political action, though not everyone within a social movement will support violence in response to collective grievances. So who supports violence and who doesn't after perceived injustice? To address this question, we followed up on the same individuals (N = 805) before and after a court decision in Catalonia (Spain) sentencing nine separatist leaders to prison, an event that led to mass violent and nonviolent protests. We tested three hypotheses by combining classical theories of collective action and more recent extremism models and found support for all three hypotheses. Namely, individuals who exhibited steeper increases in radicalism (controlling for activism) after the court ruling were those who had previously experienced police violence (social dynamics hypothesis), those who identified as separatists (separatist identity hypothesis), and those who held Catalan independence as a sacred value (sacred value hypothesis). Our findings offer a complex picture of real-world conflict settings, where the three evaluated factors seem to be intertwined. We discuss potential venues to restore inter-group relations after perceived injustice, with an assessment of how likely these strategies are to succeed based on the three adopted perspectives.

Keywords

political violence, sacred values, group identity, radicalism, collective action, inter-group conflict

Violent protests broke out in the streets of Barcelona in October 2019 in the wake of a court ruling that sentenced nine Catalan separatist leaders to prison. The court ruling, issued by the Spanish Supreme court, came after the Catalan separatist leaders had organized a vote for independence that they repeatedly framed as a “democratic right.” Spain, however, deemed it illegal. For many Catalan separatists, the prison sentences were the ultimate confirmation that conventional political action (“democratic voting”) was futile. And then the riots happened. For several days violent clashes between protesters and the police took over Barcelona’s nightlife. But not everyone in the movement went out and confronted the police that week. Thus, the question arises as to who supports violence after perceived injustice.

Perceived injustice has been associated with both support for violent (Pauwels & Heylen, 2020) and non-violent political action (Barth et al., 2015; Corcoran et al., 2015). After perceived injustice, some group members may increase their support for violence, while others may continue to support conventional courses of action. The question of who



supports violence after perceived injustice is a pressing issue not only in Europe but also for other separatist movements around the globe such as Tamil separatism in Sri Lanka, Kurdish separatism in the Middle East, and the Ambazonia Independence Movement in Cameroon (Council on Foreign Relations, 2023). Despite the relevance of the issue, there is little empirical evidence on this question, especially from longitudinal studies that are apt to capture attitude shifts within the same individuals. In the present study, we draw from existing models of collective action (Drury et al., 2020; Klandermans, 2014; Louis et al., 2020) and integrate them with extremism literature (Atran & Ginges, 2015) to understand who supports violence and who doesn't in the face of perceived injustice.

Radicalism has been defined as “a change in beliefs, feelings, and behaviors in directions that increasingly justify intergroup violence and demand sacrifice in defense of the ingroup” (McCauley & Moskalenko, 2008). It can be understood in opposition to activism and other forms of lawful political engagement such as voting and peaceful protest. So far, theoretical accounts in the collective action literature have attempted to explain individual differences in activism and radicalism in different ways. For instance, group inefficacy has been proposed as a motive for radicalism by scholars working with the Social Identity Model of Collective Action (SIMCA) (van Zomeren et al., 2008). According to this model, perceived group inefficacy and group-based contempt explain engagement in violent collective action, while group-based anger explains nonviolent collective action (Tausch et al., 2011). However, other empirical works find that individuals who justify radical action after a court ruling also perceive greater group efficacy (Lizzio-Wilson et al., 2021). In the present work, we examine three alternative hypotheses to explain shifts toward radicalism as events were unfolding.

Social Dynamics Hypothesis

Reicher (1984) undertook one of the first attempts at explaining crowd behavior as a socially meaningful phenomenon. Reicher and others (see Stott & Reicher, 1998 and Drury & Reicher, 2000) propose that crowd behavior is a product of inter-group social dynamics. Specifically, evolving interactions between groups dynamically shape the self-concept of individuals in each group. For instance, students at a protest may initially see themselves as “respectable subjects exercising the democratic right to protest”, while the police may see them as a threat. Because the police will act in response to their own perceptions, the students may find themselves in a new set of social relations, which may shift their self-concept to “radicals in opposition to a biased state” (Drury & Reicher, 2000). More recently, Drury et al. (2020) analyzed the interplay between situational factors such as police encounters and support for violence in the 2011 London riots. In line with the social dynamics approach, Drury et al. suggest that the protesters' identity builds up during clashes with the police, thus reinforcing adversarial identities and legitimizing violence. Thus, the social dynamics account attributes shift toward radicalism to situational factors such as inter-group encounters (e.g., clashes with the police).

Separatist Identity Hypothesis

Another important theory of collective action emphasizes group identification as a means for individuals to connect with a group's collective identity and its struggle for power against other groups (Simon & Klandermans, 2001). Group identification is enabled by a sense of shared grievances with other individuals within a group and motivates people to engage in activism on behalf of the group. The group's collective identity becomes politicized as the power struggle unfolds, and individuals start perceiving the social environment in terms of opponents and allies. According to this account, activists or individuals who take part in a group's power struggles have dual identities. They simultaneously identify with a subordinate group and a superordinate entity such as the nation (Klandermans, 2014). They believe they can change the superordinate entity. However, when authorities fail to respond to the group's grievances, people disengage from the superordinate identity that these authorities represent (e.g., the nation). In such circumstances, people give up on their dual identity and radicalism can emerge (Klandermans, 2014). Thus, the separatist identity hypothesis proposes that radicalism is the result of shifts from dual identities toward single (or separatist) identities.

Although Catalan independentism counts on a long history, political grievances sparked the latest Catalan independence upheaval in 2010. The number of Catalans who identify as separatist peaked in 2012, reaching 57% of the population (*Baròmetre d'Opinió Política. 3a onada 2012*), long before the time of data collection, in 2019. Thus,

we expected little change in people's identification as separatist and, instead, expected an increase in radicalism in participants who already identify as separatists.

Sacred Values Hypothesis

We suggest that to understand who supports violence after perceived injustice, we need to consider not only group identification but also people's level of commitment to the values at stake. In the extremism literature, the devoted actor model (Atran & Ginges, 2015) posits that individuals who highly identify with a group are more willing to fight and die for in-group values they deem sacred. Sacred values are defined as absolutist stances that are resistant to material incentives, e.g. "the holy land of Israel" (Baron & Spranca, 1997; Tetlock, 2003). This model is supported by extensive empirical research (Gómez et al., 2017; Pretus et al., 2018; Sheikh et al., 2013, 2016), including studies where militant actors chose to fight for the value over the group (Gómez et al., 2017). Thus, it is possible that, after perceived injustice, some individuals who are highly committed to group values disengage from pacifist majority groups and start supporting smaller more radical groups that are ready to use violence. Thus, the sacred values hypothesis proposes that individuals who identify with the group and hold absolutist stances towards the values at stake (e.g., sacred values) will be more prone to support violence after perceived injustice.

So far, the ability of sacred values to explain political engagement has been reserved for extremists, frontline combatants, and extraordinary individuals who risk their lives on behalf of groups. We argue that sacred values can also help explain how ordinary citizens make decisions about joining a riot and participating in street violence. There has been some interest in understanding value-based identities and groups (Louis et al., 2020) and how they predict political engagement in the collective action literature (Bliuc et al., 2015; Thomas et al., 2012). Similarly, moral convictions were also included in the SIMCA model as a predictor of collective action (van Zomeren et al., 2011). Nevertheless, how the level of conviction (e.g., holding sacred values) influences shifts from activism to radicalism within the same individuals has not been systematically investigated to date.

The Current Study

Collective action and extremism models both aim to explain support for political violence. However, it remains unclear whether these separate theoretical accounts explain similar attitudes and behaviors, or whether they explain two very different phenomena: support for radical collective action on one side and extremism on the other side. How different can people's motivations be when they support violence on behalf of a social movement *versus* an extremist group? In the present work, we examine how much of the same underlying processes the two perspectives account for. For that, we test the three hypotheses presented above (two hypotheses from the collective action literature and one hypothesis from the extremism literature) to understand shifts from activism to radicalism within the same individuals. Because the question of who radicalizes after perceived injustice does not require that all hypotheses are simultaneously true and can be responded to by developing and testing a single hypothesis in isolation of the other hypotheses, we examine each hypothesis separately (Veazie, 2006)¹.

We formulate the three hypotheses as follows:

H1. Social dynamics hypothesis: Because radicalism emerges dynamically from developing encounters with outgroups, individuals who report prior exposure to police violence (*versus* no prior exposure) will be more prone to radicalism after perceived injustice (in line with Reicher 1984; Drury & Reicher, 2000; Drury et al., 2020; etc.).

H2. Separatist identity hypothesis: Because radicalism emerges from the disidentification with a superordinate entity, individuals who identify as separatists or as members of a separatist activist organization (*versus* individuals who do not) will be more prone to radicalism after perceived injustice (in line with Simon & Klandermans, 2001; Klandermans 2002; Klandermans, 2014; etc.).

1) We present a combined analysis where we pit the three hypotheses against each other in Supplementary Materials.

H3. Sacred value hypothesis: Because radicalism emerges in individuals who hold absolutist views over group values that are contested, individuals who hold Catalan independence as a sacred value (*versus* those who do not) will be more prone to radicalism after perceived injustice (in line with Atran & Ginges, 2015; Gómez et al., 2017; etc).

To test this set of hypotheses, we conducted a longitudinal study during the 2019 Barcelona riots. We measured activism and radicalism in a representative sample of Catalan citizens one week before and a few hours after the court's ruling sentencing nine separatist leaders to prison for an illegal vote. This context was ideal to understand shifts from activism to radicalism. The Catalan independence movement had become increasingly politicized since 2010, when the Spanish constitutional court cut down reforms aimed at increasing sovereignty in Catalonia, sparking public outrage. These tensions reached a tipping point during the (illegal) independence vote in 2017. Years of spiraling frustration culminated in an outburst of violent protests after the prison sentences were announced in 2019.

Perceived injustice has been associated with heightened perceptions of threat, which ultimately impact support for political violence (Pauwels & Heylen, 2020). Thus, in addition to activism and radicalism, we also measured perceived threat by Spain, as well as perceived fairness and emotional response to the court ruling. These additional measures allowed us to test if the court ruling was perceived as an injustice that further alienated Catalan separatists from Spain, possibly fostering hostility and support for violence. Moreover, since perceived social norms have been found to influence people's willingness to fight and die for a cause (Hamid, Pretus, et al., 2019), we examined whether the court ruling shifted perceived social norms about costly sacrifices in defense of Catalans' rights. That is, whether other Catalans would approve of someone losing their job or going to prison to defend Catalans' legal and political rights.

Beyond previous attempts at understanding individual differences in activism and radicalism, the present work combines models of collective action (Drury et al., 2020; Klandermans, 2014; Reicher, 1984; Simon & Klandermans, 2001) and extremism (Atran & Ginges, 2015) to understand attitude shifts within the same individuals after perceived injustice. Of note, the three tested hypotheses are not exhaustive, and leave out alternative explanations such as shifts in perceived efficacy of violent and non-violent actions (Saab et al., 2016; Tausch et al., 2011) and perceptions of collective victimhood (Noor et al., 2017).

Method

Two waves of data were obtained through internet-based surveys on an online panel. The first wave was launched on October 1st, 2019, and the second wave on October 14th, 2019, hours after a court decision sentencing nine Catalan separatist leaders to prison was announced. The timing of the second wave was aimed at capturing the respondents' immediate reactions to the court ruling. Informed consent was obtained from all participants at the start of the survey.

Participants

One thousand one hundred and twelve participants took part in the first wave of the survey. The sample was recruited through an online panel targeting Catalan residents and using quotas representative of the Catalan population by gender, age group, and province of residence. Eight hundred and eight participants returned and completed the second wave, but three had to be excluded due to missing data in the activism and radicalism scale; our final sample included 805 participants (age: $M = 48.6$, $SD = 14.3$; 52% of women). Catalan separatists comprised 35% of our sample ($n = 285$), whereas non-separatists ($n = 466$) included: a) people who think Spain should adopt a federal system ("Federalists", 21%), b) people who agree with the current system of *Comunidades Autónomas* ("Status Quo", 26%), and c) people who think Spain should be re-centralized and local powers abolished ("Centralists", 11%). These percentages closely correspond to those observed in public databases (*Baròmetre d'Opinió Política. 3a onada 2019*). Fifty-four participants did not reveal their group affiliation. Characteristics of the sample are shown in Table 1.

Table 1

Sample Characteristics by Group

Characteristic	Separatists (<i>n</i> = 285) <i>M</i> (<i>SD</i>)	Non-separatists (<i>n</i> = 466) <i>M</i> (<i>SD</i>)	Group effect χ^2 (<i>df</i>) (<i>p</i>)
Catalan as a first language (%)	89.5	39.9	177.16(1) (<i>p</i> < .001)
Age (years old)	50.4 (14.2)	48.6 (14.1)	1.72(598) (0.09)
Women (%)	49.1	50.6	0.11(1) (0.74)
Completed higher education (%)	42.8	44.2	0.09(1) (0.76)
High income (> 3.000€ /month/household)	28.8	20.2	6.82(1) (.009)

Measures

Both waves included the same scales, except for measures relating to the appraisal of the court ruling (i.e., emotions and fairness), which were only administered in the second wave.

Activism and Radicalism

We adapted the Activism and Radicalism Intention scale (ARIS) (Moskalenko & McCauley, 2009) to the context of the Catalan independence movement. Participants indicated their agreement (from 1 = *Strongly disagree* to 5 = *Strongly agree*) with 6 items assessing support for non-violent and violent political action: “join/belong to an organization that fights for Catalan political and legal rights”, “donate money to an organization that fights for Catalan political and legal rights”, “volunteer my time working (i.e. write petitions, distribute flyers, recruit people, etc.) for an organization that fights for Catalan political and legal rights”, “continue to support an organization that fights for Catalan political and legal rights even if the organization sometimes resorts to violence”, “participate in a public protest against the oppression of Catalans even if I thought the protest might turn violent”, and “attack police or security forces if I saw them beating a Catalan.” Following Moskalenko and McCauley (2009), the first three items were averaged into an activism composite score (Cronbach’s alpha = .94), and the last three items were averaged into a radicalism composite score (Cronbach’s alpha = .84). Of note, despite the high reliability score, some of the items used the radicalism score invoke tolerance rather than support for violence (e.g., “continue to support an organization that fights for Catalan political and legal rights even if the organization sometimes resorts to violence”).

Separatist Identity

Participants were asked to select their preferred relationship between Catalonia and Spain among four options: Catalonia as an independent state (“separatists”), Catalonia as a federal state within Spain (“federalists”), Catalonia as a *Comunidad Autónoma* within Spain (“status quo”), and Catalonia as a region in a more centralized Spain (“centralists”). Separatist identity was defined as support for Catalan independence and was treated as a dichotomous variable (supporters versus non-supporters) in line with the social divide over this issue in Catalunya at the time. This measure was confirmed using a dual identity measure typically employed in national polls in Catalonia (*Baròmetre d’Opinió Política. 3a onada 2019*): “Where would you be on a scale ranging between completely Spanish (1) and completely Catalan (10)”. Participants who identified as separatists were the farthest from a dual Spanish-Catalan identity (*M* = 8.91,

$SD = 1.31$), followed by federalists ($M = 6.48$, $SD = 1.73$, status quo supporters ($M = 4.79$, $SD = 1.91$), and centralists ($M = 4.33$, $SD = 2.70$) were closer to a dual identity. Statistical comparisons between groups were all significant ($p < .001$) except for the contrast between status quo supporters vs. centralists ($p = .074$).

Sacred Values

The value sacredness of Catalan independence was assessed only in participants who supported Catalan independence. Value sacredness was assessed as a dichotomous variable following previous literature (Atran & Axelrod, 2008; Ginges & Atran, 2013; Tetlock, 2003). Catalan independence was considered sacred if participants refused to give up on Catalan independence even if that meant a) that the Spanish government would meet all economic demands by Catalonia, and b) a great benefit for Catalan families (including greater economic growth, less unemployment, etc.), following Hamid, Pretus, et al. (2019). Available response options included “Yes”, “No”, and “Maybe”. Catalan independence was considered sacred if the response to both items was “No” (unwillingness to give up the value), and non-sacred for all other combinations. We assumed that achieving Catalan independence was not sacred for participants who did not support Catalan independence.

Experience With Police Violence and Membership in Activist Organizations

Prior experience with police violence was assessed by asking participants whether they had directly experienced police violence while participating in protests or events in support of Catalans’ political and legal rights. Respondents were also asked to report whether they were a member of any organization that fights for Catalans’ political and legal rights. Response options for both of these questions included *Yes*, *No*, *Doesn’t know*, and *Prefers not to answer*.

Norms About Costly Sacrifices

Perceived injunctive norms about sacrificing for Catalans’ rights were examined by asking participants to what extent they believed Catalans would approve of a person a) risking losing their job, b) going to prison, and c) fighting and dying for Catalans’ legal and political rights (1 = *Absolutely disapprove* to 5 = *Absolutely approve*). The three items were averaged into a reliable composite score (Cronbach’s alpha = .84).

Perceived Threat

A major narrative within the Catalan independence movement is that Catalonia is being occupied by Spain. We assessed participants’ agreement with 4 central elements of this narrative (scale from 1 = *Strongly disagree* to 5 = *Strongly agree*): “I believe that Spain forcibly occupies Catalonia”, “Spain exploits Catalunya for money”, “The survival of the Catalan culture is under constant threat by Spain”, and “Catalunya cannot trust Spain, history bears witness.” These items were averaged into a reliable composite score for perceived threat (Cronbach’s alpha = .94).

Fairness of the Ruling

In the second wave, participants were asked to choose the option that best described their perception of the court ruling among the following five: “The court ruling should have been much harder”, “The court ruling should have been harder”, “The ruling is fair”, “The court ruling should have been softer” or “Prisoners should be set free”.

Emotional Response

In the second wave, participants were asked to convey whether they experienced different emotions in response to the court ruling, including sadness, rage, rebelliousness, and happiness (from 1 = *Strongly disagree* to 5 = *Strongly agree*). Negative emotions (sadness, rage, and rebelliousness) were averaged into a composite score with a Cronbach’s alpha of .82.

Analysis

We first assessed participants' response to the court ruling across the whole sample by examining whether perceived injustice and negative emotions were significantly different from each scales' midpoint using a one-sample *t*-test. Next, we evaluated changes in perceived threat, support for independence, holding Catalan independence as a sacred value (only in separatists), activism, and radicalism before and after the court ruling across the whole sample by means of mixed effects models with random intercepts for participants and a fixed effect for time (before vs. after the court ruling).

To examine each hypothesis, we conducted a series of OLS regressions to examine the effect of each predictor (prior exposure to police violence, separatist identity, membership in an activist organization, and holding Catalan independence as a sacred value) on perceived unfairness and negative emotions after the court ruling, as well as on perceived threat, activism, and radicalism before the court ruling (baseline measure). Then, we examined the effect of the court ruling on radicalism by fitting a mixed-effects model with random intercepts for participants and a fixed effect for time (before vs. after the court ruling). We adjusted three mixed-effects models to test each hypothesis separately. In line with each hypothesis, we allowed the model parameters to differ between (a) participants who reported previous exposure to police violence at baseline (coded as 1) and those who did not (coded as 0, social dynamics hypothesis), (b) participants who identified as separatists at baseline (coded as 1) and those who did not (coded as 0, separatist identity hypothesis), and (c) participants who held Catalan independence as a sacred value at baseline (coded as 1) and those who did not (coded as 0, sacred values hypothesis). For that, we added an interaction term between group (a, b, or c) and time. Finally, since we were interested in changes in radicalism specifically, we controlled for changes in activism to account for any overlapping variance between radicalism and activism. To test hypotheses specific to each group, we examined the group-specific parameter estimates (simple effects). The models were fitted using REML (afex package in R; Singmann et al., 2016). Additional moderation analyses were conducted following the same procedure (i.e., a model with an interaction term, followed by simple effects). Unless specifically stated, the results reported below did not change substantially when controlling for age, gender, and income.

Results

The Court Ruling as a Perceived Injustice

Relationships between the variables of interest before and after the court ruling are reported in Table 2. Participants across the sample generally perceived the court ruling as unfair ($M = 4.08$ out of 5, $SD = 1.22$, $t(773) = 36.04$, $p < .001$ above the scale midpoint) and responded with negative emotions ($M = 3.37$ out of 5, $SD = 1.26$, $t(748) = 18.85$, $p < .001$ above the scale midpoint). Perceived threat by Spain did not change after the court ruling across the whole sample ($B = 0.02$, 95% CI [-0.02, 0.06], $t(804) = 1.51$, $p = .25$, Cohen's $d = 0.01$), suggesting that the court ruling did not fundamentally change how people felt towards Spain. In line with this, support for independence did not change after the court ruling ($B = 0.01$, 95% CI [-0.01, 0.02], $t(734) = 0.76$, $p = .446$). However, those who felt alienated from Spain to begin with hardened their positions. Particularly, more separatists reported holding Catalan independence as a sacred value after the court ruling ($B = 0.03$, 95% CI [0.01, 0.05], $t(804) = 3.37$, $p < .001$). Whereas 48% of separatists held Catalan independence as a sacred value before the court ruling (138 out of 285 separatists), this proportion went up to 55% after the court ruling (158 out of 285 separatists). When it comes to behavioral intentions, no changes were detected in activism (controlling for radicalism) across the whole sample ($B = 0.01$, 95% CI [-0.04, 0.06], $t(728) = 0.42$, $p = .671$, Cohen's $d = 0.01$). Nonetheless, we did observe increases in radicalism (controlling for activism) across the whole sample ($B = 0.07$, 95% CI [0.02, 0.12], $t(804) = 2.64$, $p = .008$, Cohen's $d = 0.06$). But who in the sample was responsible for the observed increases in radicalism?

Table 2

Correlations Between the Variables of Interest Before and After the Court Ruling

Variable		Pre		Post	
		<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Activism	Perceived threat	0.73	< .001	0.76	< .001
Activism	Social norm	0.17	< .001	0.20	< .001
Radicalism	Activism	0.66	< .001	0.69	< .001
Radicalism	Perceived threat	0.52	< .001	0.59	< .001
Radicalism	Social norm	0.13	< .001	0.22	< .001
Social norm	Perceived threat	0.14	< .001	0.17	< .001

Social Dynamics Hypothesis

The social dynamics hypothesis leads to the prediction that individuals who have previously experienced police violence (*versus* those who haven't) will exhibit increased radicalism after the court ruling announcement. People who reported a previous experience with police violence ($n = 47$) perceived the court ruling as more unfair ($B = 0.60$, 95% CI [0.24, 0.96], $t(743) = 3.26$, $p = .001$, Cohen's $d = 0.50$), reported higher negative emotions ($B = 0.94$, 95% CI [0.57, 1.33], $t(717) = 4.90$, $p < .001$, Cohen's $d = 0.76$) and higher perceived threat by Spain at baseline ($B = 1.37$, 95% CI [0.98, 1.78], $t(769) = 6.76$, $p < .001$, Cohen's $d = 1.02$) than people who had not experienced police violence in the past ($n = 724$). They also exhibited higher activism (controlling for radicalism) ($B = 0.41$, 95% CI [0.09, 0.72], $t(768) = 2.54$, $p = .011$, Cohen's $d = 1.11$) and higher radicalism (controlling for activism) at baseline ($B = 0.59$, 95% CI [0.34, 0.84], $t(768) = 4.64$, $p < .001$, Cohen's $d = 1.26$) than participants with no prior exposure to police violence. Descriptives of the variables of interest for each group are shown in Table 3.

Table 3

Descriptives of the Variables of Interest for Individuals Exposed and not Exposed to Police Violence Before and After the Court Ruling

Variable	Exposed to Police Violence		Not Exposed to Police Violence	
	Pre ($N = 47$)	Post ($N = 47$)	Pre ($N = 724$)	Post ($N = 724$)
Radicalism				
<i>M</i> (<i>SD</i>)	3.26 (1.27)	3.56 (1.24)	1.93 (1.04)	2.03 (1.09)
<i>Mdn</i> [Min, Max]	3.67 [1.00, 5.00]	3.67 [1.00, 5.00]	1.67 [1.00, 5.00]	1.67 [1.00, 5.00]
Activism				
<i>M</i> (<i>SD</i>)	4.02 (1.11)	3.99 (1.01)	2.56 (1.33)	2.65 (1.38)
<i>Mdn</i> [Min, Max]	4.33 [1.00, 5.00]	4.33 [1.00, 5.00]	2.67 [1.00, 5.00]	2.67 [1.00, 5.00]
Social norm				
<i>M</i> (<i>SD</i>)	3.16 (1.34)	3.15 (1.24)	2.71 (1.14)	2.65 (1.13)
<i>Mdn</i> [Min, Max]	3.00 [1.00, 5.00]	3.33 [1.00, 5.00]	2.67 [1.00, 5.00]	2.67 [1.00, 5.00]
Perceived threat				
<i>M</i> (<i>SD</i>)	4.51 (0.673)	4.49 (0.694)	3.13 (1.39)	3.14 (1.43)
<i>Mdn</i> [Min, Max]	4.75 [2.25, 5.00]	4.75 [2.00, 5.00]	3.25 [1.00, 5.00]	3.25 [1.00, 5.00]
Perceived unfairness				
<i>M</i> (<i>SD</i>)	–	4.65 (0.875)	–	4.05 (1.23)
<i>Mdn</i> [Min, Max]	–	5.00 [1.00, 5.00]	–	5.00 [1.00, 5.00]
Negative emotions				
<i>M</i> (<i>SD</i>)	–	4.27 (0.982)	–	3.32 (1.26)
<i>Mdn</i> [Min, Max]	–	4.67 [1.00, 5.00]	–	3.33 [1.00, 5.00]

Hypothesis Testing

In line with the social dynamics hypothesis, our data revealed an interaction effect between time and prior exposure to police violence at baseline on radicalism (controlling for activism), even after controlling for separatist identity and sacred values at baseline ($B = 0.24$, 95% CI [0.02, 0.46], $t(719) = 2.17$, $p = .030$). In particular, individuals who reported having experienced police violence at baseline ($n = 47$) exhibited a steeper increase in radicalism (controlling for activism) after the court ruling, $M_{\text{post-pre}} = 0.31$, 95% CI [0.10, 0.53], $t(721) = 2.89$, $p = .004$, Cohen's $d = 0.24$, than individuals who had never experienced police violence, $M_{\text{post-pre}} = 0.07$, 95% CI [0.01, 0.13], $t(726) = 2.41$, $p = .016$, Cohen's $d = 0.10$ (see Figure 1A). Thus, we found support for the social dynamics hypothesis: previous exposure to police violence predicted higher radicalism (controlling for activism) after the court ruling, even when accounting for separatist identity and sacred values at baseline.

Separatist Identity Hypothesis

The separatist identity hypothesis leads to the prediction that those individuals who identify as separatists or as members of a separatist organization will exhibit increased radicalism after the court ruling announcement. Participants who identified as separatists ($n = 285$) perceived the court ruling to be substantially more unfair compared to non-separatists ($n = 466$) ($B = 1.44$, 95% CI [1.29, 1.59], $t(727) = 18.49$, $p < .001$, Cohen's $d = 1.40$). In fact, 97% of separatists (but only 28% of non-separatists) agreed that the prisoners should be set free ($\chi^2(1) = 324.92$, $p < .001$). Accordingly, separatists also reported more negative emotions about the court ruling ($B = 1.55$, 95% CI [1.40, 1.71], $t(705) = 19.66$, $p < .001$, Cohen's $d = 1.51$) and higher perceived threat by Spain than non-separatists at baseline ($B = 2.04$, 95% CI [1.88, 2.19], $t(749) = 26.30$, $p < .001$, Cohen's $d = 1.98$). Separatists exhibited higher activism (controlling for radicalism) ($B = 1.25$, 95% CI [1.11, 1.39], $t(748) = 17.54$, $p < .001$, Cohen's $d = 1.68$) but similar levels of radicalism (controlling for activism) at baseline ($B = -0.11$, 95% CI [-0.27, 0.05], $t(748) = -1.38$, $p = .167$, Cohen's $d = 0.87$) than non-separatists. Members of separatist organizations ($n = 87$) exhibited a similar profile to separatists regarding perceived threat and negative emotions in response to the court ruling. However, in contrast to separatists, members of separatist organizations exhibited both higher activism (controlling for radicalism) ($B = 1.03$, 95% CI [0.79, 1.26], $t(771) = 8.50$, $p < .001$, Cohen's $d = 1.61$), and higher radicalism (controlling for activism) at baseline ($B = 0.31$, 95% CI [0.10, 0.51], $t(771) = 2.89$, $p = .004$, Cohen's $d = 1.27$) compared to non-members ($n = 691$). Descriptives of the variables of interest for each group are shown in Table 4.

Hypothesis Testing

In line with the separatist identity hypothesis, we found an interaction effect between time and separatist identity at baseline on radicalism (controlling for activism), even after controlling for experience with police violence and sacred values at baseline ($B = 0.16$, 95% CI [0.05, 0.27], $t(719) = 2.76$, $p = .006$). Specifically, separatists exhibited steeper increases in radicalism (controlling for activism), $M_{\text{post-pre}} = 0.18$, 95% CI [0.16, 0.34], $t(725) = 4.07$, $p < .001$, Cohen's $d = 0.21$, compared to in non-separatists, $M_{\text{post-pre}} = 0.03$, 95% CI [-0.02, 0.13], $t(723) = 0.73$, $p = .463$, Cohen's $d = 0.06$ (see Figure 1C). However, those who identified as members of a separatist organization at baseline did not exhibit any changes in radicalism (controlling for activism) compared to non-members when controlling for separatist identity, sacred values, and experience with police violence at baseline ($B = 0.14$, 95% CI [-0.10, 0.38], $t(262) = 1.16$, $p = .247$). Thus, we found support for the separatist identity hypothesis: separatist identity (but not membership in a separatist organization) predicted higher radicalism scores after the court ruling.

Table 4

Descriptives of the Variables of Interest for Separatists and Non-Separatists Before and After the Court Ruling

Variable	Separatists		Non-separatists	
	Pre (N = 285)	Post (N = 285)	Pre (N = 466)	Post (N = 466)
Radicalism				
<i>M</i> (<i>SD</i>)	2.55 (1.17)	2.80 (1.22)	1.66 (0.920)	1.72 (0.935)
<i>Mdn</i> [Min, Max]	2.33 [1.00, 5.00]	2.67 [1.00, 5.00]	1.00 [1.00, 5.00]	1.33 [1.00, 5.00]
Activism				
<i>M</i> (<i>SD</i>)	3.77 (1.02)	3.90 (0.958)	1.98 (1.11)	2.02 (1.16)
<i>Mdn</i> [Min, Max]	4.00 [1.00, 5.00]	4.00 [1.00, 5.00]	1.67 [1.00, 5.00]	1.67 [1.00, 5.00]
Social norm				
<i>M</i> (<i>SD</i>)	2.90 (1.15)	2.86 (1.13)	2.66 (1.16)	2.61 (1.15)
<i>Mdn</i> [Min, Max]	3.00 [1.00, 5.00]	3.00 [1.00, 5.00]	2.67 [1.00, 5.00]	2.67 [1.00, 5.00]
Perceived threat				
<i>M</i> (<i>SD</i>)	4.47 (0.652)	4.55 (0.585)	2.43 (1.20)	2.41 (1.23)
<i>Mdn</i> [Min, Max]	4.75 [1.00, 5.00]	4.75 [2.25, 5.00]	2.50 [1.00, 5.00]	2.25 [1.00, 5.00]
Perceived unfairness				
<i>M</i> (<i>SD</i>)	–	4.94 (0.246)	–	3.51 (1.30)
<i>Mdn</i> [Min, Max]	–	5.00 [3.00, 5.00]	–	4.00 [1.00, 5.00]
Negative emotions				
<i>M</i> (<i>SD</i>)	–	4.32 (0.742)	–	2.77 (1.17)
<i>Mdn</i> [Min, Max]	–	4.67 [1.00, 5.00]	–	3.00 [1.00, 5.00]

Sacred Value Hypothesis

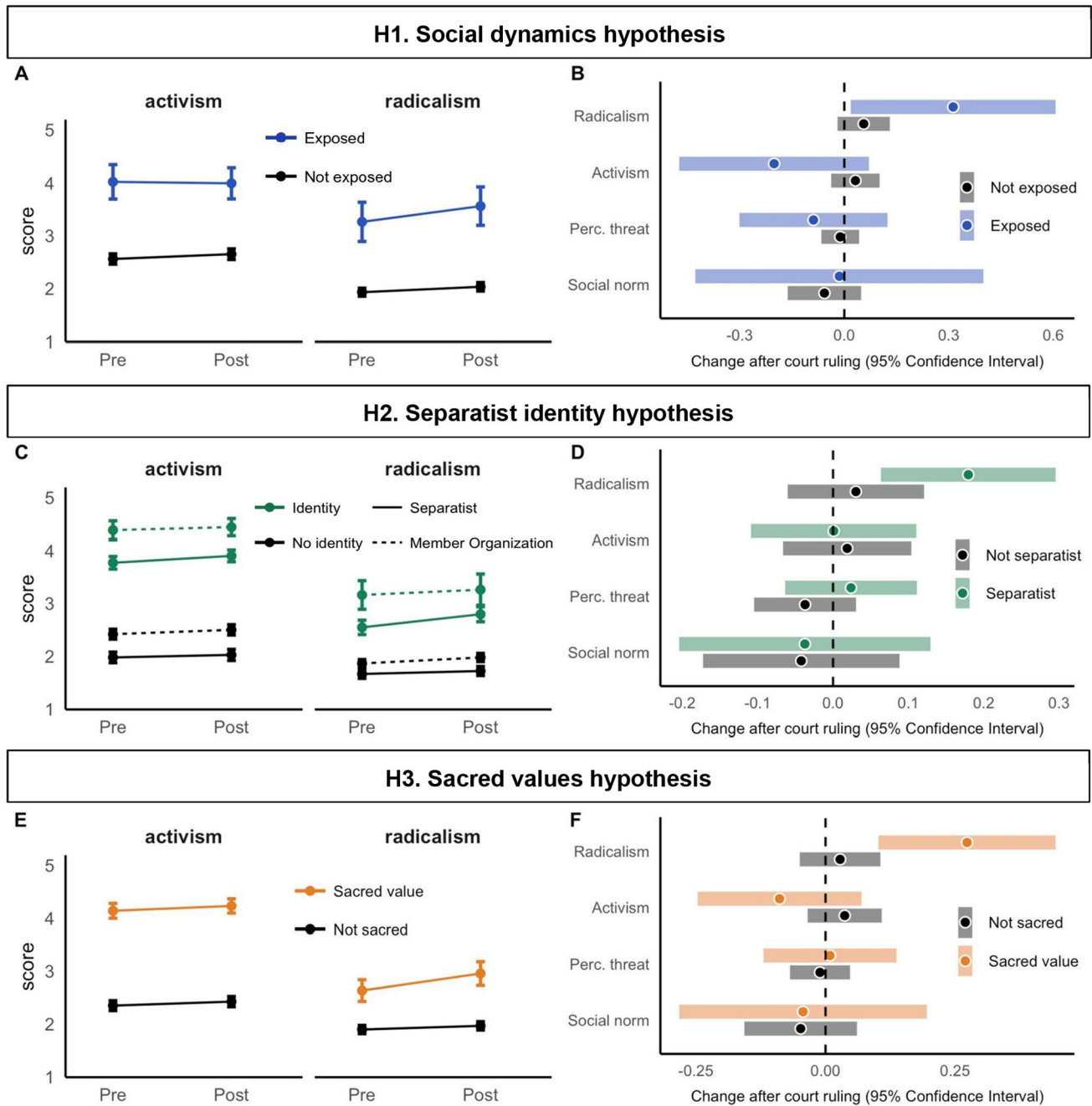
The sacred value hypothesis leads to the prediction that individuals who hold Catalan independence as a sacred value (vs. non-sacred) will exhibit increased radicalism after the court ruling announcement. Compared to participants without sacred values ($n = 667$), individuals who held Catalan independence as a sacred value ($n = 138$) perceived the court ruling to be more unfair ($B = 1.11$, 95% CI [0.90, 1.33], $t(772) = 10.36$, $p < .001$, Cohen's $d = 0.97$), exhibited higher negative emotions about the court ruling ($B = 1.38$, 95% CI [1.17, 1.59], $t(772) = 12.65$, $p < .001$, Cohen's $d = 1.20$) and higher perceptions of threat by Spain ($B = 1.79$, 95% CI [1.56, 2.01], $t(803) = 15.83$, $p < .001$, Cohen's $d = 1.48$). Participants who held Catalan independence as a sacred value also exhibited higher activism (controlling for radicalism) ($B = 1.27$, 95% CI [1.10, 1.44], $t(802) = 14.50$, $p < .001$, Cohen's $d = 1.52$), but lower radicalism (controlling for activism) ($B = -0.29$, 95% CI [-0.46, -0.12], $t(802) = -3.30$, $p = .001$, Cohen's $d = -0.70$) compared to participants who did not deem Catalan independence sacred. Descriptives of the variables of interest for each group can be found in Table 5.

Hypothesis Testing

In line with the sacred value hypothesis, the interaction between time and sacred values at baseline significantly predicted radicalism (controlling for activism), even after controlling for separatist identity, and prior experience with police at baseline ($B = 0.23$, 95% CI [0.09, 0.36], $t(718) = 3.17$, $p = .002$). In particular, participants who reported holding Catalan independence as a sacred value at baseline experienced a steeper increase in radicalism after the court ruling, $M_{\text{post-pre}} = 0.27$, 95% CI [0.14, 0.40], $t(722) = 4.18$, $p < .001$, Cohen's $d = 0.25$, than participants without sacred values, $M_{\text{post-pre}} = 0.04$, 95% CI [-0.02, 0.10], $t(725) = 1.44$, $p = .150$, Cohen's $d = 0.07$ (see Figure 1E). Thus, we found support for the sacred value hypothesis: participants who held Catalan independence as a sacred value increased their radicalism scores to a greater extent than participants without sacred values.

Figure 1

Exposure to Police Violence, Separatist Identity, and Sacred Values Predicted Greater Increases in Radicalism After the Court Ruling



Note. The announcement of the prison sentences was associated with an increase in radicalism among individuals who had been previously exposed to police violence (H1), those who identified with separatism (H2), and those who held Catalan independence as a sacred value (H3) (A, C, E). In line with the three evaluated hypotheses, these groups also exhibited greater increases in radicalism after the court ruling (C, F, I). Radicalism scores have been controlled for activism, and activism scores have been controlled for radicalism to evaluate the unique variance of each of these constructs. Error bars represent 95% Confidence Intervals.

Table 5

Descriptives of the Variables of Interest for Individuals Who Held Catalan Independence as a Sacred Value and Individuals Who Did not Before and After the Court Ruling

Variable	Sacred Value		No Sacred Value	
	Pre (N = 138)	Post (N = 138)	Pre (N = 667)	Post (N = 667)
Radicalism				
<i>M</i> (<i>SD</i>)	2.63 (1.22)	2.96 (1.33)	1.89 (1.02)	1.96 (1.04)
<i>Mdn</i> [Min, Max]	2.67 [1.00, 5.00]	3.00 [1.00, 5.00]	1.67 [1.00, 5.00]	1.67 [1.00, 5.00]
Activism				
<i>M</i> (<i>SD</i>)	4.14 (0.833)	4.23 (0.801)	2.35 (1.23)	2.42 (1.28)
<i>Mdn</i> [Min, Max]	4.33 [1.33, 5.00]	4.33 [1.00, 5.00]	2.33 [1.00, 5.00]	2.33 [1.00, 5.00]
Social norm				
<i>M</i> (<i>SD</i>)	3.23 (1.14)	3.19 (1.15)	2.64 (1.12)	2.59 (1.11)
<i>Mdn</i> [Min, Max]	3.33 [1.00, 5.00]	3.00 [1.00, 5.00]	2.67 [1.00, 5.00]	2.67 [1.00, 5.00]
Perceived threat				
<i>M</i> (<i>SD</i>)	4.69 (0.504)	4.79 (0.365)	2.90 (1.31)	2.91 (1.36)
<i>Mdn</i> [Min, Max]	4.88 [1.25, 5.00]	5.00 [3.25, 5.00]	3.00 [1.00, 5.00]	3.00 [1.00, 5.00]
Perceived unfairness				
<i>M</i> (<i>SD</i>)	–	5.00 (0)	–	3.89 (1.26)
<i>Mdn</i> [Min, Max]	–	5.00 [5.00, 5.00]	–	4.00 [1.00, 5.00]
Negative emotions				
<i>M</i> (<i>SD</i>)	–	4.50 (0.645)	–	3.12 (1.24)
<i>Mdn</i> [Min, Max]	–	4.67 [1.00, 5.00]	–	3.33 [1.00, 5.00]

Discussion

Perceived injustice has been associated with both support for violent (Pauwels & Heylen, 2020) and non-violent courses of action (Barth et al., 2015; Corcoran et al., 2015). In the present study, we approached the question of who supports violence after perceived injustice. We did so by conducting a longitudinal study before and after a court ruling announcement sentencing nine Catalan separatist leaders to prison, a decision that was followed by week-long protests and riots in the streets of Barcelona. The court ruling was overwhelmingly perceived as unfair and elicited strong negative emotions among separatists. In that setting, we evaluated whether people who had experienced police violence in the past (social dynamics hypothesis), people who identified as separatists (separatist identity hypothesis), and people who held Catalan independence as a sacred value (sacred value hypotheses) exhibited greater increases in radicalism after the court ruling. We found support for the three hypotheses, suggesting that the three processes (social dynamics, separatist identity, and sacred values) are intertwined in real-world scenarios. Thus, individuals with separatist identities who hold sacred values, especially those previously exposed to police violence, seem to be more prone to shift from activism to radicalism after perceived injustice.

Our results are aligned with previous findings on the relationship between sacred values and disposition to engage in extreme pro-group behavior (Atran & Ginges, 2015; Hamid et al., 2019; Pretus et al., 2018; Sheikh et al., 2016), including studies where group members who hold sacred values choose to defend the values over the group (Gómez et al., 2017). Previous studies on sacred values assessed people's disposition to endure costly sacrifices (Sheikh et al., 2014), and willingness to fight and die (Hamid et al., 2019; Pretus et al., 2018, 2019) with no clear distinction between violent (radicalism) and non-violent courses of action (activism). Here, we aimed to draw a clear-cut boundary between activism and radicalism. In addition to using a two-factor activism and radicalism scale (the ARIS scale), we controlled for activism in every analysis to exclude any overlapping variance and make sure we captured changes in "pure" radicalism. Using this approach, we found higher baseline activism scores but lower baseline radicalism scores in participants with sacred values compared to participants without sacred values. That is, individuals with sacred values were more devoted

to the cause but expressed it through non-violent rather than violent means. It was after finding out their leadership was being sent to prison that individuals with sacred values increased their radicalism scores. Hence, our data suggest that, after perceived injustice, hardline supporters who are deeply committed to the values at stake are more likely to shift from activism to radicalism.

We also found support for two complementary hypotheses from the collective action literature: the social dynamics hypothesis and the separatist identity hypothesis. Specifically, increases in radicalism after the court ruling were also larger in participants who had experienced police violence in the past (social dynamics hypothesis). This is aligned with collective action models that emphasize the role of intergroup encounters (such as police encounters) in dynamically shifting people's self-concept from peaceful activists to violent protesters (Drury & Reicher, 2000; Drury et al., 2020; Reicher, 1984). Moreover, participants who identified as separatists also increased their radicalism scores to a greater extent than non-separatists (separatist identity hypothesis). Of note, members of separatist organizations did not undergo changes in radicalism, though they exhibited higher levels of radicalism than non-organized separatists before the court ruling. Thus, organized individuals may have already been seeking less conventional pathways to political action before the court ruling. This is aligned with previous accounts that characterize group membership as a phase that immediately precedes action on behalf of the group (Doosje et al., 2016). Overall, these findings support the notion that radicalism can emerge when individuals who identify with a subgroup become alienated from a superordinate entity such as the nation (Klandermans, 2002; Klandermans, 2014; Simon & Klandermans, 2001).

In this study we evaluated a value-based identity (separatist identity). That is, group identification was defined based on holding a given value (believing in Catalan independence). Therefore, holding Catalan independence as a sacred value was contingent on believing in Catalan independence (identifying as a separatist) in the first place. Whereas examining separatist identity was enough to observe increases in radicalism after the court ruling, adding the sacred value dimension offered further nuance into which processes are relevant for radicalism to emerge. Namely, while separatist identity is important for predicting radicalism, taking into account people's level of commitment to the values at stake can improve our ability to predict radicalism. This is aligned with previous literature on the centrality of group membership, and the values associated with said membership, as a main component of group identification (Leach et al., 2008). In the real world, it seems that all three evaluated constructs (social dynamics, separatist identity, and sacred values) are intertwined. For instance, social dynamics (e.g., encounters with police) likely intensify people's identification with separatism and harden separatists' positions on the issue of Catalan independence through value sacralization. Conversely, people who identify as separatists, especially those who hold sacred values, are likely more prone to attend social mobilizations, making them more susceptible to adversarial intergroup encounters. Importantly, all three evaluated groups displayed ceiling levels of perceived injustice and high levels of negative emotions in response to the court ruling. Thus, regardless of people's experiences or how they identify, perceived injustice and negative emotions could be a shared mechanism underlying increases in radicalism across groups.

So is there a way to restore inter-group relations amid such spiraling feedback loops?

From the perspective of the separatist identity hypothesis, radicalism is more likely to emerge the more group identities are made salient (Klandermans, 2002; Klandermans, 2014; Simon & Klandermans, 2001). Therefore, relevant parties may choose to emphasize the inter-group nature of the court ruling *versus* portraying the court ruling in strictly legal terms depending on whether they aim to spark radicalism *versus* peaceful mobilizations. Because separatists and non-separatists may seek information and trust different sources (e.g., Catalan separatist leaders *versus* Spanish government officials), promoting a coherent narrative on the court ruling seems difficult. The chances of preventing radicalism from a sacred values hypothesis perspective seem even less likely. Previous studies suggest that sacred values are particularly stable attitudes resistant to social influence (Sheikh et al., 2013; Sheikh et al., 2016). Finally, the social dynamics hypothesis proposes that group identities are transformed as a product of developing inter-group encounters (Drury & Reicher, 2000; Drury et al., 2020; Reicher, 1984), every new encounter offers a chance to make things better. This includes not only police tactics toward protesters but also intergroup encounters at a leadership level. To facilitate reconciliation in intergroup conflict settings, the needs-based reconciliation model (Shnabel & Nadler, 2015) highlights the need to restore perceived agency in low-status groups and restore moral image in high-status groups. Thus, even if history may bear witness to countless disagreements, group identities keep evolving and new encounters offer new chances for reconciliation.

One important limitation of our study is that our design lacked a control group of Catalans who were not exposed to the court ruling, mainly because the court decision was by far the most prominent event in Catalonia in terms of media coverage and public debate that occurred between the two longitudinal measures. Nonetheless, even if the increase in radicalism observed in separatists was unrelated to the court decision, the moderating effect of sacred values on radicalism between the two-time points would still hold. Furthermore, future studies should include perceived group inefficacy measures to test the alternative hypothesis that support for violent (versus non-violent) courses of action stems from perceived group inefficacy. Moreover, because we collected responses shortly after the announcement of the court ruling (over 75% of participants filled out the survey within the first 24 hours after the court ruling was announced), our design was unsuitable for detecting shifts in perceived norms at a group level. Future studies should follow-up on the same individuals over a longer period to identify shifts in perceived social norms. Additionally, we measured intentions rather than actual behavior. Thus, our data support the notion that the violence that took place on the streets of Barcelona was not just situationally motivated, for instance, as a result of police operations aimed at dispersing protesters. Instead, our data suggest that this violent backlash was accompanied by an actual shift in radicalism within the first 24 hours after the court ruling was announced. Finally, our findings may not apply to social movements whose members hold non-violence as a sacred value. In that case, group members may not support violent tactics even in the scenarios we explored (experience with police violence, separatist identity, and sacred values). Future studies should test the examined hypotheses across different contexts to test if our findings are replicable cross-nationally.

Overall, our results suggest that social dynamics, separatist identity, and sacred values are all relevant socio-psychological factors modulating shifts from activism to radicalism after perceived injustice. Specifically, people who had experienced police violence in the past, people who identified as separatists, and people who held Catalan independence as a sacred value increased self-reported radicalism after finding out about the conviction of separatist leaders. Our findings shed light on potential venues to address radicalism, emphasizing which of the evaluated processes is more susceptible to change. In addition, our studies offer a precedent for future researchers aiming to combine classic accounts of collective action, with more recent models of extremism to understand current developments in political violence.

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Ethics Statement: This research was approved by the Institutional Review Board Ethics Committee according to the Declaration of Helsinki guidelines.

Data Availability: The research data and analysis code to replicate the findings are publicly available (Pretus et al., 2023a)

Supplementary Materials

The Supplementary Materials include the following items:

- The research data, analysis code, and study materials to replicate the findings (see Pretus et al., 2023a)
- A supplementary analysis where we combine the three tested hypotheses into the same model. We discuss why this combined model is less robust than the models presented in the main text (see Pretus et al., 2023b).

Index of Supplementary Materials

- Pretus, C., Sheikh, H., Hamid, N., & Atran, S. (2023a). *Supplementary materials to "Predicting radicalism after perceived injustice: The role of separatist identity, sacred values, and police violence"* [Research data, analysis code, and study materials]. OSF. <https://osf.io/78mrn/>
- Pretus, C., Sheikh, H., Hamid, N., & Atran, S. (2023b). *Supplementary materials to "Predicting radicalism after perceived injustice: The role of separatist identity, sacred values, and police violence"* [Supplementary analysis]. PsychOpen GOLD. <https://doi.org/10.23668/psycharchives.14034>

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