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2 **Supplementary Information for**

3 **Testing the Effects of Facebook Usage in an Ethnically Polarized Setting**

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1. Experimental Design

A. Research Context.

Background. Bosnia and Herzegovina (BiH), the most multi-ethnic of the former Yugoslav republics, was a site of a genocide and a devastating war during the period from 1992 to 1995. The war officially ended when the Dayton Peace Agreement was reached on November 21, 1995 (final version signed on December 14). The integral part of the Agreement was the Constitution of BiH that established the two entities – the Federation of BiH, composed mainly of Bosniaks and Croats; and the Republika Srpska, composed mainly of Serbs (Figure S1, a) – with ultimate authority resting with the central government. Our study took place in Bosnia and Herzegovina (BiH) from July 7 until Jul 14, encompassing three days before and three days after the Remembrance Day of July 11 during which the Srebrenica genocide of 1995 is commemorated with various events including a mass funeral for the victims' remnants identified over the previous twelve months.

The genocide in Srebrenica is central and deeply intertwined to the memory of the Bosnian war, as the worst atrocity in Europe after the World War II, and one of the gravest failures of U.N. peacekeeping (1). To honor and maintain the memory of the victims, Srebrenica–Potočari Memorial and Cemetery for the Victims of the 1995 Genocide was officially opened in 2003. Especially given the high level of genocide denialism, commemoration period serves as a natural prime of ethnic identities and, more generally, a proxy for periods during which identities (in this case, ethnic) are made salient and more frequently discussed. Social media users are likely to be exposed to more individual-generated content and discussions (e.g. through posts, forum comments) than the inactive members whose main source of information may come in the form of the official rhetoric presented on TV or via newspapers. During the days of remembrance, the line between personal and political on Facebook feeds is largely blurred; for that reason, our expectation based on annual trends is that even those not politically active will be exposed to some content relating to the history of ethnic violence and current inter-group relations. In terms of internet and social media usage, the internet penetration in BiH is 86% (3 million users), and the appeal of online social networks is particularly strong with almost half of the population (1.6 million users) registered as Facebook users (2).

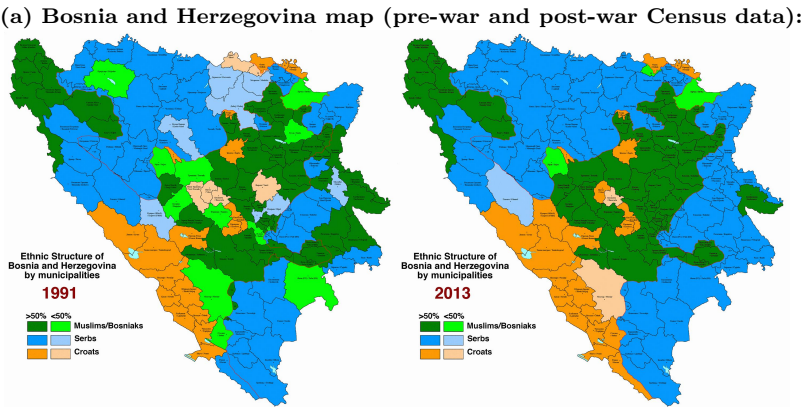
Media Environment. Given the persistence of genocide denial – that seems to be only gaining in prevalence – the content promoted online is far from being one of unity. We have identified some of the top news Facebook pages in terms of the number of followers and the top news websites in terms of the frequency of average monthly website visits. We have searched the articles posted during the week of our study, focusing on those that included keywords "Srebrenica", "war", "genocide", "conflict", "atrocities".* It should be noted that not all of the outlets are based in Bosnia and Herzegovina, given that it is common that users turn to outlets from one of the neighboring countries. We pose, however, that the outlets identified above are representative of the political news that was in circulation on social media platforms during this period. Content analysis of the identified outlets suggests that the articles posted during this period can be grouped into the following categories: a) reports of the situation on the ground (of the actual commemoration and associated events); b) remarks from domestic and international leaders; c) descriptions of historical events; d) analysis of current situation characterized by the rise in hate speech and genocide denial. Members of civil society are indeed organizing some excellent programming during this time, yet this content often does not reach wide enough audiences. Much of the discussion and commentary from users, especially if the comment section on websites and news portals is closed, moves to Facebook. We report our conclusions – with regards to the content – in the main text. In terms of the media environment within Bosnia and Herzegovina, USAID-evaluated (3) assessment of the media sector identifies the absence of delineation between media, politics and business as one of the main enablers of the corruption and inefficiencies within the media market. Matching the structure of the country, the entities have separate public broadcast TV channels, with a third public service broadcaster at the national level. These broadcasters have been financed from licensing and television fees (often bundled with electricity bills), and are frequently characterized by high political interference in the content they provide.

*In terms of the Facebook news pages selected for their number of followers, we focus on: novi.ba, 24h.ba, Dnevni Avaz, Al Jazeera Balkans and klix.ba. In terms of the frequently visited news websites, we focus on klix.ba, avaz.ba, kurir.rs, nezavisne.com and blic.rs.

B. Recruitment & Randomization. Participants were recruited through Facebook advertisements which we ran across BiH starting on June 15. The text above the ad stated the following “Take part in an academic study about the effects of social media on users! Share your thoughts, help the accumulation of knowledge, and win 20KM.” (Fig. S1.b, below), while the ad image indicated that 20BAM (equivalent of \$11.45, as of July 2019) in mobile credit awaits for all study participants. The Facebook group was titled “The study of Social Media - BiH.” The ads were shown in all three official languages – Bosnian, Croatian and Serbian – and Cyrillic and Latin alphabet, across the entire territory of Bosnia and Herzegovina. On June 25 and June 27, we intensified our efforts to obtain a more representative and diverse sample, by running shorter campaigns with the same advertisement specifically targeting men, places in the entity Republika Srpska and users above the age of 35.

Our ads were shown to 365,599 people, with 1236 responses to the baseline survey, and the first response having been received on June 19. To select individuals for participation in the final survey, we selected only those individuals that follow at least one bh. online news or political page on Facebook, and report being never or almost never on Twitter nor Reddit. We selected these criteria to increase the likeliness of our sample being exposed to at least some political or inter-group content which is on what our theorized mechanism relies, as well as to reduce the extent to which other social media activity might be influencing the outcome of interest. We used blocked randomization to divide the 556 resulting individuals into treatment and control, blocking on the variable that measures the importance of ethnic identity in users’ self-identification. 258 in the control group and 263 in the treatment group were successfully e-mailed (there were a few who despite saying yes to being above 18 years of age were in fact underaged based on their year of birth and few cases of the same person filling out surveys more than once). The control group was asked to continue using Facebook as they regularly would, while also sharing the information on the exact daily amount of time they spent online by sending screenshots of the report that Facebook creates for each user. In November of 2018, Facebook rolled out a new feature called “Your Time on Facebook” which tracks the amount of time a user spends on the Facebook app. Clear instructions on how to access this feature were sent to all participants in the control group.

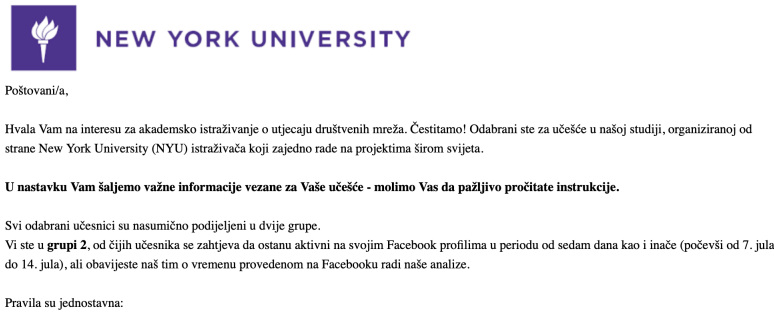
Fig. S1. a) Aspects of experimental design: map showing the spatial segregation of the three ethnic groups prior and post-war; b) Facebook advertisement and the header of the e-mail sent to participants informing them about their group assignment.



(b) One of the Facebook advertisement created for recruiting. The text above the ad states “Take part in an academic study about the effects of social media! Share your thoughts, help the accumulation of knowledge, and win 20KM”, while the ad image indicates that 20BAM (equivalent of \$11.45, as of July 2019) in mobile credit awaits for all study participants. The Facebook group was titled “The Study about Social Media - BiH.”



(c) Top of the e-mail that was sent to participants, with the group assignments:



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79 **C. Attrition.** After participants completed the baseline survey, we randomized them into the treatment and the control group
80 and e-mailed participants with their treatment assignment. After the e-mails were sent, informing individuals to which groups
81 they belong, 92 in the treatment group and 64 in the control group were unresponsive or have responded late. We also tried to
82 gather phone numbers from as many participants as possible (as a second medium of communication), and we would both text
83 and e-mail participants if we had not received a no/yes response from them initially. Of those who did enter the study, 31
84 participants – 15 from the treatment group and 16 from the control group – did not complete the study. Those who did not
85 abide by the treatment and activated their profile at some point during those seven days were contacted to describe their reason
86 for activation and were provided with a final warning (e-mail and text); if they did not deactivate within 1 hour after the
87 e-mail was sent to them, they were excluded from the study. 3 immediately deactivated upon receiving the note and explained
88 the reason for activation, all of which were of accidental nature including a child entering their account to play a game and
89 logging in as a consequence of accessing a different application. 3 participants never returned our e-mails and were excluded
90 from the study, despite having read our e-mails.

91 All users were offered the same amount of money to participate, regardless of their treatment assignment. Treatment of
92 Facebook deactivation was especially costly for — as reported to us — users who had to stay active on Facebook due to school
93 obligations (as this was also exam time for many universities), or had work obligations (e.g. those in customer service, those
94 selling goods online etc.). Some of them also asked us to participate later in the year or responded late, which we were not able
95 to accommodate given the design of the study. Several users likely did not even open the e-mail or provided an address that
96 they likely do not use in daily communication (e.g. an equivalent of shopgrgr@yahoo.com) which is important in understanding
97 the level of overall attrition. The way in which we designed the experiment, assignment to treatment occurred before any email
98 correspondences had taken place and thus we could not have avoided these instances.

99 If we consider as attrition all the users post-randomization – even those who for logistical challenges were not able to be
100 contacted or participate in the research – 24.80% of the control group, and 39.54% of those assigned to treatment did not finish
101 the final survey.[†] Hence, the difference in drop-out is 14.74%. Attrition may introduce bias and threaten the internal validity
102 of the findings if it is systematically related to the outcomes of interest. To examine whether this was likely to be the case in
103 our sample and given that we have a rich set of covariates that may be influential in shaping outgroup regard, we compare the
104 baseline characteristics of our attrition sample with the characteristics of those who finished the final survey. We do so by
105 first presenting the baseline comparison using the full sample including even those who for logistical challenges were not able
106 to participate; second, by presenting the comparison for the subsample of users who initially responded affirmatively when
107 e-mailed with the information about the treatment to which they were assigned.

[†] Calculated as follows: $100 \cdot (1 - 194/258) \% = 24.80\%$ within the control; $100 \cdot (1 - 159/263) \% = 39.54\%$ within the treatment group.

C.1. Attrition: Baseline Characteristics (sample of all users whom we attempted to contact).

Table C.1.1 (left)[‡]: Comparison between baseline characteristics of the attrition sample (everyone who we attempted to contact), for treatment and control groups separately. Table C.1.2 (right): Comparison between baseline characteristics of the attrition sample with the characteristics of the sample of users who finished the survey. For each characteristic, a t-test is conducted against the null hypothesis that users in both groups are not different from each other in terms of this characteristic. Standard deviations are in the parentheses.

Table C.1.1	Treatment group drop-out	Control group drop-out	t-test p-value	Table C.1.2	Attrition	Final Sample	t-test p-value
Gender	1.588 (0.494)	1.560 (0.499)	0.686	Gender	1.576 (0.495)	1.637 (0.493)	0.162
Age	28.361 (10.036)	28.880 (9.400)	0.708	Age	28.574 (9.759)	29.173 (8.965)	0.475
Education	2.832 (1.052)	2.833 (1.107)	0.993	Education	2.833 (1.072)	3.008 (1.114)	0.067
Employment status	0.462 (0.517)	0.512 (0.503)	0.494	Employment status	0.483 (0.511)	0.414 (0.493)	0.120
Trust in media	1.193 (0.728)	1.131 (0.708)	0.542	Trust in media	1.167 (0.719)	1.215 (0.730)	0.453
Frequency of reading news	3.538 (1.588)	3.857 (1.372)	0.128	Frequency of reading news	3.670 (1.507)	3.569 (1.540)	0.453
Interest in politics	1.697 (1.132)	1.857 (1.066)	0.307	Interest in politics	1.764 (1.105)	1.669 (1.037)	0.319
Political forums on FB followed	1.521 (0.779)	1.500 (0.753)	0.847	Political forums on FB followed	1.512 (0.767)	1.490 (0.704)	0.735
Time since creating FB profile	3.966 (0.223)	3.929 (0.302)	0.331	Time since creating FB profile	3.951 (0.259)	3.929 (0.381)	0.429
Frequency of FB usage	3.840 (0.567)	3.726 (0.782)	0.255	Frequency of FB usage	3.793 (0.665)	3.847 (0.527)	0.323
Importance of ethnic identity	2.286 (1.309)	2.381 (1.396)	0.624	Importance of ethnic identity	2.325 (1.343)	2.385 (1.238)	0.601
Importance of country	2.882 (1.129)	2.905 (1.137)	0.890	Importance of country	2.892 (1.129)	2.802 (1.095)	0.361
Importance of religion	2.395 (1.391)	2.429 (1.442)	0.868	Importance of religion	2.409 (1.409)	2.717 (1.187)	0.009
Importance of career	3.244 (0.736)	3.155 (1.024)	0.497	Importance of career	3.207 (0.866)	3.238 (0.836)	0.680
Importance of neighborhood	2.361 (1.110)	2.381 (1.029)	0.897	Importance of neighborhood	2.370 (1.075)	2.385 (1.025)	0.865
Importance of hobby	1.471 (1.320)	1.571 (1.338)	0.560	Importance of hobby	1.512 (1.325)	2.688 (0.895)	0.000
Importance of family	3.874 (0.402)	3.845 (0.478)	0.654	Importance of family	3.862 (0.435)	3.861 (0.414)	0.981
Observations	119	84		Observations	353	203	

Baseline characteristics of the attrition sample (everyone who we attempted to contact with treatment assignment) vs. those who finished the survey, for control (Table C.1.3) and treatment (Table C.1.4) groups separately.

Table C.1.3	Control group participants	Control group drop-out	t-test p-value	Table C.1.4	Treatment group participants	Treatment group drop-out	t-test p-value
Gender	1.665 (0.473)	1.560 (0.499)	0.103	Gender	1.604 (0.516)	1.588 (0.494)	0.799
Age	29.593 (9.141)	28.88 (9.400)	0.561	Age	28.660 (8.748)	28.361 (10.036)	0.795
Education	3.057 (1.073)	2.833 (1.107)	0.121	Education	2.950 (1.163)	2.832 (1.052)	0.378
Employment status	0.376 (0.486)	0.512 (0.503)	0.039	Employment status	0.459 (0.500)	0.462 (0.517)	0.961
Trust in media	1.201 (0.71)	1.131 (0.708)	0.45	Trust in media	1.233 (0.756)	1.193 (0.728)	0.661
Frequency of reading news	3.582 (1.491)	3.857 (1.372)	0.137	Frequency of reading news	3.553 (1.602)	3.538 (1.588)	0.936
Interest in politics	1.660 (1.012)	1.857 (1.066)	0.152	Interest in politics	1.679 (1.069)	1.697 (1.132)	0.892
Political forums on FB followed	1.495 (0.677)	1.500 (0.753)	0.957	Political forums on FB followed	1.484 (0.737)	1.521 (0.780)	0.691
Time since creating FB profile	3.907 (0.396)	3.929 (0.302)	0.624	Time since creating FB profile	3.956 (0.362)	3.966 (0.223)	0.768
Frequency of FB usage	3.928 (0.345)	3.726 (0.782)	0.025	Frequency of FB usage	3.748 (0.675)	3.840 (0.567)	0.219
Importance of ethnic identity	2.356 (1.227)	2.381 (1.396)	0.886	Importance of ethnic identity	2.4214 (1.255)	2.286 (1.309)	0.385
Importance of country	2.820 (1.045)	2.905 (1.137)	0.558	Importance of country	2.780 (1.156)	2.882 (1.129)	0.459
Importance of religion	2.691 (1.212)	2.429 (1.442)	0.147	Importance of religion	2.748 (1.158)	2.395 (1.391)	0.025
Importance of career	3.1804 (0.872)	3.155 (1.024)	0.842	Importance of career	3.308 (0.787)	3.244 (0.736)	0.483
Importance of neighborhood	2.350 (1.029)	2.381 (1.029)	0.821	Importance of neighborhood	2.428 (1.022)	2.361 (1.110)	0.611
Importance of hobby	2.634 (0.832)	1.571 (1.338)	0.000	Importance of hobby	2.755 (0.966)	1.471 (1.320)	0.000
Importance of family	3.851 (0.424)	3.845 (0.478)	0.931	Importance of family	3.874 (0.402)	3.874 (0.402)	0.996
Observations	194	84		Observations	159	119	

[‡] To clarify the number of observations, 119 is obtained by subtracting 159 users who finished the survey from 278 users who were initially assigned to treatment (including those whose contact info was faulty and we were never able to reach them). Similarly, 84 of control-group drop-outs is obtained by subtracting 194 from 278 users who were initially assigned to control (but again, it includes those whose contact information was faulty and we were never able to reach them)

C.2. Attrition: Baseline Characteristics (subsample of users who initially confirmed participation).

Attrition, within this group, is not predicted by the treatment assignment: Running an OLS with an indicator of whether a respondent is in the attrition sample or not as the outcome, with full covariate specification, yields an effect of -0.006 SD (SE=0.029, $p=0.85$).

Balance tables comparing the characteristics of participants who dropped out from the treatment versus participants who finished the endline survey (Table C.2.1; from the control in Table C.2.2). For each characteristic, a t-test is conducted against the null hypothesis that users in both groups are not different from each other in terms of this characteristic. Standard deviations are in the parentheses.

Table C.2.1	Control group participants	Control group drop-out	t-test p-value	Table C.2.2	Treatment group participants	Treatment group drop-out	t-test p-value
Gender	1.665 (0.473)	1.563 (0.512)	0.450	Gender	1.604 (0.516)	1.467 (0.516)	0.340
Age	29.593 (9.141)	30.812 (10.206)	0.650	Age	28.660 (8.748)	29.133 (12.200)	0.885
Education	3.057 (1.073)	3.375 (1.310)	0.358	Education	2.950 (1.163)	2.933 (1.100)	0.957
Employment status	0.376 (0.486)	0.500 (0.516)	0.368	Employment status	0.459 (0.499)	0.600 (0.507)	0.318
Trust in media	1.201 (0.710)	1.188 (0.544)	0.930	Trust in media	1.233 (0.756)	1.067 (0.704)	0.397
Frequency of reading news	3.582 (1.491)	4.125 (1.544)	0.193	Frequency of reading news	3.554 (1.602)	3.467 (1.302)	0.812
Interest in politics	1.660 (1.012)	1.875 (0.806)	0.328	Interest in politics	1.679 (1.069)	1.467 (0.990)	0.441
Political forums on FB followed	1.495 (0.677)	1.688 (1.015)	0.470	Political forums on FB followed	1.484 (0.737)	1.267 (0.458)	0.113
Time since creating FB profile	3.907 (0.396)	4.688 (0.602)	0.171	Time since creating FB profile	3.956 (0.362)	4.000 (0.000)	0.127
Frequency of FB usage	3.928 (0.345)	4.750 (0.577)	0.242	Frequency of FB usage	3.748 (0.675)	3.533 (1.125)	0.478
Importance of ethnic identity	2.356 (1.227)	1.875 (1.408)	0.203	Importance of ethnic identity	2.421 (1.255)	2.267 (1.033)	0.593
Importance of country	2.820 (1.045)	2.750 (1.065)	0.804	Importance of country	2.780 (1.156)	2.600 (1.121)	0.561
Importance of religion	2.691 (1.212)	2.000 (1.414)	0.075	Importance of religion	2.748 (1.158)	2.067 (1.387)	0.084
Importance of career	3.180 (0.872)	3.063 (0.998)	0.652	Importance of career	3.308 (0.787)	3.067 (0.884)	0.322
Importance of neighborhood	2.351 (1.029)	1.812 (1.109)	0.078	Importance of neighborhood	2.428 (1.022)	1.933 (1.387)	0.198
Importance of hobby	2.634 (0.830)	2.688 (1.138)	0.856	Importance of hobby	2.755 (0.967)	2.067 (1.100)	0.033
Importance of family	3.851 (0.424)	3.625 (0.806)	0.289	Importance of family	3.874 (0.402)	3.867 (0.352)	0.938
Observations	194	16		Observations	159	15	

Table C.2.3: Balance table comparing the attrition from the sample of treated versus control group participants.

Table C.2.3	Control group drop-out	Treatment group drop-out	t-test p-value
Gender	1.562 (0.512)	1.467 (0.516)	0.608
Age	30.812 (10.206)	29.133 (12.200)	0.682
Education	3.375 (1.310)	2.933 (1.100)	0.317
Employment status	0.500 (0.516)	0.516 (0.507)	0.5907
Trust in media	1.188 (0.543)	1.067 (0.704)	0.599
Frequency of reading news	4.125 (1.544)	3.467 (1.302)	0.209
Interest in politics	1.875 (0.806)	1.467 (0.990)	0.221
Political forums on FB followed	1.688 (1.015)	1.267 (1.267)	0.1474
Time since creating FB profile	3.688 (0.602)	4.000 (0.000)	0.055
Frequency of FB usage	3.750 (0.577)	3.533 (1.125)	0.512
Importance of ethnic identity	1.875 (1.408)	2.267 (1.033)	0.3829
Importance of country	2.750 (1.065)	2.600 (1.121)	0.706
Importance of religion	2.000 (1.414)	2.067 (1.387)	0.896
Importance of career	3.062 (0.998)	3.067 (0.884)	0.990
Importance of neighborhood	1.812 (1.109)	1.933 (1.387)	0.792
Importance of hobby	2.688 (1.383)	2.067 (1.100)	0.133
Importance of family	3.625 (0.806)	3.867 (0.352)	0.287
Observations	16	15	

C.3. Attrition: Robustness Check.

The importance of religion and the importance of hobbies are the only two covariates for which we detect statistically significant differences between the treatment-assigned users who dropped out and those who completed the final survey (Table C.1.4). These two are also the covariates that emerge as significant when comparing characteristics of users who finished the final survey versus users who attrited (pooling together treatment-assigned and control-assigned group). Additionally, the more educated users are less likely to be in the attrition sample at <0.1 significance level.

We also observe higher attrition rate among users who selected "other" or "do not want to say" as their ethnic category (compared to the largest ethnic category, Bosniaks), and it is plausible that these were the users who were most mistrustful of the research process in general. Results remain robust to the inclusion of these covariates as controls (and are robust to the inclusion of an even richer set of covariates, as we report in Model 3).

As a robustness check, we use these covariates (importance of religion, importance of hobbies, education level and ethnicity) to estimate the predicted probability of attrition for every user. With a logistic regression model, we estimate and add this value as a control which does not alter our findings, as we report in the below table. Given the importance that we put on the diversity of users' residence (offline environment), we also test whether the attrition rates differ between localities that we categorize as homogeneous (below median diversity score) and those we categorize as heterogeneous (median and above diversity score). We find no significant differences (p-values of 0.7 with the measure of ethnic fractionalization and majority groups share, and 0.6 with Shannon Entropy). Even so, we cannot fully eliminate the possibility that those who have not finished the endline survey systematically differ on an unobservable characteristic related to our outcome that may not have been included in our surveys, and therefore caution the readers to interpret the results with this caveat in mind.

Table C.3.1: First model controls for the predicted probability of attrition only; second model controls for the predicted probability of attrition and the average weekly frequency of Facebook usage (e.g. once a day, 3-4 times a week); and third model controls for the predicted probability of attrition, age, gender, education, employment level, ethnicity, frequency of weekly Facebook usage and the perceived importance of ethnic and country membership to one's identity. All covariates are measured in the pre-treatment survey. Estimates are standardized relative to the standard deviation of the control group. Robust standard errors are in parentheses.

News knowledge & Subjective well-being

Outcome	Model 1	Model 2	Model 3
News knowledge index	-0.254** (0.107)	-0.242** (0.108)	-0.267** (0.106)
Well-being index	0.153 (0.104)	0.167 (0.105)	0.173* (0.105)
Satisfaction	-0.009 (0.115)	-0.006 (0.116)	0.005 (0.115)
Joy	0.026 (0.107)	0.049 (0.105)	0.058 (0.105)
Fulfillment	-0.013 (0.107)	-0.013 (0.107)	0.022 (0.108)
Anxiety (reverse coded)	0.364*** (0.106)	0.378*** (0.108)	0.365*** (0.108)
Boredom (reverse coded)	-0.011 (0.109)	-0.038 (0.111)	-0.030 (0.108)
Loneliness (reverse coded)	0.216** (0.101)	0.213** (0.105)	0.197* (0.107)
Depression (reverse coded)	0.091 (0.108)	0.118 (0.113)	0.120 (0.110)
Isolation (reverse coded)	0.029 (0.111)	0.017 (0.117)	0.001 (0.118)
N	353	353	353

*p<0.1; **p<0.05; ***p<0.01

Outgroup Regard

Outcome	Model 1	Model 2	Model 3
Feeling thermometer	-0.197* (0.114)	-0.235** (0.114)	-0.243** (0.105)
Social distance (reverse coded)	-0.156 (0.112)	-0.161 (0.116)	-0.187 (0.111)
Cooperation	-0.234** (0.112)	-0.223** (0.112)	-0.210* (0.112)
Perception of out-group evaluations	0.053 (0.112)	0.024 (0.112)	0.028 (0.110)
Out-group traits	0.026 (0.108)	-0.012 (0.108)	-0.017 (0.105)
Out-group regard (sum of z-scores)	-0.168 (0.109)	-0.201* (0.110)	-0.208** (0.105)
Out-group regard (principal components)	-0.195* (0.114)	-0.235** (0.114)	-0.242** (0.105)
N	353	353	353

*p<0.1; **p<0.05; ***p<0.01

2. Sample

Table S1. Descriptive statistics of the overall sample, and the breakdown of ethnic composition of users within the sample. For education, 5 is Master/PhD level and 0 is incomplete elementary school. For employment, 1 refers to being employed, and 0 indicates unemployment or student status. Time as a Facebook user refers to the amount of time since joining Facebook, with 0 being less than 6 months, and 4 more than 4 years. Frequency of FB usage refers to the amount of time that a user accesses and is active on Facebook weekly, with 0 referring to less than once a week and 4 referring to every day. For reading news; 0 is never; 5 is several times a day. For number of bh. news or political pages and forums: 0 indicates none; 3 indicates more than 5. For frequency of reading the news on Facebook: 0 is never; 3 is several times a day. For gender: 1 refers to male; 2 to female participants; 0 indicates "Other" or "Does not want to share". Standard deviation reported in parentheses. Max refers to the highest value a user could respond with, given the available survey options.

Variable	Mean (SD)	Min	Max
Age	29.200 (8.960)	18	65
Gender	1.640 (0.493)	0	2
Education	3.010 (1.110)	0	5
Employment	0.414 (0.493)	0	1
Trust in media	1.220 (0.730)	0	4
Time as a Facebook user	3.930 (0.381)	0	4
Frequency of Facebook usage	3.850 (0.527)	0	4
Reading news	3.570 (1.540)	0	5
Number of bh. political forums followed	1.490 (0.704)	0	3
Frequency of reading news on Facebook	1.940 (0.813)	0	3
Interest in politics	1.670 (1.040)	0	4
Importance of ethnic identity	2.380 (1.240)	0	4
Importance of country	2.800 (1.090)	0	4
Importance of religion	2.720 (1.190)	0	4
Importance of family	3.860 (0.414)	0	4
Importance of neighborhood	2.380 (1.020)	0	4
N	353	353	353

Breakdown of the variable indicating importance of ethnic identity to one's self-identification.

Survey Choice	Percentage of the sample
Not at all important	9.63%
Slightly important	14.45%
Moderately important	24.93%
Very important	29.75%
Extremely important	21.25%

Table S2. Ethnic composition of the sample, as self-reported in the pre-treatment survey. Numbers also include those who identified themselves by their religion (matching the ethnic category with the religion most frequently associated with members of that category).

Ethnic Group	No. of people	Share
Bosniak	208	58.92 %
Serb	59	16.71 %
Croat	23	6.52 %
Bosnian (supraordinate identity)	46	13.03 %
Other or Do not want to say	17	4.82 %

Table S3. Baseline characteristics of the final sample. For each characteristic, a t-test is conducted against the null hypothesis that users in treatment and control groups are not different from each other in terms of this characteristic. Standard errors are in parentheses.

	Treatment Group	Control Group	t-test <i>p</i> -value
Gender	1.604 (0.516)	1.665 (0.473)	0.251
Age	28.660 (8.748)	29.593 (9.141)	0.330
Education	2.950 (1.163)	3.057 (1.073)	0.374
Employment status	0.459 (0.500)	0.376 (0.486)	0.118
Trust in media	1.176 (0.911)	1.129 (0.781)	0.606
Frequency of reading news	3.553 (1.602)	3.582 (1.491)	0.861
Interest in politics	1.679 (1.069)	1.660 (1.012)	0.862
Political forums on FB followed	1.484 (0.736)	1.495 (0.677)	0.889
Time since creating FB profile	3.956 (0.362)	3.907 (0.396)	0.229
Frequency of FB usage	3.748 (0.675)	3.928 (0.345)	0.003
Importance of ethnic identity	2.421 (1.255)	2.356 (1.227)	0.621
Importance of family	3.874 (0.402)	3.851 (0.424)	0.591
Importance of country	2.780 (1.156)	2.820 (1.045)	0.738
Importance of religion	2.748 (1.158)	2.691 (1.212)	0.649
Importance of career	3.308 (0.787)	3.180 (0.872)	0.149
Importance of neighborhood	2.428 (1.022)	2.351 (1.029)	0.482
Importance of hobbies	2.755 (0.966)	2.634 (0.830)	0.215
N	159	194	

3. Outcomes: Survey Questions

Table S4. Pre-registered end-line survey questions, and response options for the indicators used in the main analysis.

<i>Outcome</i>	<i>Survey question</i>	<i>Measurements</i>
Out-Group Ratings	Q: To understand the situation in BiH, we are interested in your opinion about the constituent people in BiH and the relationship between different groups. For each characteristic, please indicate how well you think it applies to members of the two ethnic groups different than the one you identify yourself with.	Traits: Intelligent; Honest; Patriotic; Open-minded; Generous; Hypocritical; Selfish; Mean; Unreliable <i>[Not at all; Not too well; Somewhat well; Very well; Extremely well]</i>
In-Group Trait Ratings	Q: How do you think members of the other two main ethnic groups in BiH would evaluate members of your ethnic group in terms of these same trait ratings?	Traits: Intelligent; Honest; Patriotic; Open-minded; Generous; Hypocritical; Selfish; Mean; Unreliable <i>[Not at all; Not too well; Somewhat well; Very well; Extremely well]</i>
Out-Group Feeling Thermometer	Q: Academically-run national surveys in the United States often use something we call the feeling thermometer to understand how people feel about different individuals and groups. The question about feelings between groups has been included in every American National Election Studies since 1968. Given that there are different ethnic groups living in BiH, we'd like you to rate the groups in the following way: Indicate on a 101-point scale how warm you feel towards the members of the other ethnic groups in BiH. Ratings between 50 degrees and 100 degrees mean that you feel favorable and warm toward the group. Ratings between 0 degrees and 50 degrees mean that you do not feel favorable toward the group, and you would select the 50 degree mark if you have no feelings one way or the other.	Survey slider (0-100)
In-Group Feeling Thermometer	Q: Indicate on a 101-point scale how warm you feel towards the members of the ethnic group you identify with.	Survey slider (0-100)

<i>Outcome</i>	<i>Survey question</i>	<i>Measurements</i>
Social Distance	<p>Q: People tend to be willing to participate in social contacts of varying degrees of closeness with members of diverse social groups, such as racial and ethnic groups. Please consider and share whether you would be willing to:</p> <ol style="list-style-type: none"> 1. Marry a member of the other group? 2. Have a member of the other group as your close personal friend? 3. Have a member of the other group as your neighbor? 4. Have a member of the other group as your colleague at work? 5. Have more members of the other group as citizens of your country? 6. Have more members of the other group as non-citizen visitors? 7. Have members of the other group be excluded from associating with your country in any way? 	<p>Pre-registered options: <i>Not willing; Not really willing; Undecided; Somewhat willing; Willing</i></p> <p>*In the final survey, rather than providing a Likert scale for each response, we asked participants to indicate all the ways in which they would be willing to engage with the outgroup from the indicated seven options. Hence, our composite social distance indicator goes from 1-7, capturing the least to the highest level of willingness to be socially close.</p>
Cooperation	<p>Q: Please indicate your agreement with the following statements:</p> <ol style="list-style-type: none"> 1. Multi-ethnic parties cannot secure the interests of my people. 2. It is possible to cooperate only with people of my ethnic group. 	<p>Options: <i>1. Absolutely agree; 3. No opinion; 6. Strongly disagree</i></p>
Subjective Well-Being	<p>Q: Please indicate how well you agree with the following statements.</p> <p><i>How often did you feel the following over the last week:</i></p> <p>Satisfaction with life, Depression, Loneliness, Anxiety, Boredom, Joy, Isolation, Fulfillment</p>	<p>Options: <i>Never, Rarely, Sometimes, Often, Always</i></p>

<i>Outcome</i>	<i>Survey question</i>	<i>Measurements</i>
Political News Knowledge	<p>Q: We present you few headlines, few of which truly appeared in the news over the last few days and few of which are false [added by our team]. Please indicate your belief that the following appeared in the news: 8 news summary headlines [4 political and 4 non-political]:</p> <p>T: South-East European Cooperation Process (SEECP) summit began in Bosnia- Herzegovina this week. F: Thirteen bh. political officials sued for corruption; hearings scheduled to start in September. T: Amel Tuka won the 3rd Place in the Final Race of the Diamond League. F: Opening ceremony of Europe Youth U18 and U16 Basketball Cup began in Sarajevo yesterday; matches planned in four bh. cities! T: Turkish President Recep Tayyip Erdogan arrived to BiH on Monday F: Head of the EU Delegation to Ukraine Hugues Mingarelli started his visit to Bosnia- Herzegovina, with a full week of meetings ahead of him. T: An aluminum smelter based in Bosnia closes its doors due to bankruptcy. F: An earthquake of magnitude of 3.1 degrees Richter scale hits eastern part of the country.</p>	Options: <i>True, Not Sure, Untrue</i>

4. Differences from the Pre-Registration Statement

A. Theorized mechanism. For the sake of transparency, we provide a full excerpt from our pre-analysis plan with a theoretical justification that led to our pre-registered hypothesis. At the advice of the Editor and the reviewers to streamline theoretical discussion, we moved the reference to negativity bias from the main text.

From the Pre-Analysis plan:

"The availability of inter-group cues, as well as the potential for depersonalization of users, are only some of the characteristic features of social media that may spark peculiar inter-group dynamics. Compared to the offline world, social media platforms facilitate more connections with weak ties - as a result, users are more likely to be (at least accidentally) exposed to the information and the interactions outside of the social group that they belong to. By design, social media allows for direct access to individual voices, which can be voices of either ethnic hatred or ethnic solidarity. As the communication moves from "one-to-many" to a "many-to-many" structure (Tucker et al, 2017), individual users become creators of content with the opportunity to share their own messages to the wider public, a feature that used to be reserved only for the elites and the traditional media.

In countries in which much of the national discourse around the past conflict continues to be directed by the ethnic elites, social media has the potential to introduce new voices into these national conversations and provide users with the opportunity to go beyond the official rhetoric and hear the voices of their co-citizens. Even when a user does not reveal her political thoughts online, she will be exposed to the posts her friends (and often friends of the friends) share, comments they write and discussions they engage in, which all tend to be of a different nature than the official rhetoric presented on TV channels. During the days of remembrance, the line between personal and political on Facebook feeds is largely blurred; for that reason, our expectation is (based on annual trends) that even those not politically active will be exposed to some content relating to the history of ethnic violence and current inter-group relations. Once shared, which stories reach larger audiences? Brady et al. (2017) analyze a large corpus of 563,312 tweets to examine the role of emotion on the transmission of moral attitudes in online social networks. The results of their study clearly show that political messages infused with moral-emotional language are more easily spread on online networks and more likely to go viral. Indeed, most comments and online discussions are often held around the most provocative content which during the days of genocide remembrance includes negating historical facts, questioning the character or blaming the victims and threatening with future violence. When being faced with such content, individuals are prone to fallacy of composition - which in psychology is defined as "a fallacy in which what is true of a part is, on that account alone, alleged to be also true on the whole" (Samuelson, 1955). This guilt or honor by association means that acts from an individual are used to update beliefs about the whole community. In the context of online social networks and ethnic divisions, this is an equivalent of having a post from a member (one or several) of particular ethnic group affect or lead an individual to update one's beliefs about the entire ethnic group. It is also plausible that access to individual voices through social media leads users to appreciate the similarities between members of different ethnic groups, thus decreasing ethnic divides. However, although users are likely to also be exposed to positive content from the members of all ethnic groups, there is a myriad of evidence suggesting that when faced with positive and negative content, adults display negativity bias in the formation of their impressions and general evaluations. Negativity bias refers to people's tendency to weigh negative information more heavily in the formation of their final impressions about a person or a situation. Scholars have also found evidence that people tend to attribute negative outcomes to the intentions of another person more frequently than similar neutral or positive outcomes - phenomenon further informing our hypotheses."

B. Survey Questions. Survey also included additional questions not analyzed in this paper (unrelated to our outcomes of interest), including questions measuring levels of digital literacy or qualitative reports of what the users identify as most pertinent national challenge. In terms of the measures we pre-registered within our main outcome of inter-ethnic regard, we initially considered that we could capture the level of altruism through a behavioral "donation" measure, which we did not end up using in our analysis (we have, however, made a donation). We envisioned looking at the ethnic composition of the cities participants chose, and marking "whichever city" as the least discriminatory response. However, we also allowed participants an open-text response and it soon became clear that users were selecting very specific communities for a variety of reasons, many of which were not related to ethnic attitudes. We therefore concluded that the question, in its current form, was not a reliable measure of ethnic discrimination. In the end, we made a donation to an NGO that helps people in need across the country. In terms of outgroup regard, we pre-registered another survey statement within the "Cooperation" index ("Only nationalist parties will ensure the vital interests of the people they represent") which we took out from the final survey due to its almost identical meaning, when translated, to the statement number two.

Table S5. First model does not include covariates; second model controls for the average weekly frequency of Facebook usage (e.g. once a day, 3-4 times a week); and third model controls for age, gender, education, employment level, ethnicity, frequency of weekly Facebook usage and the perceived importance of ethnic and country membership to one's identity. All covariates are measured in the pre-treatment survey. Estimates are standardized relative to the standard deviation of the control group. Robust standard errors are in parentheses.

Outcome	Model 1	Model 2	Model 3
News knowledge index	-0.254** (0.107)	-0.243** (0.108)	-0.272** (0.106)
Well-being index	0.165 (0.104)	0.176* (0.106)	0.177* (0.105)
Satisfaction	0.004 (0.116)	0.003 (0.116)	0.010 (0.115)
Joy	0.040 (0.108)	0.060 (0.106)	0.064 (0.106)
Fulfillment	-0.008 (0.107)	-0.009 (0.107)	0.022 (0.107)
Anxiety (reverse coded)	0.373*** (0.106)	0.384*** (0.108)	0.372*** (0.108)
Boredom (reverse coded)	-0.014 (0.109)	-0.042 (0.111)	-0.034 (0.109)
Loneliness (reverse coded)	0.226** (0.102)	0.220** (0.105)	0.200* (0.107)
Depression (reverse coded)	0.095 (0.108)	0.120 (0.113)	0.118 (0.109)
Isolation (reverse coded)	0.031 (0.111)	0.018 (0.117)	0.003 (0.117)
N	353	353	353

*p<0.1; **p<0.05; ***p<0.01

Table S6. First model does not include covariates; second model controls for the average weekly frequency of Facebook usage (e.g. once a day, 3-4 times a week); and third model controls for age, gender, education, employment level, ethnicity, frequency of weekly Facebook usage and the perceived importance of ethnic and country membership to one's identity. All covariates are measured in the pre-treatment survey. Estimates are standardized relative to the standard deviation of the control group. Robust standard errors are in parentheses.

Outcome	Model 1	Model 2	Model 3
Feeling thermometer	-0.198* (0.113)	-0.238** (0.113)	-0.238** (0.105)
Social distance (reverse coded)	-0.155 (0.112)	-0.160 (0.116)	-0.183 (0.119)
Cooperation	-0.235** (0.112)	-0.223** (0.112)	-0.210* (0.112)
Perception of out-group evaluations	0.061 (0.111)	0.029 (0.111)	0.031 (0.109)
Out-group traits	0.034 (0.108)	-0.007 (0.107)	-0.011 (0.105)
Out-group regard (sum of z-scores)	-0.163 (0.108)	-0.198* (0.109)	-0.202* (0.105)
Out-group regard (principal components)	-0.196* (0.113)	-0.237** (0.113)	-0.237** (0.105)
N	353	353	353

*p<0.1; **p<0.05; ***p<0.01

210 **6. FDR adjusted results (Benjamini-Hochberg Procedure) & Robustness to Outliers**

Table S7. Subjective well-being results, controlling for full set of covariates.

	Treatment effect (SD units)	Standard error (SD units)	Non-adjusted p-value	FDR adjusted value
Satisfaction	0.010	0.115	0.932	0.978
Joy	0.064	0.106	0.547	0.978
Fulfillment	0.022	0.107	0.837	0.978
Anxiety (reverse coded)	0.372	0.108	0.001	0.006
Boredom (reverse coded)	-0.034	0.109	0.754	0.978
Loneliness (reverse coded)	0.200	0.107	0.062	0.274
Depression (reverse coded)	0.118	0.109	0.279	0.628
Isolation (reverse coded)	0.003	0.117	0.978	0.978
Well-being index	0.177	0.105	0.091	0.274

211

Table S8. Out-Group Attitudes, controlling for a full set of covariates.

	Treatment effect (SD units)	Standard error (SD units)	Non-adjusted p-value	FDR adjusted value
Feeling Thermometer	-0.238	0.105	0.024	0.086
Social Distance	-0.183	0.119	0.126	0.176
Cooperation	-0.210	0.112	0.063	0.109
Perception of out-group evaluations	0.031	0.109	0.776	0.905
Out-group traits	-0.011	0.105	0.914	0.914
Out-group regard (sum of z-scores)	-0.202	0.105	0.056	0.109
Out-group regard (principal components)	-0.237	0.105	0.025	0.086

212

213 **Robustness to Outliers**

214 To evaluate the robustness of our findings to outliers, we exclude units identified as outliers (here operationalized as observations with
215 Cook's distance value of more than four times the mean). The results suggest that our findings are largely robust to exclusion of outliers.

Table S9. Results of the regression of our outcomes on the treatment assignment indicator, with full covariate adjustment, on a full sample (as Model 3 above), and on a sample excluding outliers.

	Treatment effect (SD units)	Standard error SD units)	Treatment effect: Excluding outliers	Standard error: Excluding outliers
Outgroup Regard (sum score)	-0.202	0.105	-0.248	0.111
Outgroup Regard (PC score)	-0.237	0.105	-0.213	0.123
News knowledge	-0.272	0.106	-0.314	0.115
Subjective Well-Being	0.177	0.105	0.204	0.104

216

Fig. S2. Heterogeneous effects of age, gender, interest in politics, ethnicity and entity on the three families of outcomes (controlling for the weekly frequency of Facebook usage). Estimates are standardized relative to the within-subsample standard deviation of the control group.

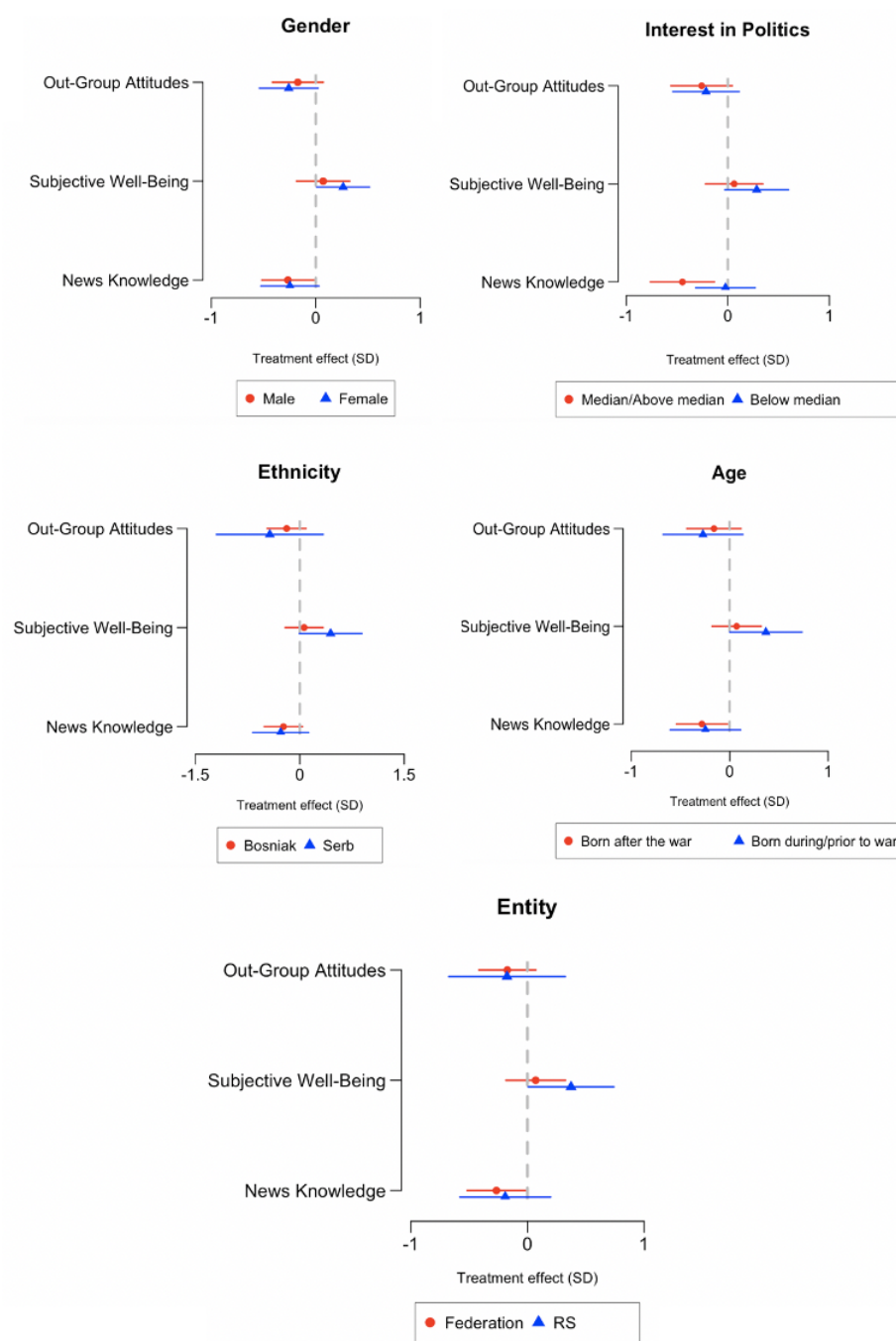
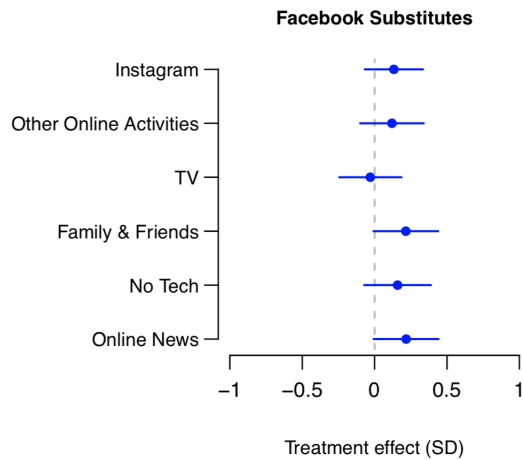
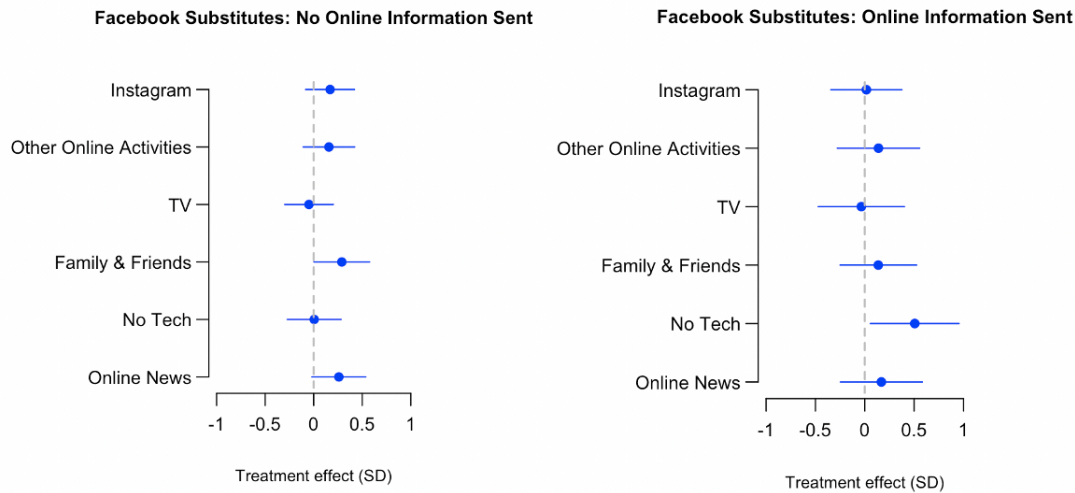


Fig. S3. Results (controlling for a full set of covariates, 95% confidence intervals) of the effect of deactivation on the activities that users engaged in over the seven days of our study. Estimates are standardized relative to the standard deviation of the control group.



219 9. Substitutes of Time on Facebook: Users who shared online data vs. users who did not

Fig. S4. The effect of Facebook deactivation (controlling for a full set of covariates, 95% confidence interval) on the frequency of activities users participated in, for the users who shared the online data with our research team (top) and users who did not share their online data with our team (bottom). Estimates are standardized relative to the subsample standard deviation of the control group.



10. Heterogeneity Indices

We calculate these indices for both the offline (city level) and the online network of the user (individual-user level). We then divide the sample into above (including the median value) and below the median of structural heterogeneity, and conduct the analysis within these two subsamples.

(1) Ethno-Linguistic Fractionalization Index

One of the most widely employed measures of ethnic diversity is the index of ethno-linguistic fractionalization, calculated using Herfindahl concentration index:

$$ELF = 1 - \sum_{i=1}^n s_i^2, \quad [1]$$

where s is the share of the ethnic group in the locality n (4), and the results interpreted as the probability that the randomly selected individuals will be from different ethnic groups. ELF can take values between zero and one, with 1 implying a highly heterogeneous locality and 0 a perfectly homogeneous locality.

(2) Share of the Majority Group

Share of the majority group is a measure that takes into account the size of the largest ethnic group in a particular city, following the information from the Census. The cities are again divided in the two subgroups (above and equal to the median, and below the median), depending on what portion of the population the majority groups constitutes. Cities in which the share of the major ethnic group is very large are regarded as largely homogeneous; where the share is small, we regard them as largely heterogeneous.

(3) Shannon Entropy Index

Shannon diversity index is a mathematical measure often used to describe species diversity in a community. First introduced by Boltzmann as a modern formula for entropy in statistical mechanics in 1870s, it was generalized by Shannon (5) and thus became known as "Shannon entropy." This index is extensively used, primarily within the fields of ecology, genetics and information theory, as measure of uncertainty in the species (group) identity of an individual randomly selected from the community. The index is calculated with the following equation, with higher value interpreted as indicating greater diversity in the community:

$$H = - \sum_{i=1}^s p_i \ln p_i, \quad [2]$$

where p_i is the fraction of the entire population made up of group i , $\ln(p_i)$ natural log of the above, and s the number of groups encountered.

251 **11. Homogeneous Communities: Out-group attitudes**

252 The following tables present results within communities below the median value of diversity, with the diversity measured using indices of
 253 ethnic fractionalization, Shannon Entropy, and index of majority group share respectively.
 254

255 **A. Ethnic Fractionalization.**

Table S10. First model does not include covariates; second model controls for the pre-treatment frequency of average weekly Facebook usage (e.g. once a day, 3-4 times a week); and third model controls for age, gender, education, employment level, frequency of weekly Facebook usage and the perceived importance of ethnic identity and country membership to one's identity. Estimates are standardized relative to the subsample standard deviation of the control group. Robust standard errors are in parentheses.

Outcome	Model 1	Model 2	Model 3
Out-group regard index (sum of z-scores)	-0.389** (0.152)	-0.442*** (0.152)	-0.429*** (0.151)
Out-group regard index (principal component score)	-0.382** (0.162)	-0.445*** (0.157)	-0.439*** (0.145)
Feeling thermometer	-0.379** (0.162)	-0.441*** (0.157)	-0.435*** (0.145)
Social closeness	-0.182 (0.151)	-0.190 (0.153)	-0.214 (0.161)
Cooperation	-0.358** (0.152)	-0.351** (0.154)	-0.288* (0.155)
Perception of out-group evaluations	-0.150 (0.161)	-0.195 (0.159)	-0.209 (0.166)
Out-group traits	-0.081 (0.160)	-0.125 (0.158)	-0.115 (0.156)
N	176	176	176

*p<0.1; **p<0.05; ***p<0.01

256 **B. Shannon Entropy.**

Table S11. First model does not include covariates; second controls for pre-treatment frequency of weekly Facebook usage (e.g. once a day, 3-4 times a week); and third model controls for age, gender, education, employment level, frequency of weekly Facebook usage and the perceived importance of ethnic identity and country membership to one's identity. Estimates are standardized relative to the subsample standard deviation of the control group. Robust standard errors are in parentheses.

Outcome	Model 1	Model 2	Model 3
Out-group regard index (sum of z-scores)	-0.405** (0.154)	-0.459*** (0.155)	-0.440*** (0.154)
Out-group regard index (principal component score)	-0.363** (0.160)	-0.426*** (0.155)	-0.427*** (0.146)
Feeling thermometer	-0.360** (0.160)	-0.421*** (0.155)	-0.423*** (0.146)
Social closeness	-0.233 (0.160)	-0.242 (0.161)	-0.257 (0.169)
Cooperation	-0.370** (0.155)	-0.364** (0.156)	-0.293* (0.156)
Perception of out-group evaluations	-0.168 (0.163)	-0.214 (0.162)	-0.224 (0.167)
Out-group traits	-0.075 (0.162)	-0.121 (0.161)	-0.106 (0.157)
N	172	172	172

*p<0.1; **p<0.05; ***p<0.01

Table S12. First model does not include covariates; second model controls for pre-treatment frequency of weekly Facebook usage (e.g. accessing Facebook once a day, 3-4 times a week); and third model controls for age, gender, education, employment level, frequency of weekly Facebook usage and the perceived importance of ethnic identity and country membership to one's identity. Estimates are standardized relative to the subsample standard deviation of the control group. Robust standard errors are in parentheses.

Outcome	Model 1	Model 2	Model 3
Out-group regard index (sum of z-scores)	-0.392*** (0.150)	-0.447*** (0.152)	-0.426*** (0.149)
Out-group regard index (principal components)	-0.400*** (0.162)	-0.464*** (0.158)	-0.448*** (0.145)
Feeling thermometer	-0.397*** (0.162)	-0.460*** (0.158)	-0.443*** (0.145)
Social closeness	-0.167 (0.150)	-0.176 (0.151)	-0.183 (0.159)
Cooperation	-0.378** (0.151)	-0.370** (0.153)	-0.311** (0.152)
Perception of out-group evaluations	-0.141 (0.160)	-0.189 (0.158)	-0.201 (0.165)
Out-group traits	-0.075 (0.159)	-0.122 (0.157)	-0.112 (0.155)
N	179	179	179

*p<0.1; **p<0.05; ***p<0.01

258 D. FDR adjusted results (Benjamini-Hochberg Procedure).

Table S13. Ethnic Fractionalization, controlling for a full set of covariates.

	Treatment effect (SD units)	Standard error (SD units)	Non-adjusted p-value	FDR adjusted value
Feeling Thermometer	-0.435	0.145	0.003	0.011
Social Closeness	-0.214	0.161	0.186	0.245
Cooperation	-0.288	0.155	0.064	0.113
Perception of out-group evaluations	-0.209	0.166	0.210	0.245
Out-group traits	-0.115	0.156	0.462	0.462
Out-group regard (sum of z-scores)	-0.429	0.151	0.010	0.012
Out-group regard (principal components)	-0.439	0.145	0.003	0.011

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Table S14. Shannon Entropy, controlling for a full set of covariates.

	Treatment effect (SD units)	Standard error (SD units)	Non-adjusted p-value	FDR adjusted value
Feeling Thermometer	-0.423	0.146	0.004	0.011
Social Closeness	-0.257	0.169	0.131	0.183
Cooperation	-0.293	0.156	0.061	0.107
Perception of out-group evaluations	-0.224	0.167	0.501	0.501
Out-group traits	-0.106	0.157	0.182	0.212
Out-group regard (sum of z-scores)	-0.440	0.154	0.005	0.011
Out-group regard (principal components)	-0.427	0.146	0.004	0.011

Table S15. Majority Group Share, controlling for a full set of covariates.

	Treatment effect (SD units)	Standard error (SD units)	Non-adjusted p-value	FDR adjusted q-value
Feeling Thermometer	-0.435	0.143	0.003	0.009
Social Closeness	-0.195	0.160	0.251	0.293
Cooperation	-0.332	0.150	0.042	0.074
Perception of out-group evaluations	-0.220	0.168	0.470	0.470
Out-group traits	-0.142	0.157	0.223	0.293
Out-group regard (sum of z-scores)	-0.454	0.149	0.005	0.011
Out-group regard (principal components)	-0.441	0.143	0.002	0.009

12. Interaction Effects

Table S16. Interaction effects with the continuous measure: First model does not include covariates; second model controls for the pre-treatment frequency of weekly Facebook usage; and third model controls for age, gender, education, employment level, frequency of weekly Facebook usage and the perceived importance of ethnic and country membership to one's identity. Full covariate specification does not include ethnicity fixed effects. Robust standard errors are in parentheses. Fractionalization index and Shannon Entropy index are both reverse coded (scores subtracted from 1), so that larger number corresponds to a higher level of homogeneity within the network. Estimates are standardized relative to the standard deviation of the control group.

	Dependent variable:		
	Outgroup Index		
	Model 1	Model 2	Model 3
Treatment x Fractionalization Offline (rev.)	-1.398** (0.653)	-1.500** (0.649)	-1.189* (0.626)
Treatment x Majority Group Share	-1.376* (0.742)	-1.530** (0.734)	-1.270* (0.697)
Treatment x Shannon Entropy (rev.)	-0.793* (0.444)	-0.856* (0.442)	-0.631 (0.426)
Observations	353	353	353

*p<0.1; **p<0.05; ***p<0.01

Table S17. Interaction effects with the below/equal and above median index: First model does not include covariates; second model controls for pre-treatment frequency of weekly Facebook usage; and third model controls for for age, gender, education, employment level, ethnicity, frequency of weekly Facebook usage and the perceived importance of ethnic and country membership to one's identity. Full covariate specification does not include ethnicity fixed effects. Robust standard errors are in parentheses. Fractionalization index and Shannon Entropy index are both reverse coded (scores subtracted from 1), so that larger number corresponds to a higher level of homogeneity within the network. Estimates are standardized relative to the pooled standard deviation of the control group.

	Dependent variable:		
	Outgroup Index		
	Model 1	Model 2	Model 3
Treatment x Fractionalization Offline (rev.)	-0.422* (0.226)	-0.453** (0.224)	-0.399* (0.214)
Treatment x Majority Group Share	-0.457** (0.225)	-0.497** (0.223)	-0.428** (0.212)
Treatment x Shannon Entropy (rev.)	-0.383* (0.226)	-0.419* (0.224)	-0.376* (0.218)
Observations	353	353	353

*p<0.1; **p<0.05; ***p<0.01

264 **13. Online Networks**

265 **A. Online Data.** Users who shared online data (35%) different than users who have not shared their data?

Table S18. Difference in baseline characteristics between people who sent their online data (lists of Facebook friends) vs. people who have not. Reported p-values is from a t-test conducted against the null hypothesis that users in treatment and control groups are not different from one another in terms of this characteristic.

	Online data (means)	No online data (means)	p-value
gender	1.598	1.659	0.280
age	28.346	29.637	0.186
education	2.945	3.044	0.420
employment	0.362	0.442	0.139
trust in media	1.252	1.195	0.487
freq of reading news	3.472	3.624	0.383
interest in politics	1.622	1.695	0.536
number of forums followed	1.472	1.500	0.726
time since joining FB	3.898	3.947	0.312
frequency of FB usage	3.850	3.845	0.930
importance of ethnic identity	2.260	2.456	0.163
importance of family	3.874	3.854	0.643
importance of country	2.669	2.876	0.101
importance of religion	2.685	2.735	0.713
importance of career	3.244	3.235	0.920
importance of neighborhood	2.260	2.456	0.084
importance of hobbies	2.661	2.704	0.675

266 The previous results suggest that the effect of deactivation on out-group regard is increasing - i.e. becoming more negative - homogeneity
267 of offline network. The explanation we posit within the main text suggests that, unlike the offline network, the effect of deactivation on
268 out-group regard will be decreasing - e.i. becoming more positive - in homogeneity of online network. The analysis of online data, given
269 the small sample size, is underpowered and none of the interactions reach statistical significance. The direction of the effect, however,
270 remains in the theorized direction across three measures of diversity.

Fig. S5. Treatment of deactivation on the subsample of users who sent their online data to us (no covariate adjustment). Sample size includes 51 respondents from the treatment group + 72 from the control group. Estimates are standardized relative to the subsample standard deviation of the control group. Re-running the treatment effect within the sample of users who shared their online data, we do not find the same negative effect of Facebook deactivation on out-group attitudes as we do when estimating the treatment effect withing the entire sample. This could be a consequence of the small sample size, noise, or this sample of users being different on an unobservable characteristics (such as trustworthiness, for example).

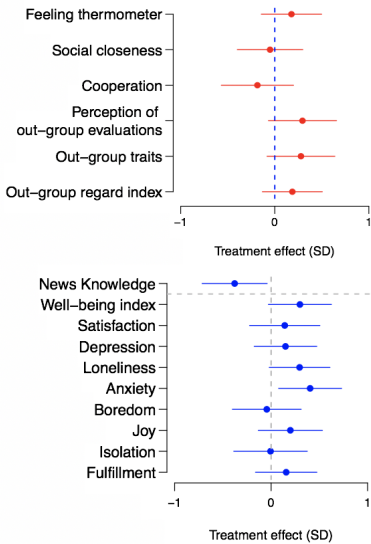


Table S19. Interaction effects with the continuous measure of online network ethnic homogeneity: First model does not include covariates; second model controls for the self-reported average frequency of weekly Facebook usage (e.g. accessing Facebook once a day, 3-4 times a week); and third model controls for age, gender, education, employment level, frequency of weekly Facebook usage and the perceived importance of ethnic and country membership to one's identity. Robust standard errors are in parentheses. Fractionalization index and Shannon Entropy index are both reverse coded, so that larger number corresponds to a higher level of homogeneity within the network. Estimates are standardized relative to the pooled standard deviation of the control group.

	<i>Dependent variable:</i>		
	Outgroup Index		
	Model 1	Model 2	Model 3
Treatment x Fractionalization Online (rev.)	1.219 (0.985)	1.291 (0.988)	0.647 (0.974)
Treatment x Majority Group Share	1.686 (1.060)	1.785 (1.070)	0.979 (1.078)
Treatment x Shannon Entropy (rev.)	0.764 (0.679)	0.774 (0.684)	0.378 (0.663)
Observations	126	126	126

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table S20. Interaction effects with the below/equal and above median index of online network ethnic homogeneity: First model does not include covariates; second model controls for the self-reported average frequency of weekly Facebook usage (e.g. accessing Facebook once a day, 3-4 times a week); and third model controls for age, gender, education, employment level, frequency of weekly Facebook usage and the perceived importance of ethnic and country membership to one's identity. Robust standard errors are in parentheses. Fractionalization index and Shannon Entropy index are both reverse coded, so that larger number corresponds to a higher level of homogeneity within the network. Estimates are standardized relative to the pooled standard deviation of the control group.

	<i>Dependent variable:</i>		
	Outgroup Index		
	Model 1	Model 2	Model 3
Treatment x Fractionalization Online (rev.)	0.299 (0.368)	0.338 (0.358)	0.121 (0.359)
Treatment x Majority Group Share	0.299 (0.368)	0.368 (0.358)	0.121 (0.359)
Treatment x Shannon Entropy (rev.)	0.299 (0.368)	0.368 (0.358)	0.121 (0.359)
Observations	126	126	126

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

273 **C. Interplay between diversity of offline vs. online networks.**

274 We gathered online data information from 138 participants, which constitutes 39% of our initial sample. We simultaneously created
 275 a database of names categorized by ethnicity (male and female Bosniak, Serb and Croat names). The names were gathered using the
 276 information from the Croatian Bureau of Statistics, Statistical Office of the Republic of Serbia, and the Federal Office of Statistics for the
 277 Entity of Federation of Bosnia and Herzegovina, which we furthermore supplement with the curated online database of names (hundreds
 278 of most popular names in the period from 1960 to 2018) for a total of 6765 names and spelling variations. Hence, for each individual
 279 user, we obtain percentages of Bosniak, Serb, and Croat names in users' networks, as identified from the three categories of names in
 280 our database. Unlike in the U.S. Census, where names are listed together with percentages for the four largest ethnic groups, census
 281 information that was available to us lists only names with the frequency of usage (no reference of the ethnicity of the individuals). Hence,
 282 we cannot use probabilities of ethnic categories in devising our method of ethnicity detection. This could be problematic given that there
 283 are names overlapping the three categories. In the main analysis, when a person has a name that can be found within two categories,
 284 we count that person as having equal probability of being in either ethnic category. If we treat these overlapping names as a separate
 285 category and run the analysis excluding them, the resulting insights remain unchanged.

286 **Table S21. Interaction effect of the treatment and continuous variable (formed subtracting heterogeneity indices values so that higher numbers indicate that user's offline network is more homogeneous than the online network) controlling for the baseline frequency of weekly Facebook usage. Estimates are standardized relative to the pooled standard deviation of the control group.**

	Outgroup Index - PC	Outgroup Index - Sum score
Treatment x Offline-Online Ind (SE)	-0.770 (0.486)	-0.796* (0.444)
Treatment x Offline-Online Ind (MS)	-1.520** (0.759)	-1.069 (0.716)
Treatment x Offline-Online Ind (EF)	-1.340** (0.652)	-1.084* (0.625)
Observations	126	126

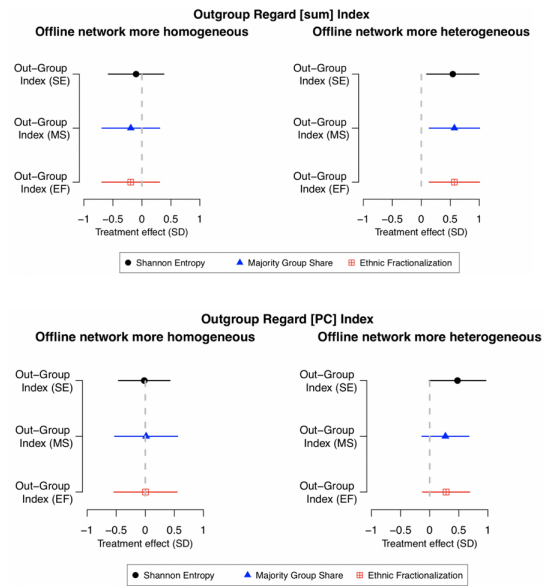
Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.)

288 **Table S22. Interaction effect of the treatment and the binary variable indicating the difference between the diversity of user's offline and online networks (1 indicates that user's offline network is more homogeneous than the online), controlling for the baseline frequency of Facebook usage. Estimates are standardized relative to the pooled standard deviation of the control group.**

	Outgroup Index - PC	Outgroup Index - Sum score
Treatment x Offline-Online Ind (SE)	-0.616* (0.360)	-0.679** (0.329)
Treatment x Offline-Online Ind (MS)	-0.353 (0.363)	-0.715** (0.332)
Treatment x Offline-Online Ind (EF)	-0.379 (0.361)	-0.719** (0.330)
Observations	126	126

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.)

Fig. S6. Subsample analysis, within groups of users whose offline networks are more homogenous then their online ones and vice versa (Model 1).



14. Political Disaffection

In our pre-analysis plan, we also hypothesized that users who deactivate from Facebook during the week of genocide commemoration will display lower levels of political disaffection compared to the counterparts who remain active. Political disaffection is a broad term encompassing a set of negative attitudes towards the world of politics and is thought to include the feelings of cynicism, apathy and skepticism. Apathy captures the feeling of not wanting to be involved in politics; cynicism is about the mistrust in the political system; and skepticism involves critical evaluation of news and politics (6, 7).[§] In the pre-analysis plan, we proposed combining the indicators of these three components in the creation of our index of political disaffection.

We evaluate the effect of treatment on the overall index of political disaffection (operationalized as both the principal component score and a sum score) as well as on the three outcomes – apathy, skepticism and cynicism – separately. We find evidence that the group that deactivated from Facebook reported higher level of political disaffection, i.e. negative affinity towards politics, compared to the group that remained active. The largest observed difference is on apathy level, with deactivated group reporting significantly higher apathy level compared to the treatment group. In other words, the group that deactivated from Facebook is significantly more likely to agree that voting is ineffective, while also being more likely to believe that keeping up with political news is useless and staying informed about the government a waste of time. At the same time, in our post-treatment survey we also captured users' trust in institutions, government and political efficacy, to allow us to better understand the observed relationships. The significant effect we observe is on the reported level of political efficacy, conceptualized as the belief towards the competence of the government. In other words, the deactivated users are more likely to report that the government's decisions are made in the interest and wellbeing of all equally, as well as that it provides citizens with efficient services and makes transparent decisions. Taken together, results suggest that users who remained active during this period are more inclined to remain informed about the government, keep up with the political news and vote, and are also more critical about the competence of the government.

We do not, with the current research design, have a way of disentangling the mechanism underlying this relationship, a fact we did not fully appreciate at the time we pre-registered our analysis plan. The complexity and the number of government levels in BiH makes it challenging to clearly interpret respondents' answers, and prevents us from being able to derive more conclusive insights from the observed results. More specifically, we do not know whether responses about users' attitudes toward the competence of "the government" were referring to a municipality, district, entity or a national level of government, thus making it difficult to conclude how to interpret the answers across different ethnic groups. Similarly, one of the questions within the apathy index asks about the agreement with the statement that "staying informed about the government is too much trouble" but users in BiH would likely provide different answers depending on the level of government they considered upon reading this question. Measures of cynicism and skepticism do not include assessments of the government, but center around "political officials" which may also be overly vague to conclusively discern whether the answers were getting at the concepts that we intended. As such, we consider these results as preliminary and invite more research (with different operationalizations of the measures) on this topic. In the interest of full transparency, though, we report the results below.

[§]To clarify, *critical* evaluation refers to critical thinking; skepticism is formed from the following statements: (1) I think about the things elected officials say before I accept them as believable. (2) I think about news stories before I accept them as believable.

Table S23. Effect of treatment of deactivation on political disaffection (corresponding components of apathy, cynicism, skepticism and principal component index of disaffection): First model does not include covariates; second model controls for the self-reported average frequency of weekly Facebook usage (e.g. accessing Facebook once a day, 3-4 times a week); and third model controls for for age, gender, education, employment level, ethnicity, frequency of weekly Facebook usage and the perceived importance of ethnic and country membership to one's identity. Estimates and standard errors are normalized relative to within-subsample standard deviation in the control group. Robust standard errors are in parentheses.

	Model 1	Model 2	Model 3
Apathy	0.339*** (0.106)	0.366*** (0.109)	0.395*** (0.106)
Cynicism	-0.058 (0.109)	-0.032 (0.112)	-0.027 (0.112)
Skepticism	0.110 (0.098)	0.132 (0.100)	0.161 (0.101)
Disaffection Index	0.347*** (0.107)	0.372*** (0.110)	0.401*** (0.108)
Observations	353	353	353

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Fig. S7. Effect of deactivation on the index of political disaffection and corresponding indices, controlling for a full set of covariates. Estimates are standardized relative to the standard deviation of the control group.

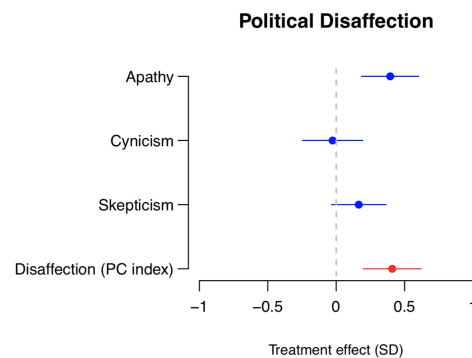
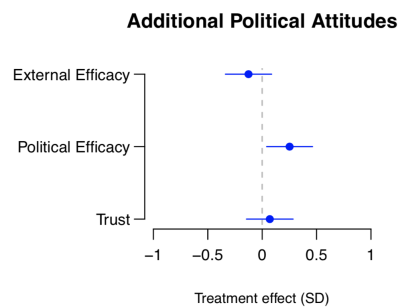


Fig. S8. Effect of deactivation on additional political attitudes (sum score indices of external efficacy, political efficacy and trust), controlling for a full set of covariates. Estimates are standardized relative to the standard deviation of the control group.



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