Legacies of Past and Present Violence: Evidence from Mosul, Iraq

Online Appendix Material

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Ethical Conduct of Research

Scholars have raised concerns about a lack of clear disciplinary standards for ethical conduct of human subject research for some time (Wood 2006; Ford et al. 2007; Fujii 2012; Campbell 2017; Cronin-Furman and Lake 2018). The *American Political Science Association* (2022) has recently updated the discipline's recommended Human Subjects Research Principles and Guidelines (Section III, p. 3-10). Our research adheres to those guidelines. First, we obtained IRB to conduct this study. However, we support APSA's (2022) general principle II that "political science researchers have an individual responsibility to consider the ethics of their research-related activities and cannot outsource ethical reflection to review boards, other institutional bodies, or regulatory agencies." (p. 5). We discuss the main principles adopted by the APSA in further detail, where we reflect by providing our responses to core guidelines.

Power

Our research seeks to adhere to principles concerning an awareness of power differentials between researcher and researched. We do not have a direct power relationship over any of the respondents in our study. Our enumerators are local civilians from the region where the study was conducted. Respondents are recruited randomly without any influence from local authorities or employers in the recruitment process. Our enumerators are also not affiliated with local authorities, and this is conveyed to respondents in the study. Respondents are also provided with contact information for the academic researchers who are conducting this study. We do not engage in covert or deceptive research practices. Subjects are not paid for their participation in this study. Participation is strictly voluntary, and subjects may refuse to answer questions or leave the study at any time for any reason.

Consent

Our research seeks to adhere to principles of informed and voluntary consent "from individuals who are directly engaged by the research process, especially if research involves more than minimal risk of harm or if it is plausible to expect that engaged individuals would withhold consent if consent were sought". All subjects in our study are clearly informed about the nature of our research by our consent. The consent form states that respondents may refuse to answer questions and may stop participating at any time in the study.

Deception

Our research does not engage in covert or deceptive research practices. Subjects are informed about the identity of the researchers in the consent form and debriefing statement.

Harm and Trauma

Our research seeks to adhere to principles surrounding harm and trauma, by avoiding and minimizing harm, traumatization and re-traumatization whenever possible. First, we acknowledge that no study is fully without risk. We minimize risk to respondents by acknowledging topics to be covered in the survey and the respondent's right to refuse to answer any question for any reason and may stop participating in the study at any time. Our research mainly focuses on attitudes toward out-groups in Mosul. We do not actively seek out or identify respondents in our study. We also provide signaling in the survey about topics to be covered in upcoming questions so respondents are prepared to either answer or refuse to answer questions before the actual questions

are directed to them. Given the post-conflict nature of our study, our goal is to minimize risks associated with re-traumatization and discomfort with any survey questions, especially conflict-related victimization questions, and privacy concerns addressed in the consent protocols. Our research was conducted in the aftermath of Covid19. We included a set of protocols based on US Centers for Disease Control Guidelines for survey administrators. We also provide contact information for our IRB as well as individual researchers associated with the study where respondents may report any concerns with the conduct of the study. No adverse events were reported in the conduct of this study either directly to enumerators or directly to us or our IRB. Also, our enumerators were local, experienced professionals who conducted interviews with an understanding of the sensitivities to trauma in the local community, and trained according to IRB guidelines by one of the authors of this study. In the event of an adverse psychological reaction to our questions, our enumerators were instructed to stop the interview and offer to provide respondents with assistance through local NGOs and medical professionals specializing in care for post-traumatic stress. Enumerators were also instructed to maintain emergency response contacts (police, paramedics, local hospitals) in the event of unforeseen adverse events. In summary, we took seriously our ethical responsibilities to minimize risks in the conduct of this research project.

In past studies in Mosul we also collected emotional para-data (questions about fear, stress, worry, anger, sadness, happiness) to see whether emotional states changed over the course of our interview and coded whether respondents felt uncomfortable answering specific questions more than others. We have not found our surveys to be anxiety or stress producing based on prior data collection efforts. We do not see evidence of high refusals to answer specific questions or attrition suggesting that respondents stopped the interview due to a lack of comfort with victimization-related questions. In past research, we have found that most respondents (>95%) indicated that they felt "very comfortable" answering our research questions. The remaining 5% indicated that some questions made them "somewhat comfortable", but no one indicated feeling uncomfortable or very uncomfortable answering victimization questions. In the end, respondents are empowered to refuse to answer questions and not to report victimization experiences when asked. Enumerators never pressured respondents to answer victimization-related questions. Participation was voluntary and respondents were not provided financial incentives to participate in this study.

Confidentiality

Our research seeks to adhere to the principles of keeping the identities of research participants confidential. During the study, we collected no personally identifying information on participants. All participants received a consent form, but we requested a signature waiver to protect privacy and anonymity in the data collection process.

Impact

Our research seeks to adhere to principles surrounding the consideration of the "broader social impacts of the research process as well as the impact on the experience of individuals directly engaged by the research". This study allows subjects to express their own feelings in survey responses about meaningful social and political problems in Iraq. We found subjects to be quite willing to take part in the study, with low refusal rates: they want to express their opinions on important social and political issues and they derive some satisfaction from taking part in the research. We are deeply aware of the fact that we are interested in social attitudes in an environment where little is known about public opinion. Alongside the ways described above, we

do not intentionally provoke or encourage subjects to engage in political behavior or other political processes or outcomes in the conduct of this study. Our research does not condone or support violence against anyone in Iraq. It also does not condone or support political violence in any other form concerning authorities or groups in Iraqi society.

Laws, Regulations, and Prospective Review

Our research seeks to adhere to principles surrounding the awareness "of relevant laws and regulations governing their research-related activities". We did not seek approval from Iraqi government authorities to conduct this study. However, we are not aware that asking questions about social and political attitudes in Iraq violates any Iraqi law. Questions in our survey have been asked by other researchers in Iraq, including those who conducted the latest round of the World Values Survey (2017-2020) including in Mosul. In our consultation with established survey research firms in Iraq, we understand that government approval of survey research is not routinely required or requested. Furthermore, as mentioned previously, our research does not condone or support violence or other unlawful behavior against anyone in Iraq. It also does not condone or support political violence or other unlawful behavior concerning authorities or groups in Iraqi society. We do not actively seek out or identify participants in our study. Our research was also conducted in compliance with laws within the United States, as established by our IRB, and to our knowledge is in accordance with Iraqi law regarding conduct of human subjects research and data collection using survey research methods.

IRB # FY2022-039

References

American Political Science Association (2022) A Guide to Professional Ethics in Political Science 3rd Edition. Washington DC. https://www.apsanet.org/Portals/54/diversity%20and%20inclusion%20prgms/Ethics/APSA%20Ethics%20Guide%20-%20Final%20-%20February2022_Council%20Approved.pdf?ver=5mQAFYQz3xLhbd4OkQWg6Q%3d%3d

Campbell, Susanna P. "Ethics of research in conflict environments." *Journal of global security studies* 2, no. 1 (2017): 89-101.

Cronin-Furman, Kate, and Milli Lake. "Ethics abroad: Fieldwork in fragile and violent contexts." *PS: Political Science & Politics* 51, no. 3 (2018): 607-614.

Ford, Nathan, Edward J. Mills, Rony Zachariah, and Ross Upshur. "Ethics of conducting research in conflict settings." *Conflict and health* 3, no. 1 (2009): 7.

Fujii, Lee Ann. "Research ethics 101: Dilemmas and responsibilities." *PS: Political Science & Politics* 45, no. 4 (2012): 717-723.

Wood, Elisabeth Jean. "The ethical challenges of field research in conflict zones." *Qualitative sociology* 29, no. 3 (2006): 373-386.

Survey Questionnaire

Interviewer name or ID_____survey number:_____
Today's Date _____day_____month
Interview Location (neighborhood)_____

Subject Gender (INTERVIEWER RECORD)

Male	0
Female	1
Non-binary/Other	2

Part 1. Demographics

First, I would like to ask you some basic questions about your background.

How old are you? (Note: must be 18 to complete survey.)

Record age in years: _____

What is the highest level of education that you have completed?

None	1
Primary	2
Secondary	3
Higher	4

What type of work have you been doing over the past year?

Employer/ manager of firm	1
Professional worker (lawyer, accountant, teacher, doctor)	2
Office worker, secretary	3
Manual worker	4
Farmer: has own farm	5
Agricultural worker	6
Member of armed forces, security personnel	7
Was not working/unemployed	8
Student	9
Pensioner	10
Other _____(write in)	11

Which of these statements comes closest to describing your household income now?

1. Our household income does not cover our expenses and we face significant difficulties in meeting our needs
2. Our household income does not cover our expenses and we face some difficulties in meeting our needs
3. Our household income covers our expenses without notable difficulties
4. Our household income covers our expenses well and we can save

What is your religion?

Sunni	1
Shia	2
Christian	3
Other	4
None	5

What is your ethnicity?

Arab	1
Kurd	2
Turkmen	3
Other	4

Pre-ISIS Violence in Iraq (Randomized to Before/After Social Distance)

First, I would like you to think back about life in Iraq before 2014 to include during Saddam Hussein's rule and in the years after the 2003 Iraq war.

To the best of your recollection, were any family members killed or injured during any of the following periods?

	Yes
a) Due to Iran-Iraq War	1
b) Due to the 1990 Persian Gulf War	1
c) Due to Repression/Persecution under Saddam Hussein's rule before 1990	1
d) Due to Repression/Persecution under Saddam Hussein's rule after 1990	1
e) Due to the Iraq War 2003	1
f) Due to political violence after the Iraq War 2003-2014	1
g) Due to criminal activity by various groups after the Iraq War 2003-2014	1
h) Due to any type of violence after 2014	1

ISIS-related Violence (Randomized to Before/After Social Distance)

Next I would like you to think back about how life changed once ISIS took control of Mosul and before the Mosul Operation to defeat ISIS.

Did any of the following happen to you while ISIS was in control of Mosul from 2014 through 2017?

	Yes
a) Were you punished in any way for violating ISIS rules?	1
b) Were immediate family members punished for violating ISIS law?	1
c) Were you injured by ISIS fighters, police, or supporters?	1
d) Were any of your immediate family members injured?	1
e) Were any of your immediate family members killed?	1
f) Were you detained or imprisoned by ISIS?	1
g) Did you flee your home due to threats from ISIS?	1
h) Was your home or property occupied or looted by ISIS?	1
i) Women or other family members abused or assaulted by ISIS?	1

During battles in 2017 to retake Mosul from ISIS, did any of these things happen to you? To the best of your knowledge who was responsible?

	By ISIS Forces	By Iraqi Forces	By Airstrikes
a) Were you Wounded?	1	2	3
b) Were any of your immediate family members wounded?	1	2	3
c) Were any of your immediate family members killed?	1	2	3
d) Was your home damaged/destroyed?	1	2	3
e) Detained or imprisoned?	1	2	3
f) Forced to flee home?	1	2	3
g) Home or property looted?	1	2	3
h) Women or other family members abused or assaulted?	1	2	3

During ISIS rule in Mosul, many people were rounded up and executed by ISIS because of their ethnic or religious identity, sexual orientation, or for suspected disloyalty to ISIS. Please tell me if you have heard about or seen evidence of ISIS killing the following people?

	Head of this	Saw evidence
a) Killing of Iraqi Sunni people	1 = Yes 0 = No	1 = Yes 0 = No
b) Killing of Iraqi Shia people	1 = Yes 0 = No	1 = Yes 0 = No
c) Killing of Yazidi people	1 = Yes 0 = No	1 = Yes 0 = No
d) Killing of Kurdish people	1 = Yes 0 = No	1 = Yes 0 = No
e) Killing of Iraqi Christians	1 = Yes 0 = No	1 = Yes 0 = No
f) Killing of foreigners	1 = Yes 0 = No	1 = Yes 0 = No
g) Killing of gay people	1 = Yes 0 = No	1 = Yes 0 = No

Now, Imagine that you had a total of 100,000 Iraqi Dinar ($68) to support families of victims killed by ISIS. How would you divide this sum of money among the following groups? You may send as much as 100,000 dinar (100%) or 0 (0%) to any one group, but the total amount must equal 100,000 dinar (100%) among all groups. Choose to allocate either dinar amounts (0-100,000) or dinar percent (0-100%), whichever is easier for you.

	Amount (0-100,000)	Percent (0-100%)
a) Iraqi Sunni victim families		
b) Iraqi Shia victim families		
c) Yazidi victim families		
d) Kurdish victim families		
e) Iraqi Christian victim families		
f) Foreign victim families		
g) Gay victim families		
Total AMOUNT	(ADD AMOUNTS – MUST EQUAL 100,000 DINAR)	(ADD % – MUST EQUAL 100%)

Social Distance

How close do you feel to the following people?

	How close do you feel to the following people?
a) Iraqi Sunni	(not close at all) 0 1 2 3 4 5 6 7 8 9 10 (very close)
b) Iraqi Shia	(not close at all) 0 1 2 3 4 5 6 7 8 9 10 (very close)
c) Yazidi	(not close at all) 0 1 2 3 4 5 6 7 8 9 10 (very close)
d) Iraqi Kurds	(not close at all) 0 1 2 3 4 5 6 7 8 9 10 (very close)
e) Iraqi Christians	(not close at all) 0 1 2 3 4 5 6 7 8 9 10 (very close)
f) Foreigners	(not close at all) 0 1 2 3 4 5 6 7 8 9 10 (very close)
g) Gay people	(not close at all) 0 1 2 3 4 5 6 7 8 9 10 (very close)

How often do you have contact with the following people (randomize order)?

	Very often	Sometimes	Not very often	Rarely	never
Iraqi Sunni	1	2	3	4	5
Iraqi Shia	1	2	3	4	5
Yazidi	1	2	3	4	5
Iraqi Kurds	1	2	3	4	5
Iraqi Christians	1	2	3	4	5
Foreigners	1	2	3	4	5
Gay people	1	2	3	4	5

To what extent do you agree or disagree that the following people are entitled to human rights protections under Iraqi law (randomize order)?

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
Iraqi Sunni	1	2	3	4
Iraqi Shia	1	2	3	4
Yazidi	1	2	3	4
Iraqi Kurds	1	2	3	4
Iraqi Christians	1	2	3	4
Foreigners	1	2	3	4
Gay people	1	2	3	4

To what extent do you agree or disagree that Iraqi authorities should do more to protect the following people from violence (randomize order)?

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
Iraqi Sunni	1	2	3	4
Iraqi Shia	1	2	3	4
Yazidi	1	2	3	4
Iraqi Kurds	1	2	3	4
Iraqi Christians	1	2	3	4
Foreigners	1	2	3	4
Gay people	1	2	3	4

The subsequent sections of the survey were not utilized in this manuscript but reported for transparency.

Activist Treatment

Treatment 1 (Anti-sectarianism). In 2019, protesters in Baghdad and around the country demonstrated calling for an end to sectarian (ethnic/religious) political violence and reforms to reduce sectarian (ethnic-religious) political divisions in the country.

Treatment 2 (Foreign interference). In 2019, protesters in Baghdad and around the country demonstrated calling for an end to Iranian and US interference in Iraq's internal political affairs.

Treatment 3(Economic reform) In 2019, protesters in Baghdad and around the country demonstrated calling for economic reforms to reduce unemployment and improve public services.

1. Have you heard about these protests before (1, yes, 0 = no)

Control Group – no prime

2. Have you ever participated in a political protest or demonstration?

No	1
Yes once	2
Yes more than once	3

3. How likely are you to participate in any future political protests or demonstrations?

Definitely Yes	1
Probably Yes	2
Probably No	3
Definitely No	4

4. How much would you support or oppose protesters calling for the following in Iraq?

	Strongly support	Somewhat support	Somewhat oppose	Strongly oppose
An end to sectarian (ethnic/religious) political violence and divisions	1	2	3	4
An end to US interference in Iraq's internal affairs	1	2	3	4
An end to Iranian interference in Iraq's internal affairs	1	2	3	4
Economic reforms to reduce unemployment and improve public services	1	2	3	4

5. How likely are you to support or oppose political leaders who are also supported by the following?

	Strongly Support	Somewhat support	Somewhat Oppose	Strongly oppose
Iraqi Sunni	1	2	3	4
Iraqi Shia	1	2	3	4
Yazidi	1	2	3	4
Iraqi Kurds	1	2	3	4
Iraqi Christians	1	2	3	4
Gay people	1	2	3	4
The United States	1	2	3	4
Iran	1	2	3	4

6. How much do you support or oppose the following political party/coalition/movements in the Iraqi Parliament today?

	Strongly Support	Somewhat support	Somewhat Oppose	Strongly oppose
Saairun (Leader Hassan al-Aquli)	1	2	3	4
Fatah Alliance (Leader Hadi al-Amiri)	1	2	3	4
Victory Alliance (Haider al-Abadi)	1	2	3	4
State of Law Coalition (Nuri al-Maliki)	1	2	3	4
Other (write in)	1	2	3	4

7. How much do you trust the following institutions to do what is best for the country?

	A great deal	A fair amount	Not very much	None at all
Iraqi Armed Forces	1	2	3	4
The Iraqi Government in Baghdad	1	2	3	4
Iraqi courts	1	2	3	4
Local authorities	1	2	3	4
Local police	1	2	3	4
Local security forces	1	2	3	4
Local tribal Leaders	1	2	3	4
Local religious leaders	1	2	3	4

8. To what extent do you agree/disagree with the following statements

	Strongly Agree	Somewhat Agree	Somewhat disagree	Strongly disagree
a) Democracy is preferable to any other form of political system	1	2	3	4
b) Under some circumstances, a non-democratic government may be preferable to a democratic one	1	2	3	4
c) The use of violence in politics is never justified	1	2	3	4
d) It is sometimes necessary to use violence to support a just cause	1	2	3	4
e) The will of the people is more important than the rule of law	1	2	3	4
f) The rule of law must be followed, even if it results in unpopular decisions	1	2	3	4

9. LIST EXPERIMENT: Now I am going to read you things that have happened to some people during ISIS occupation and after the liberation of Mosul by the Iraqi military. After I have read them out, I would like you to tell me HOW MANY of them happened to you personally. I don't want to know which ones, just tell me HOW MANY. (Code 0 if none)

   Control Group
   1. I had to flee because of fighting
   2. I have lost family members
   3. My home was damaged/destroyed during the fighting.

   Treatment Group
   1. I had to flee because of fighting
   2. I have lost family members
   3. I was personally sexually assaulted
   4. My home was damaged/destroyed during the fighting.

10. Were you personally sexually assaulted during ISIS occupation and/or after the liberation of Mosul by the Iraqi military?

No	1
Yes, during ISIS occupation	2
Yes, during liberation by the Iraqi military	3
Yes, both	4

11. If yes to the question above, by whom?

Someone I knew	1
Someone I did not know	2
Someone in ISIS	3
someone in Iraqi military	4

12. Finally, I would like to ask you a question about people who are homosexuals. Do you have a very favorable, somewhat favorable, somewhat unfavorable, or very unfavorable view of homosexuals?

Very favorable	1
Somewhat favorable	2
Somewhat unfavorable	3
Very unfavorable	4

Have you had Covid-19? (Yes, No)
Has someone close to you died of Covid-19? (Yes, No)
Have you been vaccinated? No, Yes (one dose), Yes (two doses), Yes (three doses)

Military Experiment

Treatment Group: During the 2017 liberation of Mosul, the Iraqi military used drones, artillery, and aerial bombardment to drive ISIS from the city. The Iraqi military estimates that while these weapons resulted in civilian deaths, they also reduced the number of soldiers who would have been killed during the liberation operations.

1. Were you aware that the Iraqi military used drones, artillery, and aerial bombardment to drive ISIS from Mosul? (Yes = 1, No=0)
2. Were you aware that these actions resulted in civilian casualties but also reduced the number of soldiers killed during the operation? (Yes=1, No=0)

Control Group

3. In your opinion, how likely or unlikely will the following actions by the Iraqi military result in high levels of civilian deaths and injuries when used against terrorist groups in Iraq?

Likelihood of civilian deaths/injuries?	Very likely	Somewhat likely	Somewhat unlikely	Very unlikely
Drone attacks against suspected terrorists	1	2	3	4
Aerial bombardment of suspected terrorists (with human piloted aircraft)	1	2	3	4
Artillery shelling of suspected terrorists	1	2	3	4
Sending Iraqi soldiers into hostile areas to fight suspected terrorist groups	1	2	3	4
Relying on US military assistance to fight suspected terrorist groups in Iraq	1	2	3	4
Relying on Iranian military assistance to fight suspected terrorist groups in Iraq	1	2	3	4

4. How much do you support or oppose the use of the following by the Iraqi military as part of counter-terrorism operations?

	Strongly Support	Somewhat support	Somewhat Oppose	Strongly oppose
Drone attacks against suspected terrorists	1	2	3	4
Aerial bombardment of suspected terrorists (with human piloted aircraft)	1	2	3	4
Artillery shelling of suspected terrorists	1	2	3	4
Sending Iraqi soldiers into hostile areas to fight suspected terrorist groups	1	2	3	4
Relying on US military assistance to fight suspected terrorist groups in Iraq	1	2	3	4
Relying on Iranian military assistance to fight suspected terrorist groups in Iraq	1	2	3	4

Pre-Analysis Plan

We received IRB approval for the project on January 24, 2022. Our pre-analysis plan was registered with EGAP on Friday, March 4, 2022 at 1:35 PM. Fieldwork was completed between March 31-April 5, 2022. Our pre-analysis plan focused primarily on later sections of the survey related to our survey experiments related to political activism and military use of drones. However, in the description of our pre-registration, we indicate that " This study seeks to examine whether public opinion is responsive to attempts to overcome sectarian tensions in the aftermath of conflict. We conceptualize the amelioration of sectarian tensions to include greater tolerance for small marginalized groups."

Our victimization-related items, including the dictator game, as well as items related to closeness to others, support for human rights and increased government protections from violence were designed to assess tolerance for small, marginalized groups. Our randomization of victimization items was designed to test whether priming about one's victimization experiences as well as the suffering of others increased tolerance for outgroups. While these hypotheses were not formally stated in the pre-registration, the intent should hopefully be clear from the survey design. We have not deviated from our pre-analysis intentions. We test the effects of victimization on altruism and the effects of randomized priming about victimization experiences on empathy, as measured by closeness to outgroups. We also provide additional analysis in the appendix which shows that our victimization prime had comparable effects on support for out-group human rights and more government protections of outgroups from violence. We do not analyze the remaining downstream experiments (political activism, military) and those experiences would not have influenced the results from this first section of the survey.

Finally, our survey took place in both Mosul and Basra but we only utilized the data from Mosul in this analysis because we do not have data on ISIS victimization from Basra as ISIS was not in control there. The Basra data (N=216) was primarily collected for case comparison between a predominately ISIS-affected region (Mosul) and a more unaffected, peaceful region (Basra). We provide analysis showing that our results are robust to the including of Basra data on a more limited range of victimization variables (non-ISIS victimization) in the online appendix.

EGAP Registry Form Schema

Note from EGAP: while the standard workflow is down, this form replaces the registration form on egap.org. For this alternate workflow, the time/date that your email is *sent* will become the timestamp for your registration. It may still take up to five business days to review, upload, and post your submission, but the timestamp will be locked in as described.

Title of Study – **Examining Opinions regarding the Anti-sectarian Activism in Iraq: Evidence from Mosul and Basra.**

Authors – XXXXXXX

Brief description of study –

This study seeks to examine whether public opinion is responsive to attempts to overcome sectarian tensions in the aftermath of conflict. We conceptualize the amelioration of sectarian tensions to include greater tolerance for small marginalized groups, beyond the central societal divisions of conflicts. We also gauge willingness to take to the streets and support subjectively agreeable protests/counter-protests.

License – (***required***—*The license controls the degree to which others can make use of information related to your project, particularly analysis coding and data files. If left blank, default value is the MIT License, which allows for broad access while maintaining established authorship of the study's intellectual property. (SELECT ONE)*

MIT License – NOTE: THIS WILL BE THE DEFAULT UNLESS YOU SPECIFY OTHERWISE

Is one of the study authors a university faculty member? – *multiple choice (SELECT ONE)*

- ✓ **Yes**

No

Is this Registration Prospective or Retrospective? – *multiple choice (SELECT ONE)*

N/A

- ✓ **Registration prior to any research activities**

Registration prior to assignment of treatment
Registration prior to realization of outcomes
Registration prior to researcher access to outcome data
Registration prior to researcher analysis of outcome data
Registration after researcher analysis of outcome data
Other (if selected, short text field appears)

Is this an experimental study? – *multiple choice (SELECT ONE)*

N/A
No

- ✓ **Yes**

Date of start of study – *date (MM/DD/YYYY format; understood as first date of treatment assignment; please only list **ONE DATE**)*

03/05/2022

Gate date – *date (MM/DD/YYYY format); gating is discouraged, but if necessary, EGAP policy limits the gate range to 18 months maximum (**18 months from the DATE OF SUBMISSION, not from the study start date)**. If you foresee any issues with this, please contact paps@egap.org. If you do not want to gate your study, please leave this field blank.*

Was this design presented at an EGAP meeting? – *multiple choice (SELECT ONE)*

N/A

✓ **No**

Yes

Is there a pre-analysis plan associated with this registration? – *multiple choice (SELECT ONE)*

N/A

No

✓ **Yes**

For the next three fields, the response box is a long answer plain text box. Please try to limit your response to ~300 words at most, and use your pre-analysis plan to elaborate further if necessary. ***Also, the plain text field limits formatting, so please do not include bullet point lists with multiple indentations, footnotes, tables, images, or other complicated formatting.***

Background and explanation of rationale – *long answer (**required**)*

Existing research shows that sectarian tensions provide the bases to mobilize conflict, but what remains unclear is whether activism that seeks to assuage sectarian identities can allay tensions. We expect that activists calling for an end to sectarian political violence can reduce support for violence. What is missing in existing research is a direct test of this hypothesis in a survey experiment. We will conduct survey experiments in Iraq to test hypotheses derived from claims regarding advocacy to end sectarianism.

What are the hypotheses to be tested/quantities of interest to be estimated? – *long answer (**required**)*

Our quantities of interest are the expected values and predicted probabilities of our dependent variables: the output of regression models including our treatments and moderating variables, while taking important controls into account (age, gender, socioeconomic status, rural/urban, and ethnicity).

Experimental Hypothesis:

We hypothesize that respondents will exhibit lower levels of support for sectarianism and political violence, as well as a greater willingness to participate politically, when they receive information about anti-sectarian activism. We further expect that social tolerance regarding marginalized groups is higher among respondents who receive information about anti-sectarian activism.

We hypothesize that respondents will exhibit lower levels of support for sectarianism and political violence, as well as a greater willingness to participate politically, when they receive information about economic reform. We further expect that social tolerance regarding marginalized groups is higher among respondents who receive information about economic reform.

We expect treatment effects to be larger in the hypothesized directions in Mosul rather than Basra, due to higher levels of recent conflict exposure.

We hypothesize that in list experiments, men are less likely to directly report experiencing sexual violence. We expect that this lower likelihood is moderated by homophobia, which reduces the likelihood to directly report.

How will these hypotheses be tested? –

> **The hypotheses will be tested with a survey experiment that randomizes the treatment information among three groups: A) Anti-sectarianism, B) Economic reforms, and C) no additional information (control group). The list experiment randomizes a list of activities a respondent may have experienced and asks how many of those activities they have experienced.**

Question wording

1. Activist Experiment		
Group A (Anti-sectarianism)	**Group B (Economic reform)**	**Group C**
In 2019, protesters in Baghdad and around the country demonstrated calling for an end to sectarian	*In 2019, protesters in Baghdad and around the country demonstrated calling for economic reforms to*	*No additional information*

(ethnic/religious) political violence and reforms to reduce sectarian (ethnic-religious) political divisions in the country.	*reduce unemployment and improve public services.*	

Example dependent variables:

How likely are you to participate in any future political protests or demonstrations?

- Definitely Yes 1
- Probably Yes 2
- Probably No 3
- Definitely No 4

How much would you support or oppose protesters calling for the following in Iraq?

	Strongly support	Somewhat support	Somewhat oppose	Strongly oppose
a) An end to sectarian (ethnic/religious) political violence and divisions	1	2	3	4

List Experiment

(Mosul Only): Now I am going to read you things that have happened to some people during ISIS occupation and after the liberation of Mosul by the Iraqi military. After I have read them out, I would like you to tell me HOW MANY of them happened to you personally. I don't want to know which ones, just tell me HOW MANY. (Code 0 if none)

I had to flee because of fighting
I have lost family members
I was personally sexually assaulted (Two experimental groups: treatment group receives the sexually assault item)
My home was damaged/destroyed during the fighting.

How many of the statements above are true? 0 1 2 3 or 4?

(Mosul Only) Were you personally sexually assaulted during ISIS occupation and/or after the liberation of Mosul by the Iraqi military?

No	1
Yes, during ISIS occupation	2
Yes, during liberation by the Iraqi military	3
Yes, both	4

(Mosul Only) If yes to the question above, by whom?

Someone I knew	1
Someone I did not know	2
Someone in ISIS	3
someone in Iraqi military	4

Finally, I would like to ask you a question about people who are homosexuals. Do you have a very favorable, somewhat favorable, somewhat unfavorable, or very unfavorable view of homosexuals?

Very favorable	1
Somewhat favorable	2
Somewhat unfavorable	3
Very unfavorable	4

Country – **Iraq**

Sample Size (# of Units) – **500**

Was a power analysis conducted prior to data collection? – *multiple choice (SELECT ONE)*

Yes
- ✓ **No**

N/A
Other (fill in the blank)

Has this research received Institutional Review Board (IRB) or ethics committee approval? – *multiple choice (SELECT ONE)*

- ✓ **Yes**

No
N/A
Other (fill in the blank)

IRB Number – See the IRB letter included

Date of IRB Approval – _January 24, 2022_____

Will the intervention be implemented by the researcher or a third party? If a third party, please provide the name. – *multiple choice (SELECT AS MANY AS APPLICABLE)*

Researchers

XXXXXXX

Did any of the research team receive remuneration from the implementing agency for taking part in this research? – *multiple choice (SELECT ONE)*

Yes

- ✓ **No**

N/A

Other (fill in the blank)

If relevant, is there an advance agreement with the implementation group that all results can be published? – *multiple choice (SELECT ONE)*

Yes

No

- ✓ **N/A**

Other (fill in the blank)

JEL classification(s) – *short answer; please provide alphanumeric code(s)*

Methodology – *select all that apply*

- ✓ **Experimental Design**

Field Experiments

Lab Experiments

Mixed Method

- ✓ **Statistics**
- ✓ **Survey Methodology**

Policy – *select all that apply*

- ✓ **Conflict and Violence**

Corruption

Development

- ✓ **Elections**
- ✓ **Ethnic Politics**
- ✓ **Gender**
- ✓ **Governance**

Certification – *indicate agreement*
By submitting this form and accompanying documents with EGAP, I confirm that I have rights to put this information in the public domain and I understand that this information will remain on the EGAP registry in perpetuity, regardless of whether the research is subsequently implemented or not.

Confirmation – *indicate agreement*
You should receive a confirmation of your registration within five business days. Your registration is considered complete only when confirmation is received. If you do not receive confirmation within five business days please contact paps@egap.org. Hitting SAVE at the bottom of this page will submit the registration. Please only do so when you are ready to submit. ONCE YOU HAVE HIT SAVE AT THE BOTTOM OF THIS PAGE PLEASE DO NOT HIT THE BACK BUTTON. Doing so creates multiple registrations, and we will delete all but the most recent. If you accidentally created multiple registrations, please contact paps@egap.org

Note from EGAP: The time/date that your email is *sent* will become the timestamp for your registration. It may still take up to five business days to review, upload, and post your submission, but the timestamp will be locked in as described.

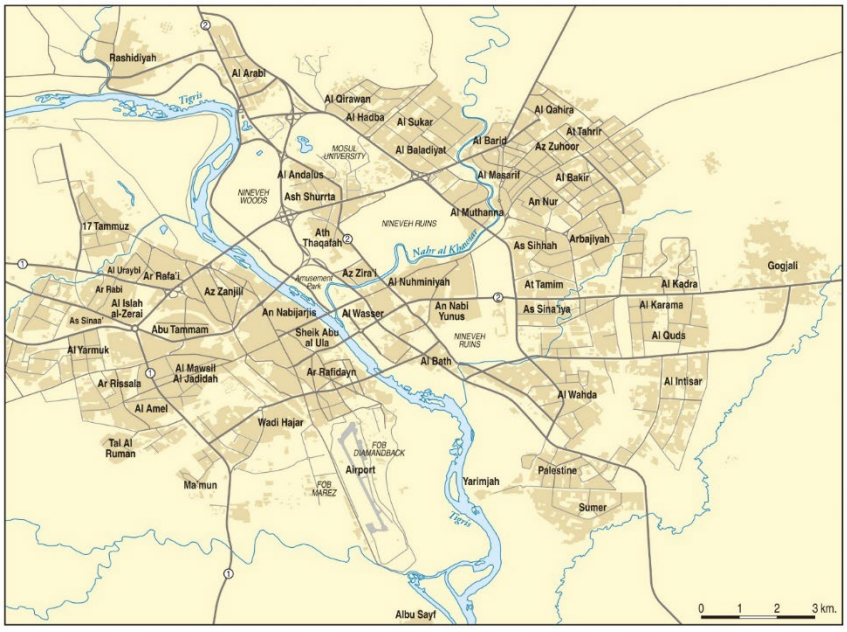
Additional Documentation – *please attach your pre-analysis plan, survey instrument, or any other files associated with the registration (files must be under 5MB)*

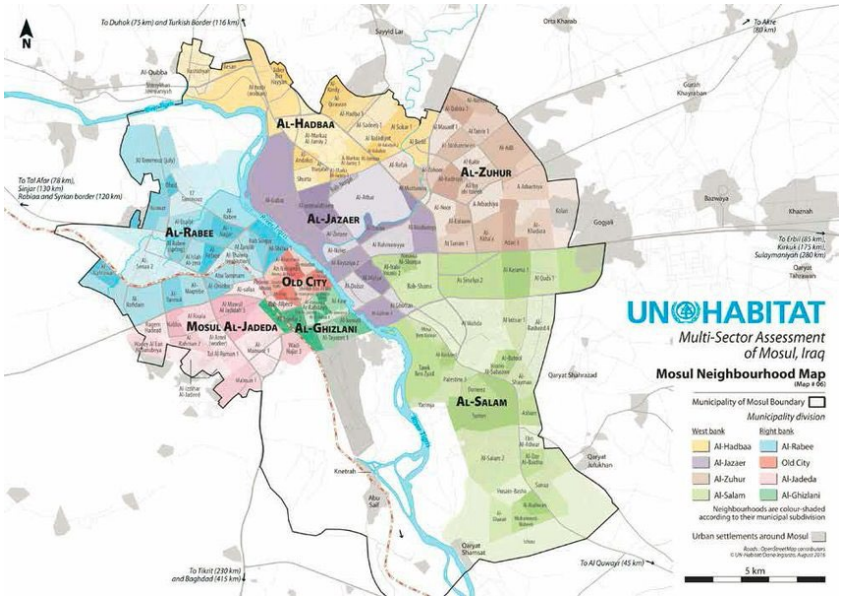
DeclareDesign – If you have used DeclareDesign to simulate your study, attach the output here. DeclareDesign is a system for describing research designs in code and simulating them in order to understand their properties. Learn more at https://declaredesign.org/.

Sampling Locations

The following sampling locations were selected in East and West Mosul. Experiments were randomized to treatment and control by neighborhood. This was done to avoid confusion in the field over different paper-pencil survey versions in circulation, reducing the likelihood of error in recording which respondents received treatments relative to control.

West Mosul Locations: 17 Tammuz, Al Jadidah (34% of sample)
East Mosul Locations: Al Arabi, Al Sukar, Al Hadbaa, Al Jazaer (66% of sample)





Summary Statistics

Variable	N	Mean/%	SD	Range	
Dictator Allocation to Sunni (%)	278	74.68	24.60	0	100
Dictator Allocation to Shia (%)	278	3.88	9.22	0	50
Dictator Allocation to Yazidi (%)	278	15.40	17.21	0	80
Dictator Allocation to Kurds (%)	278	3.60	9.61	0	60
Dictator Allocation to Christians (%)	278	0.86	3.98	0	30
Dictator Allocation to Foreigners (%)	278	0.00	0.00	0	0
Dictator Allocation to LGBT+ (%)	278	0.00	0.00	0	0
Dictator Giving to Out-group >=50%	278	0.24	0.43	0	1
Close to Shia	278	4.47	2.87	0	10
Close to Yazidi	278	3.99	2.97	0	10
Close to Kurds	275	5.65	3.23	0	10
Close to Christians	278	4.59	3.06	0	10
Close to Foreigners	276	0.45	1.26	0	10
Close to LGBT+	276	0.09	0.38	0	3
Close to Outgroups (alpha index)	278	3.22	1.58	0	7.5
1=witnessed ISIS killing Sunni	278	0.21	0.41	0	1
1=heard of ISIS killing out-groups	278	0.08	0.27	0	1
1=saw ISIS killing out-groups	278	0.02	0.15	0	1
1=punished by ISIS	278	0.18	0.39	0	1
1=reported sexual assault	278	0.06	0.23	0	1
1=family punished by ISIS	278	0.04	0.20	0	1
1=family injured by ISIS	278	0.07	0.25	0	1
1= female family members abused by ISIS	278	0.39	0.49	0	1
1=forced to flee home by ISIS	278	0.10	0.30	0	1
1=home/property damaged/looted by ISIS	278	0.20	0.40	0	1
1=injured during liberation	278	0.03	0.17	0	1
1=family injured during liberation	278	0.06	0.25	0	1
1=family killed during liberation	278	0.01	0.12	0	1
1=home/property damaged during liberation	278	0.05	0.22	0	1
1=imprisoned during liberation	278	0.14	0.35	0	1
1=forced to flee home during liberation	278	0.08	0.27	0	1
1=home looted during liberation	278	0.20	0.40	0	1
1=female family abused during liberation	278	0.39	0.49	0	1
1=family killed/injured during Iran Iraq war	278	0.15	0.36	0	1
1=family killed/injured during Gulf War	278	0.02	0.13	0	1
1=family killed/injured by Saddam forces	278	0.04	0.19	0	1
1=family killed/injured during Iraq War	278	0.03	0.18	0	1
1=family killed/injured by postwar insurgency	278	0.21	0.40	0	1
1=family killed/injured by postwar crime	278	0.31	0.46	0	1
1=had Covid-19	278	0.49	0.50	0	1
1=family or close friends died from Covid-19	278	0.31	0.46	0	1

female	278	0.15	0.36	0	1
age	278	33.96	13.89	18	84
professional	278	0.53	0.50	0	1
laborer	278	0.09	0.29	0	1
unemployed	278	0.10	0.31	0	1
1=West Mosul sampling region	278	0.35	0.48	0	1

Creating Composite Indices of Victimization Experiences, Past and Present

We consider how to combine different self-reported victimization experiences into composite indices. Factor analysis is a very common, conventional method for index construction especially in psychology (see Greco et al. 2019). We also examined other ways to construct indices including additive, interim covariance models (alpha coefficients), principal factor analysis, and tetrachoric methods. We focus here on the tetrachoric method for use with binary variables (In Stata, see https://www.stata.com/manuals/rtetrachoric.pdf). We also examine each component of victimization independently in subsequent analysis.

Greco, S., Ishizaka, A., Tasiou, M., & Torrisi, G. (2019). On the methodological framework of composite indices: A review of the issues of weighting, aggregation, and robustness. *Social indicators research*, *141*, 61-94.

Tetrachoric Analysis of Victimization Experiences

Tetrachoric correlation analysis can be used with binary victimization data (yes/no) given the assumption of an underlying continuous latent variable of victimization experience that is normally distributed. The following is a correlation matrix generated using the **tetrachoric** package in STATA for all binary conflict-related victimization variables. The correlation matrix below required smoothing to be positive-definite (see Lorenzo-Seva and Ferrando 2021).

Lorenzo-Seva, Urbano, and Pere J. Ferrando. "Not positive definite correlation matrices in exploratory item factor analysis: Causes, consequences and a proposed solution." *Structural Equation Modeling: A Multidisciplinary Journal* 28, no. 1 (2021): 138-147.

Tetrachoric Correlation Matrix of ISIS-related Victimization Experience

maxdiff(corr,adj-corr) = 1.0137
(adj-corr: tetrachoric correlations adjusted to be positive semidefinite)

adj-corr	punish~s	fampun~s	injure~s	faminj~s	famkil~s	impris~s	fleeho~s
punishedisis	1.0000						
fampunishe~s	-0.0945	1.0000					
injuredisis	-0.1838	-0.1086	1.0000				
faminjured~s	-0.1346	-0.0677	-0.0426	1.0000			
famkilledi~s	0.3360	-0.1557	-0.1336	-0.1638	1.0000		
imprisoned~s	-0.1081	0.0137	-0.1129	-0.0764	-0.0665	1.0000	
fleehomeisis	-0.1645	-0.1300	-0.2144	-0.1182	-0.2279	-0.0984	1.0000
homedamage~s	-0.3115	-0.2547	-0.1969	-0.1985	-0.2282	-0.2222	0.1516
womenabuse~s	-0.2242	-0.1692	-0.1404	-0.1537	-0.1691	-0.1268	0.0543
injuredlib	0.3204	-0.2446	0.6242	-0.2255	-0.0700	-0.1617	-0.2137
faminjured~b	-0.3590	0.3851	0.4168	0.6716	-0.1480	-0.1487	-0.1863
famkilledlib	-0.1232	-0.1640	-0.2642	-0.1386	0.5358	-0.1604	-0.0903
homedamage~b	0.0472	-0.3541	-0.4208	0.3184	-0.1402	-0.2442	0.3613
imprisoned~b	0.3927	0.4485	-0.2304	-0.2352	-0.0779	0.6453	-0.2711
fledhomelib	0.0590	0.2765	-0.3173	0.2278	-0.1402	-0.3428	0.4121
homelooted~b	-0.3725	-0.2220	-0.2103	-0.2262	-0.1416	-0.1735	0.3624
womenabuse~b	-0.0755	-0.1805	-0.1788	-0.1421	-0.1025	-0.1379	0.0369
dsexassault	0.1213	-0.2595	0.4469	-0.3789	-0.2693	-0.1799	-0.2993

adj-corr	homeda~s	womena~s	injure~b	faminj~b	famkil~b	homeda~b	impris~b
homedamage~s	1.0000						
womenabuse~s	-0.0943	1.0000					
injuredlib	-0.2995	0.1647	1.0000				
faminjured~b	-0.3377	-0.2786	-0.1236	1.0000			
famkilledlib	0.4766	-0.2517	-0.2887	-0.2395	1.0000		
homedamage~b	0.3664	-0.0153	-0.2684	-0.2594	0.3866	1.0000	
imprisoned~b	-0.2581	-0.2658	-0.1027	-0.2021	-0.3492	-0.3280	1.0000
fledhomelib	0.1816	-0.3954	-0.3053	0.2231	0.2874	0.4024	-0.2350
homelooted~b	0.8714	-0.0575	-0.2330	-0.3254	0.3623	0.1956	-0.2723
womenabuse~b	-0.0597	0.8273	-0.1158	-0.2292	-0.2662	0.0355	-0.1560
dsexassault	0.3173	0.2157	0.4808	-0.2394	-0.3465	-0.3550	0.0610

adj-corr	fledho~b	homelo~b	womena~b	dsexas~t
fledhomelib	1.0000			
homelooted~b	0.1195	1.0000		
womenabuse~b	-0.3310	-0.1993	1.0000	
dsexassault	-0.5158	0.2219	0.2611	1.0000

Next, we compute iterated principal factor analysis focusing on the first factor.

```
Factor analysis/correlation                       Number of obs    =        278
    Method: iterated principal factors            Retained factors =          1
    Rotation: (unrotated)                         Number of params =         18
```

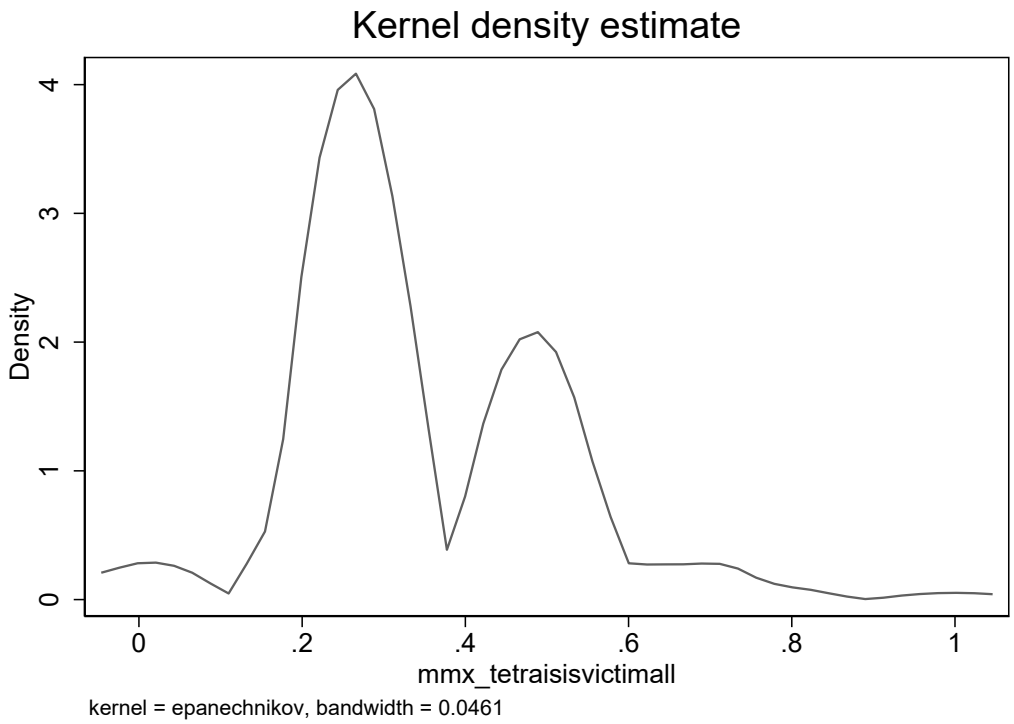
Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	3.01129	0.80990	1.0000	1.0000
Factor2	2.20139	0.71814	0.7310	1.7311
Factor3	1.48326	0.26994	0.4926	2.2236
Factor4	1.21331	0.15814	0.4029	2.6265
Factor5	1.05517	0.43456	0.3504	2.9769
Factor6	0.62061	0.31818	0.2061	3.1830
Factor7	0.30242	0.12616	0.1004	3.2835
Factor8	0.17626	0.40431	0.0585	3.3420
Factor9	-0.22805	0.17896	-0.0757	3.2663
Factor10	-0.40700	0.08075	-0.1352	3.1311
Factor11	-0.48775	0.18138	-0.1620	2.9691
Factor12	-0.66913	0.08622	-0.2222	2.7469
Factor13	-0.75536	0.08161	-0.2508	2.4961
Factor14	-0.83696	0.03752	-0.2779	2.2181
Factor15	-0.87448	0.03001	-0.2904	1.9277
Factor16	-0.90449	0.01959	-0.3004	1.6274
Factor17	-0.92408	0.04106	-0.3069	1.3205
Factor18	-0.96513	.	-0.3205	1.0000

```
LR test: independent vs. saturated: chi2(153) = 6.7e+04 Prob>chi2 = 0.0000
```

Finally , we compute factor loadings on the first factor and graph kernel density of the normalized index.

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Uniqueness
punishedisis	-0.2178	0.9526
fampunishe~s	-0.1572	0.9753
injuredisis	-0.4565	0.7916
faminjured~s	0.0910	0.9917
famkilledi~s	0.0188	0.9996
imprisoned~s	-0.2476	0.9387
fleehomeisis	0.4333	0.8122
homedamage~s	0.6450	0.5840
womenabuse~s	-0.1346	0.9819
injuredlib	-0.4907	0.7593
faminjured~b	-0.1621	0.9737
famkilledlib	0.6129	0.6243
homedamage~b	0.6683	0.5534
imprisoned~b	-0.3945	0.8444
fledhomelib	0.5454	0.7025
homelooted~b	0.6044	0.6347
womenabuse~b	-0.1209	0.9854
dsexassault	-0.3414	0.8834



Finally, we compare the distribution of indices generated using tetrachoric analysis with conventional principal factor analysis (which treats victimization items as continuous rather than binary), additive indices (simply adding up the number of victimization items), interim covariance (derived from Cronbach's Alpha), and structural equal modeling (SEM). Below we illustrate that all coefficients are positive and significant predictors of Out-group altruism in logit regression models from manuscript Table 2. We prefer to use the tetrachoric measure mainly due to the nature of binary victimization measures. We also show how individual components of the composite index predict altruism in subsequent models.

ISIS Victimization and Out-group Altruism (Logit Regression)

VARIABLES	(1) Out-group Altruism	(2) Out-group Altruism	(3) Out-group Altruism	(4) Out-group Altruism	(5) Out-group Altruism
ISIS Victimization Index	3.427***	0.869**	1.869**	0.916***	3.856***
	(0.353)	(0.421)	(0.871)	(0.287)	(0.520)
Constant	-2.424***	-1.607***	-2.009***	-1.139***	-3.799***
	(0.107)	(0.135)	(0.350)	(0.188)	(0.614)
Index	Tetra	Factor	Alpha	Add	SEM
Observations	278	278	278	278	278
adj. r2	0.0491	0.0133	0.0296	0.0137	0.0866

Robust standard errors clustered by location in parentheses

Note: for the additive index, there are 3 categories, we report the results of the highest level of victimization compared to lowest level as an ordered rather than continuous variable.

*** p<0.01, ** p<0.05, * p<0.1

Pre-ISIS-related Victimization Experience

Next, we produce an index of pre-ISIS victimization using binary (yes/no) victimization variables with tetrachoric analysis. First, we provide a smoothed correlation matrix on all items below.

Tetrachoric Correlation Matrix of Pre-ISIS-related Victimization Experience

```
  maxdiff(corr,adj-corr) =  0.8093
  (adj-corr: tetrachoric correlations adjusted to be positive semidefinite)
```

adj-corr	iraniraq	gulfwar	sadd~e90	iraqwar	insur~03	crime03
iraniraq	1.0000					
gulfwar	-0.1907	1.0000				
saddampre90	-0.1907	-0.1907	1.0000			
iraqwar	-0.2683	-0.2683	-0.2683	1.0000		
insurgency03	-0.2683	-0.2683	-0.2683	0.3457	1.0000	
crime03	-0.1907	-0.1907	-0.1907	-0.2683	-0.2683	1.0000

Next, we conduct iterated principal factor analysis focusing on the first factor.

```
Factor analysis/correlation                      Number of obs    =        278
    Method: iterated principal factors           Retained factors =          1
    Rotation: (unrotated)                        Number of params =          6
```

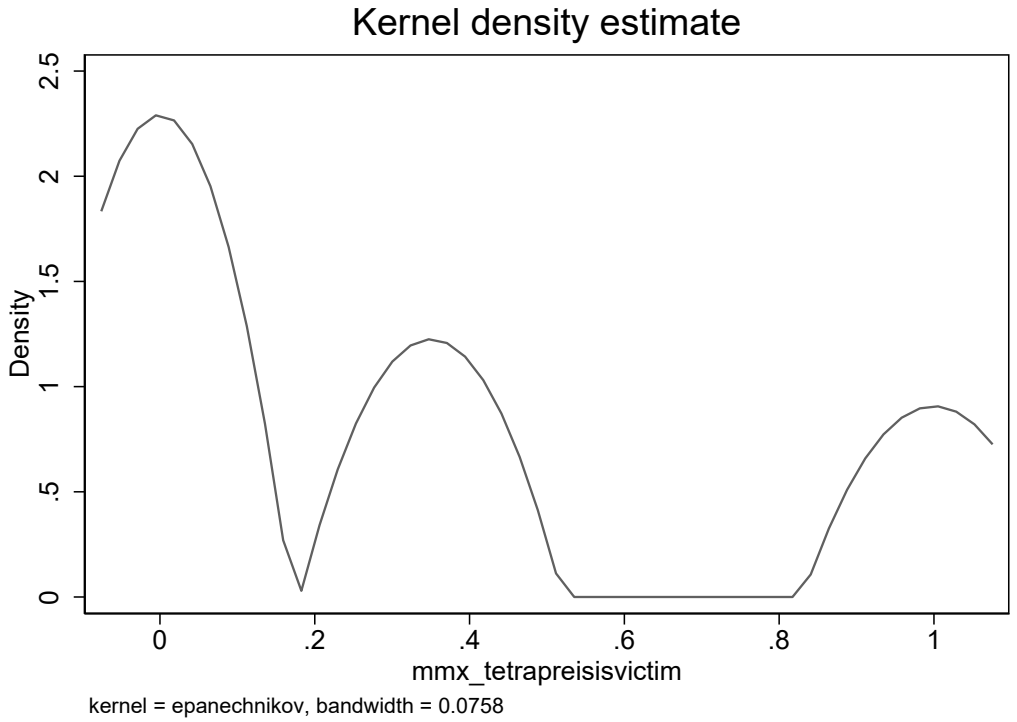
Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	1.17436	0.93477	0.9999	0.9999
Factor2	0.23960	0.00000	0.2040	1.2039
Factor3	0.23960	0.00000	0.2040	1.4079
Factor4	0.23960	0.09587	0.2040	1.6119
Factor5	0.14372	1.00614	0.1224	1.7343
Factor6	-0.86242	.	-0.7343	1.0000

```
    LR test: independent vs. saturated:  chi2(15) =       . Prob>chi2 =      .
```

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Uniqueness
iraniraq	-0.2211	0.9511
gulfwar	-0.2211	0.9511
saddampre90	-0.2211	0.9511
iraqwar	0.6996	0.5106
insurgency03	0.6996	0.5106
crime03	-0.2211	0.9511

Next, we provide a kernel density plot of the normalized composite pre-ISIS victimization.



Finally, we compare the distribution of indices generated using tetrachoric analysis with conventional principal factor analysis (which treats victimization items as continuous rather than binary), additive indices (simply adding up the number of victimization items), interim covariance (derived from Cronbach's Alpha), and structural equal modeling (SEM). Only the additive model fails to predict altruism.

Pre-ISIS Victimization and Out-group Altruism (Logit Regression)

VARIABLES	(1) Out-group Altruism	(2) Out-group Altruism	(3) Out-group Altruism	(4) Out-group Altruism	(5) Out-group Altruism
ISIS Victimization Index	1.056***	1.661***	1.915***	-0.0846	1.778***
	(0.129)	(0.245)	(0.203)	(0.107)	(0.446)
Constant	-1.528***	-2.003***	-1.968***	-1.103***	-1.966***
	(0.223)	(0.168)	(0.161)	(0.264)	(0.107)
Index	Tetra	Factor	Alpha	Add	SEM
Observations	278	278	278	278	278
adj. r2	0.0297	0.0433	0.0455	0.000238	0.0269

Robust standard errors clustered by location in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Demographic Balance Tests on Awareness of Out-group Suffering and Victimization

The following balance tests provide additional evidence for how reported victimization experiences and awareness of others' victimization are not randomly distributed across the sample. We address these imbalances with extended controls in our analysis.

Heard about Out-Group Killings

		(1)		**(2)**		**(2)-(1)**
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	256	0.125	22	0.455	278	0.330***
		(0.021)		(0.109)		
age	256	33.832	22	35.455	278	1.623
		(0.868)		(3.024)		
professional	256	0.535	22	0.455	278	-0.081
		(0.031)		(0.109)		
laborer	256	0.102	22	0.000	278	-0.102
		(0.019)		(0.000)		
unemployed	256	0.105	22	0.091	278	-0.015
		(0.019)		(0.063)		
West Mosul	256	0.367	22	0.136	278	-0.231**
		(0.030)		(0.075)		

Saw Killing of Out-Groups

		(1)		**(2)**		**(2)-(1)**
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	272	0.140	6	0.667	278	0.527***
		(0.021)		(0.211)		
age	272	33.915	6	36.000	278	2.085
		(0.846)		(4.382)		
professional	272	0.533	6	0.333	278	-0.200
		(0.030)		(0.211)		
laborer	272	0.096	6	0.000	278	-0.096
		(0.018)		(0.000)		
unemployed	272	0.099	6	0.333	278	0.234*
		(0.018)		(0.211)		
west Mosul	272	0.346	6	0.500	278	0.154
		(0.029)		(0.224)		

Saw killing of In-groups (Sunni)

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	220	0.168	58	0.086	278	-0.082
		(0.025)		(0.037)		
age	220	34.577	58	31.621	278	-2.957
		(0.942)		(1.761)		
professional	220	0.568	58	0.379	278	-0.189**
		(0.033)		(0.064)		
laborer	220	0.100	58	0.069	278	-0.031
		(0.020)		(0.034)		
unemployed	220	0.095	58	0.138	278	0.042
		(0.020)		(0.046)		
west Mosul	220	0.309	58	0.500	278	0.191***
		(0.031)		(0.066)		

Punished for Violating ISIS Rules

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	227	0.150	51	0.157	278	0.007
		(0.024)		(0.051)		
age	227	34.463	51	31.725	278	-2.737
		(0.966)		(1.437)		
professional	227	0.502	51	0.647	278	0.145*
		(0.033)		(0.068)		
laborer	227	0.088	51	0.118	278	0.030
		(0.019)		(0.046)		
unemployed	227	0.097	51	0.137	278	0.040
		(0.020)		(0.049)		
west Mosul	227	0.352	51	0.333	278	-0.019
		(0.032)		(0.067)		

Injured during Liberation

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	270	0.144	8	0.375	278	0.231*
		(0.021)		(0.183)		
age	270	34.056	8	30.750	278	-3.306
		(0.847)		(4.776)		
professional	270	0.537	8	0.250	278	-0.287
		(0.030)		(0.164)		
laborer	270	0.096	8	0.000	278	-0.096
		(0.018)		(0.000)		
unemployed	270	0.093	8	0.500	278	0.407***
		(0.018)		(0.189)		
west Mosul	270	0.344	8	0.500	278	0.156
		(0.029)		(0.189)		

Imprisoned during Liberation

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	239	0.151	39	0.154	278	0.003
		(0.023)		(0.059)		
age	239	33.941	39	34.077	278	0.136
		(0.938)		(1.513)		
professional	239	0.502	39	0.692	278	0.190**
		(0.032)		(0.075)		
laborer	239	0.075	39	0.205	278	0.130***
		(0.017)		(0.066)		
unemployed	239	0.113	39	0.051	278	-0.062
		(0.021)		(0.036)		
west Mosul	239	0.385	39	0.128	278	-0.257***
		(0.032)		(0.054)		

Sexually Assaulted

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	262	0.153	16	0.125	278	-0.028
		(0.022)		(0.085)		
age	262	34.221	16	29.688	278	-4.534
		(0.869)		(2.423)		
professional	262	0.538	16	0.375	278	-0.163
		(0.031)		(0.125)		
laborer	262	0.092	16	0.125	278	0.033
		(0.018)		(0.085)		
unemployed	262	0.103	16	0.125	278	0.022
		(0.019)		(0.085)		
west Mosul	262	0.340	16	0.500	278	0.160
		(0.029)		(0.129)		

Family members punished by ISIS

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	266	0.158	12	0.000	278	-0.158
		(0.022)		(0.000)		
age	266	34.019	12	32.667	278	-1.352
		(0.867)		(1.872)		
professional	266	0.538	12	0.333	278	-0.204
		(0.031)		(0.142)		
laborer	266	0.068	12	0.667	278	0.599***
		(0.015)		(0.142)		
unemployed	266	0.109	12	0.000	278	-0.109
		(0.019)		(0.000)		
west Mosul	266	0.365	12	0.000	278	-0.365***
		(0.030)		(0.000)		

Family members injured by ISIS

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	259	0.162	19	0.000	278	-0.162*
		(0.023)		(0.000)		
age	259	34.409	19	27.842	278	-6.567**
		(0.874)		(2.154)		
professional	259	0.525	19	0.579	278	0.054
		(0.031)		(0.116)		
laborer	259	0.093	19	0.105	278	0.013
		(0.018)		(0.072)		
unemployed	259	0.104	19	0.105	278	0.001
		(0.019)		(0.072)		
west Mosul	259	0.367	19	0.105	278	-0.262**
		(0.030)		(0.072)		

Family members injured during Liberation

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	260	0.162	18	0.000	278	-0.162*
		(0.023)		(0.000)		
age	260	34.412	18	27.444	278	-6.967**
		(0.873)		(2.012)		
professional	260	0.535	18	0.444	278	-0.090
		(0.031)		(0.121)		
laborer	260	0.085	18	0.222	278	0.138*
		(0.017)		(0.101)		
unemployed	260	0.104	18	0.111	278	0.007
		(0.019)		(0.076)		
west Mosul	260	0.373	18	0.000	278	-0.373***
		(0.030)		(0.000)		

Female family members abused/assaulted by ISIS

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	170	0.129	108	0.185	278	0.056
		(0.026)		(0.038)		
age	170	31.029	108	38.574	278	7.545***
		(0.808)		(1.635)		
professional	170	0.541	108	0.509	278	-0.032
		(0.038)		(0.048)		
laborer	170	0.129	108	0.037	278	-0.092***
		(0.026)		(0.018)		
unemployed	170	0.118	108	0.083	278	-0.034
		(0.025)		(0.027)		
west Mosul	170	0.247	108	0.509	278	0.262***
		(0.033)		(0.048)		

Forced to Flee Home by ISIS

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	251	0.151	27	0.148	278	-0.003
		(0.023)		(0.070)		
age	251	34.518	27	28.778	278	-5.740**
		(0.880)		(2.407)		
professional	251	0.554	27	0.296	278	-0.257**
		(0.031)		(0.090)		
laborer	251	0.096	27	0.074	278	-0.022
		(0.019)		(0.051)		
unemployed	251	0.100	27	0.148	278	0.049
		(0.019)		(0.070)		
west Mosul	251	0.375	27	0.111	278	-0.263***
		(0.031)		(0.062)		

Home Damaged by ISIS

	(1)		(2)		(2)-(1)
	No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	223	0.135	55	0.218	278	0.084
		(0.023)		(0.056)		
age	223	34.372	55	32.291	278	-2.081
		(0.977)		(1.415)		
professional	223	0.516	55	0.582	278	0.066
		(0.034)		(0.067)		
laborer	223	0.117	55	0.000	278	-0.117***
		(0.022)		(0.000)		
unemployed	223	0.081	55	0.200	278	0.119***
		(0.018)		(0.054)		
west Mosul	223	0.341	55	0.382	278	0.041
		(0.032)		(0.066)		

Forced to Flee Home during Liberation

	(1)		(2)		(2)-(1)
	No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	256	0.148	22	0.182	278	0.033
		(0.022)		(0.084)		
age	256	34.641	22	26.045	278	-8.595***
		(0.886)		(1.165)		
professional	256	0.539	22	0.409	278	-0.130
		(0.031)		(0.107)		
laborer	256	0.094	22	0.091	278	-0.003
		(0.018)		(0.063)		
unemployed	256	0.102	22	0.136	278	0.035
		(0.019)		(0.075)		
west Mosul	256	0.363	22	0.182	278	-0.181*
		(0.030)		(0.084)		

Home Damaged during Liberation

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	264	0.136	14	0.429	278	0.292***
		(0.021)		(0.137)		
age	264	34.398	14	25.714	278	-8.683**
		(0.867)		(1.174)		
professional	264	0.545	14	0.214	278	-0.331**
		(0.031)		(0.114)		
laborer	264	0.087	14	0.214	278	0.127
		(0.017)		(0.114)		
unemployed	264	0.087	14	0.429	278	0.341***
		(0.017)		(0.137)		
west Mosul	264	0.345	14	0.429	278	0.084
		(0.029)		(0.137)		

Home/Property Looted during Liberation

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	222	0.162	56	0.107	278	-0.055
		(0.025)		(0.042)		
age	222	33.626	56	35.286	278	1.660
		(0.939)		(1.803)		
professional	222	0.509	56	0.607	278	0.098
		(0.034)		(0.066)		
laborer	222	0.108	56	0.036	278	-0.072*
		(0.021)		(0.025)		
unemployed	222	0.099	56	0.125	278	0.026
		(0.020)		(0.045)		
west Mosul	222	0.347	56	0.357	278	0.010
		(0.032)		(0.065)		

Iran Iraq War

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	236	0.153	42	0.143	278	-0.010
		(0.023)		(0.055)		
age	236	32.136	42	44.214	278	12.079***
		(0.725)		(3.328)		
professional	236	0.551	42	0.405	278	-0.146*
		(0.032)		(0.077)		
laborer	236	0.093	42	0.095	278	0.002
		(0.019)		(0.046)		
unemployed	236	0.102	42	0.119	278	0.017
		(0.020)		(0.051)		
west Mosul	236	0.360	42	0.286	278	-0.074
		(0.031)		(0.071)		

Gulf War

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	273	0.154	5	0.000	278	-0.154
		(0.022)		(0.000)		
age	273	34.040	5	29.600	278	-4.440
		(0.841)		(6.088)		
professional	273	0.531	5	0.400	278	-0.131
		(0.030)		(0.245)		
laborer	273	0.095	5	0.000	278	-0.095
		(0.018)		(0.000)		
unemployed	273	0.106	5	0.000	278	-0.106
		(0.019)		(0.000)		
west Mosul	273	0.352	5	0.200	278	-0.152
		(0.029)		(0.200)		

Persecution under Saddam regime pre-90

	(1)		(2)		(2)-(1)
	No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	268	0.149	10	0.200	278	0.051
		(0.022)		(0.133)		
age	268	33.660	10	42.000	278	8.340*
		(0.851)		(3.113)		
professional	268	0.511	10	1.000	278	0.489***
		(0.031)		(0.000)		
laborer	268	0.097	10	0.000	278	-0.097
		(0.018)		(0.000)		
unemployed	268	0.108	10	0.000	278	-0.108
		(0.019)		(0.000)		
west Mosul	268	0.351	10	0.300	278	-0.051
		(0.029)		(0.153)		

Iraq War (2003)

	(1)		(2)		(2)-(1)
	No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	269	0.141	9	0.444	278	0.303**
		(0.021)		(0.176)		
age	269	33.900	9	35.778	278	1.878
		(0.857)		(2.314)		
professional	269	0.520	9	0.778	278	0.257
		(0.031)		(0.147)		
laborer	269	0.097	9	0.000	278	-0.097
		(0.018)		(0.000)		
unemployed	269	0.100	9	0.222	278	0.122
		(0.018)		(0.147)		
west Mosul	269	0.346	9	0.444	278	0.099
		(0.029)		(0.176)		

Insurgency since 2003

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	221	0.172	57	0.070	278	-0.102*
		(0.025)		(0.034)		
age	221	34.593	57	31.509	278	-3.084
		(0.985)		(1.350)		
professional	221	0.525	57	0.544	278	0.019
		(0.034)		(0.067)		
laborer	221	0.068	57	0.193	278	0.125***
		(0.017)		(0.053)		
unemployed	221	0.100	57	0.123	278	0.023
		(0.020)		(0.044)		
west Mosul	221	0.357	57	0.316	278	-0.042
		(0.032)		(0.062)		

Crime since 2003

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	191	0.152	87	0.149	278	-0.002
		(0.026)		(0.038)		
age	191	34.665	87	32.414	278	-2.251
		(1.044)		(1.345)		
professional	191	0.534	87	0.517	278	-0.017
		(0.036)		(0.054)		
laborer	191	0.120	87	0.034	278	-0.086**
		(0.024)		(0.020)		
unemployed	191	0.094	87	0.126	278	0.032
		(0.021)		(0.036)		
west Mosul	191	0.309	87	0.437	278	0.128**
		(0.034)		(0.053)		

Had Covid

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	143	0.119	135	0.185	278	0.066
		(0.027)		(0.034)		
age	143	33.098	135	34.874	278	1.776
		(1.252)		(1.087)		
professional	143	0.448	135	0.615	278	0.167***
		(0.042)		(0.042)		
laborer	143	0.084	135	0.104	278	0.020
		(0.023)		(0.026)		
unemployed	143	0.091	135	0.119	278	0.028
		(0.024)		(0.028)		
west Mosul	143	0.371	135	0.326	278	-0.045
		(0.041)		(0.040)		

Family/Close Friends Died from Covid

		(1)		(2)		(2)-(1)
		No		Yes		Pairwise t-test
Variable	N	Mean/(SE)	N	Mean/(SE)	N	Mean difference
female	191	0.115	87	0.230	278	0.115**
		(0.023)		(0.045)		
age	191	33.241	87	35.540	278	2.299
		(1.028)		(1.405)		
professional	191	0.487	87	0.621	278	0.134**
		(0.036)		(0.052)		
laborer	191	0.073	87	0.138	278	0.065*
		(0.019)		(0.037)		
unemployed	191	0.115	87	0.080	278	-0.035
		(0.023)		(0.029)		
west Mosul	191	0.382	87	0.276	278	-0.106*
		(0.035)		(0.048)		

Correlational Analysis of Outgroup Altruism

(Pearson's Rho, Bold indicates p<0.05)

	Outgroup Altruism	Heard Kill Outgroup	Saw Kill Outgroup	Saw Kill Ingroup	Punished By ISIS	Injured by ISIS	Imprisoned By ISIS	Sexually Assaulted By ISIS	Family Punished by ISIS	Family Injured By ISIS
Outgroup Altruism	1.00									
Heard Kill Outgroup	**0.27**	1.00								
Saw kill Outgroup	**0.15**	**0.32**	1.00							
Saw Kill Ingroup	**-0.12**	-0.08	0.05	1.00						
Punished By ISIS	**-0.16**	-0.07	-0.07	**-0.24**	1.00					
Injured by ISIS	0.01	0.11	**0.27**	-0.09	**0.14**	1.00				
Imprisoned By ISIS	**-0.13**	-0.04	-0.06	**-0.21**	**0.53**	-0.07	1.00			
Sexually Assaulted By ISIS	-0.07	0.04	**0.18**	**0.33**	-0.04	**0.14**	-0.01	1.00		
Family Family punished by ISIS	**0.13**	0.07	-0.03	-0.11	-0.10	-0.04	**0.32**	-0.05	1.00	
Family Injured By ISIS	**0.12**	0.03	-0.04	**-0.14**	**-0.13**	-0.05	-0.11	-0.07	-0.06	1.00
Family injured during liberation	**0.20**	0.03	-0.04	**-0.14**	**-0.12**	-0.05	-0.11	-0.07	0.09	**0.74**
Women abused by ISIS	**-0.12**	**-0.18**	0.08	**0.21**	**-0.38**	-0.05	**-0.32**	-0.01	-0.17	**-0.22**

	Outgroup Altruism	Heard Kill Outgroup	Saw Kill Outgroup	Saw Kill Ingroup	Punished By ISIS	Injured by ISIS	Imprisoned By ISIS	Sexually Assaulted By ISIS	Family Punished by ISIS	Family Injured By ISIS
Force to flee home by ISIS	**0.19**	**0.35**	**0.12**	-0.05	**-0.16**	-0.06	**-0.13**	-0.08	-0.07	-0.09
Home damaged by ISIS	0.08	-0.01	0.05	**0.28**	**-0.24**	-0.09	-0.20	0.11	-0.11	-0.13
Fled home during liberation	**0.31**	**0.31**	-0.04	-0.08	0.07	-0.05	-0.12	-0.07	0.07	0.03
Home damaged during liberation	0.10	0.05	**0.19**	0.04	0.02	-0.04	-0.09	-0.06	-0.05	0.13
Home looted during liberation	0.04	-0.08	-0.07	**0.23**	**-0.24**	-0.09	**-0.20**	0.03	-0.11	**-0.14**
Iran Iraq War	**-0.14**	-0.05	-0.06	**-0.17**	-0.04	0.05	0.00	-0.02	0.11	-0.03
Gulf War	**0.12**	-0.04	-0.02	-0.07	0.08	-0.02	0.10	-0.03	-0.03	-0.04
Saddam persecution	**0.26**	0.09	-0.03	0.00	-0.09	-0.03	-0.08	-0.05	-0.04	-0.05
Iraq War 2003	0.09	0.25	**0.25**	0.01	0.18	-0.03	0.10	-0.05	-0.04	0.11
Insurgency 2003	**0.16**	-0.02	0.05	**-0.13**	**0.24**	-0.09	0.15	-0.13	-0.02	0.07
Crime since 2003	**-0.21**	-0.03	-0.10	**0.19**	**-0.16**	0.07	**-0.23**	0.10	**-0.14**	-0.06
Had Covid	-0.03	-0.07	**0.15**	**-0.39**	**0.30**	0.09	**0.13**	**-0.12**	-0.06	-0.06
Family/friends died from Covid	-0.08	0.03	0.01	**-0.27**	**0.36**	-0.02	**0.22**	-0.10	-0.07	-0.06
female	**0.17**	**0.25**	0.21	-0.09	0.01	0.11	0.00	-0.02	-0.09	-0.11
age	-0.09	0.03	0.02	-0.09	-0.08	-0.04	0.00	-0.08	-0.02	-0.12
professional	-0.07	-0.04	-0.06	**-0.15**	0.11	-0.10	0.13	-0.08	-0.08	0.03
laborer	-0.01	-0.09	-0.05	-0.04	0.04	-0.06	0.15	0.03	**0.42**	0.01
unemployed	0.06	-0.01	0.11	0.06	0.05	**0.22**	-0.07	0.02	-0.07	0.00
West Mosul	-0.11	**-0.13**	0.05	0.16	-0.02	0.05	-0.19	0.08	**-0.16**	**-0.14**

	Forced to flee Home by ISIS	Home damaged by ISIS	Fled home during liberation	Home damaged during liberation	Home looted during liberation	Iran Iraq War	Gulf War	Saddam Persecution	Iraq War 2003	Insurgency 2003
Forced to flee Home by ISIS	1.00									
Home damaged by ISIS	-0.10	1.00								
Fled home during liberation	**0.26**	-0.01	1.00							
Home damaged during liberation	**0.15**	**0.13**	0.05	1.00						
Home looted during liberation	0.08	**0.70**	-0.08	-0.03	1.00					
Iran Iraq War	0.00	-0.08	**-0.12**	-0.10	0.04	1.00				
Gulf War	**0.23**	-0.07	-0.04	-0.03	-0.07	-0.06	1.00			
Saddam persecution	-0.06	**0.20**	-0.06	-0.04	**0.19**	-0.08	-0.03	1.00		
Iraq War 2003	0.08	0.01	-0.05	**0.14**	-0.09	-0.08	-0.02	-0.04	1.00	
Insurgency 2003	-0.05	-0.14	0.02	0.09	-0.08	**-0.21**	-0.07	-0.10	0.01	1.00
Crime since 2003	-0.01	-0.06	0.00	**-0.16**	-0.07	**-0.28**	-0.09	**-0.13**	**-0.12**	**-0.34**
Had Covid	**0.14**	**-0.12**	0.04	**0.17**	-0.04	**0.13**	**0.14**	-0.11	0.03	-0.01
Family/friends died from Covid	0.09	-0.04	0.06	0.09	0.05	**0.13**	0.03	**-0.13**	0.10	0.08
female	0.00	0.09	0.03	**0.18**	-0.06	-0.01	-0.06	0.03	**0.15**	-0.11
age	**-0.12**	-0.06	**-0.17**	**-0.14**	0.05	**0.31**	-0.04	0.11	0.02	-0.09

	Forced to flee Home by ISIS	Home damaged by ISIS	Fled home during liberation	Home damaged during liberation	Home looted during liberation	Iran Iraq War	Gulf War	Saddam Persecution	Iraq War 2003	Insurgency 2003
professional	**-0.15**	0.05	-0.07	**-0.15**	0.08	-0.10	-0.03	**0.18**	0.09	0.02
laborer	-0.02	**-0.16**	0.00	0.10	-0.10	0.00	-0.04	-0.06	-0.06	**0.17**
unemployed	0.05	**0.16**	0.03	**0.24**	0.03	0.02	-0.05	-0.07	0.07	0.03
West Mosul	**-0.16**	0.03	-0.10	0.04	0.01	-0.06	-0.04	-0.02	0.04	-0.04

	Crime since 2003	Had Covid	Family/ friends died from Covid	female	age	Professional	laborer	Unemployed	West Mosul
Iraq War 2003									
Insurgency 2003									
Crime since 2003	1.00								
Had Covid	-0.10	1.00							
Family/friends died from Covid	-0.09	**0.54**	1.00						
female	0.00	0.09	**0.15**	1.00					
age	-0.08	0.06	0.08	0.01	1.00				
professional	-0.02	**0.17**	**0.12**	0.04	**0.35**	1.00			
laborer	**-0.14**	0.03	0.10	**-0.14**	**-0.12**	**-0.34**	1.00		
unemployed	0.05	0.05	-0.05	0.09	**-0.24**	**-0.36**	-0.11	1.00	
West Mosul	0.12	-0.05	-0.10	-0.03	0.05	-0.03	-0.08	0.00	1.00

Victimization and Altruism (One-at-a-Time Models)

Awareness of Out-group Violence (Logit Regression)

VARIABLES	(1) Out-group altruism	(2) Out-group altruism	(3) Out-group altruism
Head about out-group killing	1.727***		
	(0.120)		
Witnessed out-group killing		1.686***	
		(0.257)	
Witnessed in-group killing			-0.796***
			(0.203)
female	0.671**	0.830**	0.904**
	(0.340)	(0.377)	(0.427)
age	-0.0173**	-0.0149**	-0.0141**
	(0.00695)	(0.00580)	(0.00684)
professional	-0.0725	-0.220	-0.382*
	(0.105)	(0.235)	(0.209)
laborer	0.141	-0.105	-0.254
	(0.380)	(0.254)	(0.189)
unemployed	0.205	-0.0509	-0.00165
	(0.175)	(0.0969)	(0.172)
west Mosul	-0.397**	-0.597**	-0.470**
	(0.181)	(0.269)	(0.201)
Constant	-0.766*	-0.552	-0.358
	(0.411)	(0.467)	(0.353)
Observations	278	278	278
adj. r2	0.0830	0.0538	0.0553

Robust standard errors clustered by location in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Personal Victimization by ISIS (Logit Regression)

VARIABLES	(1) Out-group altruism	(2) Out-group altruism	(3) Out-group altruism	(4) Out-group altruism
Punished by ISIS	-1.364***			
	(0.187)			
Injured during Liberation		-0.261		
		(1.034)		
Imprisoned during Liberation			-1.351***	
			(0.151)	
Sexually assaulted				-0.859***
				(0.233)
female	1.021**	0.974**	1.026**	0.967**
	(0.466)	(0.432)	(0.427)	(0.451)
age	-0.0180**	-0.0132**	-0.0149*	-0.0139**
	(0.00722)	(0.00671)	(0.00774)	(0.00639)
professional	-0.0530	-0.271	-0.105	-0.296
	(0.215)	(0.224)	(0.200)	(0.214)
laborer	0.0163	-0.133	0.171	-0.134
	(0.179)	(0.258)	(0.326)	(0.241)
unemployed	0.217**	0.0495	0.0800	0.000876
	(0.107)	(0.0797)	(0.145)	(0.138)
West Mosul	-0.569**	-0.546***	-0.684**	-0.528***
	(0.262)	(0.210)	(0.285)	(0.184)
Constant	-0.393	-0.582	-0.475	-0.512
	(0.538)	(0.481)	(0.517)	(0.436)
Observations	278	278	278	278
adj. r2	0.0721	0.0431	0.0657	0.0474

Robust standard errors clustered by location in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Kinship Victimization (Logit Regression)

VARIABLES	(1) Out-group altruism	(2) Out-group altruism	(3) Out-group altruism	(4) Out-group altruism
Family punished by ISIS	1.705***			
	(0.359)			
Family injured by ISIS		0.989***		
		(0.301)		
Family injured during Liberation			1.576***	
			(0.239)	
Female family abused by ISIS				-0.546***
				(0.208)
female	1.013**	1.068***	1.113***	1.021**
	(0.423)	(0.410)	(0.391)	(0.431)
age	-0.0140**	-0.0102	-0.00920	-0.00750
	(0.00686)	(0.00712)	(0.00751)	(0.00738)
professional	-0.314	-0.317	-0.303	-0.379
	(0.241)	(0.217)	(0.233)	(0.236)
laborer	-0.803***	-0.126	-0.287	-0.280
	(0.226)	(0.255)	(0.250)	(0.231)
unemployed	0.0232	0.0169	0.0158	-0.0460
	(0.145)	(0.131)	(0.128)	(0.153)
west Mosul	-0.461**	-0.476***	-0.375**	-0.424***
	(0.198)	(0.161)	(0.153)	(0.144)
Constant	-0.606	-0.785*	-0.902**	-0.553
	(0.487)	(0.453)	(0.428)	(0.440)
Observations	278	278	278	278
adj. r2	0.0611	0.0544	0.0719	0.0514

Robust standard errors clustered by location in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Proprietary Victimization (Logit Regression)

VARIABLES	(1) Out-group altruism	(2) Out-group altruism	(3) Out-group altruism	(4) Out-group altruism	(5) Out-group altruism
Forced to flee home by ISIS	1.101**				
	(0.484)				
Home/property damaged by ISIS		0.410***			
		(0.116)			
Forced to flee home during Liberation			2.069***		
			(0.456)		
Home/property damaged Liberation				0.619	
				(0.752)	
Home looted during Liberation					0.333**
					(0.137)
female	1.000**	0.936*	1.002**	0.893**	0.997**
	(0.412)	(0.479)	(0.402)	(0.378)	(0.444)
age	-0.0114**	-0.0126*	-0.00464	-0.0125*	-0.0138*
	(0.00511)	(0.00692)	(0.00802)	(0.00720)	(0.00787)
professional	-0.113	-0.295	-0.237	-0.263	-0.281
	(0.198)	(0.249)	(0.178)	(0.221)	(0.243)
laborer	0.0298	-0.0621	-0.0395	-0.197	-0.0907
	(0.219)	(0.251)	(0.308)	(0.245)	(0.238)
unemployed	0.0893	-0.0638	0.0909	-0.0980	0.000828
	(0.0596)	(0.161)	(0.320)	(0.120)	(0.160)
west Mosul	-0.410**	-0.564**	-0.433***	-0.574***	-0.554**
	(0.198)	(0.242)	(0.155)	(0.214)	(0.227)
Constant	-0.928**	-0.665	-1.157***	-0.608	-0.634
	(0.412)	(0.507)	(0.444)	(0.496)	(0.500)
Observations	278	278	278	278	278
adj. r2	0.0627	0.0471	0.103	0.0459	0.0456

Robust standard errors clustered by location in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Pre-ISIS Victimization (Logit Regression)

VARIABLES	(1) Out-group altruism	(2) Out-group altruism	(3) Out-group altruism	(4) Out-group altruism	(5) Out-group altruism	(5) Out-group altruism
Iran-Iraq War	-1.345***					
	(0.481)					
Gulf War		1.684				
		(1.266)				
Saddam regime			3.170***			
			(0.564)			
2003 Iraq War				0.908		
				(0.685)		
Post-2003 insurgency					1.030***	
					(0.235)	
Post-2003 crime						-1.359***
						(0.154)
female	0.966**	1.014**	1.020*	0.904**	1.121**	0.972**
	(0.433)	(0.464)	(0.530)	(0.414)	(0.487)	(0.484)
age	-0.00215	-0.0126**	-0.0177***	-0.0132*	-0.0102	-0.0158**
	(0.00435)	(0.00572)	(0.00633)	(0.00688)	(0.00658)	(0.00727)
professional	-0.451**	-0.218	-0.521**	-0.318	-0.431**	-0.330*
	(0.220)	(0.276)	(0.261)	(0.264)	(0.187)	(0.197)
laborer	-0.169	-0.0293	-0.117	-0.143	-0.489**	-0.422***
	(0.274)	(0.172)	(0.246)	(0.233)	(0.249)	(0.125)
unemployed	0.0801	0.107	0.00200	-0.0465	-0.146***	-0.00952
	(0.104)	(0.173)	(0.142)	(0.119)	(0.0535)	(0.171)
west Mosul	-0.642***	-0.528**	-0.577**	-0.579**	-0.566***	-0.427**
	(0.233)	(0.220)	(0.255)	(0.243)	(0.212)	(0.190)
Constant	-0.683	-0.705	-0.465	-0.565	-0.822*	-0.145
	(0.484)	(0.525)	(0.472)	(0.467)	(0.467)	(0.450)
Observations	278	278	278	278	278	278
adj. r2	0.0649	0.0533	0.103	0.0476	0.0706	0.0892

Robust standard errors clustered by location in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Covid-related Victimization (Logit Regression)

VARIABLES	(1) Out-group altruism	(2) Out-group altruism
Contracted Covid-19	-0.216	
	(0.410)	
Friends or family died from Covid-19		-0.667
		(0.407)
female	0.990**	1.126***
	(0.414)	(0.377)
age	-0.0129**	-0.0135**
	(0.00614)	(0.00618)
professional	-0.215	-0.156
	(0.181)	(0.184)
laborer	-0.0739	0.0538
	(0.217)	(0.187)
unemployed	0.0826	0.0552
	(0.0504)	(0.169)
west Mosul	-0.559**	-0.612**
	(0.236)	(0.279)
Constant	-0.534	-0.474
	(0.592)	(0.605)
Observations	278	278
adj. r2	0.0445	0.0554

Robust standard errors clustered by location in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Demographic Correlates

We found that education, age, and employment were highly intercorrelated in ways that created multicollinearity problems when included in the same model. In particular, older respondents are also more educated and more likely to be employed in a non-manual labor profession than employed in manual labor or unemployed. More educated respondents are more likely to be employed in a non-manual labor profession than manual labor or unemployed. This created multicollinearity problems when including both age, education, and employment variables in the same model. Because age was correlated with both empathy and pre-ISIS victimization experience, we did not wish to exclude age as a control variable. We could have included either education or employment variables and the results are robust to substituting education for employment in our regression models on either empathy or altruism.

(Pearson's Rho, Bold means $p<0.05$)

	Altruism	Empathy	Female	Age	Education	Professional	Laborer
Altruism	1.00						
Empathy	**0.29**	1.00					
female	**0.17**	0.11	1.00				
age	-0.09	**-0.18**	0.01	1.00			
education	-0.08	-0.01	0.08	**0.25**	1.00		
professional	-0.07	0.03	0.04	**0.35**	**0.44**	1.00	
laborer	-0.01	0.06	**-0.14**	**-0.12**	**-0.27**	**-0.34**	1.00
unemployed	0.06	-0.02	0.09	**-0.24**	**-0.15**	**-0.36**	-0.11

Manuscript Table 2 Robustness Checks

First, we provide our Manuscript Table 2 for reference with composite indices for awareness of others suffering and victimization items.

Table 2. Victimization and Out-group Altruism (Logit Regression)

VARIABLES	(1) Out-group Altruism	(2) Out-group Altruism	(3) Out-group Altruism	(4) Out-group Altruism
Awareness of Other's Suffering	1.69***			1.35***
	(0.05)			(0.25)
Present Victimization Index		3.43***		3.15***
		(0.35)		(0.47)
Past Victimization Index			1.06***	1.41***
			(0.13)	(0.14)
Contracted Covid-19				0.25
				(0.31)
Friends or family died from Covid-19				-1.01***
				(0.16)
Women				1.07***
				(0.41)
Age				-0.01
				(0.01)
Professional				-0.21
				(0.15)
Laborer				-0.14
				(0.39)
Unemployed				-0.23
				(0.14)
West Mosul region				-0.45*
				(0.24)
Constant	-1.36***	-2.42***	-1.53***	-2.41***
	(0.15)	(0.11)	(0.22)	(0.71)
Observations	278	278	278	278
adj. r2	0.0480	0.0491	0.0297	0.159

Robust standard errors clustered by location in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Next, we show the results when disaggregating the composite indices into related components. Some victimization items were omitted for family members who were killed, injured, or imprisoned by ISIS due to few positive responses (N<5) on those items. Dummy variables for female family members being abused or assaulted before and during liberation by ISIS were highly intercorrelated so we only include one of the two indicators in our analysis (pre-liberation).

Table 2. Victimization and Out-group Altruism (Logit Regression)

VARIABLES	(1) Out-group altruism	(2) Out-group altruism	(3) Out-group altruism	(4) Out-group altruism
Heard about out-group killing	1.783***			0.531**
	(0.0675)			(0.215)
Witnessed out-group killing	0.976***			1.172
	(0.130)			(0.985)
Punished by ISIS		-0.246		0.555
		(1.035)		(2.471)
Injured during Liberation		1.463		1.146
		(1.633)		(2.295)
Imprisoned during Liberation		-0.170		-0.394
		(0.666)		(1.086)
Sexually assaulted		-0.479***		-0.280
		(0.100)		(0.589)
Family punished by ISIS		2.066***		4.367***
		(0.708)		(1.278)
Family injured by ISIS		0.106		-0.572
		(0.820)		(0.666)
Family injured during Liberation		2.397***		5.099***
		(0.245)		(1.760)
Female family abused by ISIS		0.966		2.155
		(0.821)		(2.350)
Forced to flee home by ISIS		1.584***		2.825
		(0.569)		(2.257)
Home/property damaged by ISIS		1.380		1.928
		(0.847)		(1.830)
Forced to flee home during Liberation		2.271***		2.867***
		(0.583)		(0.777)
Home/property damaged during Liberation		0.811		0.642
		(0.648)		(1.041)
Home looted during Liberation		0.171		1.037
		(0.393)		(0.743)
Iran-Iraq War victimization			-1.196***	-1.908***
			(0.425)	(0.300)
Gulf War victimization			1.461	3.419***
			(1.352)	(0.803)

Saddam regime persecution			2.441***	3.092***
			(0.646)	(0.300)
2003 Iraq War victimization			0.722*	0.638*
			(0.425)	(0.385)
Post-2003 insurgency victimization			0.489***	1.835***
			(0.178)	(0.233)
Post-2003 crime-related victimization			-1.104***	-1.088**
			(0.312)	(0.522)
Contracted Covid-19				0.322
				(0.624)
Friends or family died from Covid-19				-1.246*
				(0.643)
Women				2.297***
				(0.446)
Age				0.00846
				(0.0117)
Professional				-0.407
				(0.508)
Laborer				-1.288***
				(0.153)
Unemployed				-0.329
				(0.916)
West Mosul region				-0.219
				(0.354)
Constant	-1.377***	-2.634***	-1.055***	-4.411**
	(0.165)	(0.857)	(0.260)	(2.183)
Observations	278	278	278	278
adj. r2	0.0607	0.175	0.129	0.414

Robust standard errors clustered by location in parentheses
*** p<0.01, ** p<0.05, * p<0.1

One concern may be that multicollinearity among predictor variables creates estimation problems in our model. However, post-estimation variation inflation factor, link, and goodness-of-fit tests reduce concerns about multicollinearity among predictor variables.

Post-Estimation Tests

VARIABLES	(1) Out-group altruism	(2) Out-group altruism	(3) Out-group altruism	(4) Out-group altruism
Mean Variance Inflation Factor	1.14	1.86	1.00	2.81
Hosmer-Lemeshow Chi2	0.13	4.21	0.13	12.57
Prop > Ch2	1.00	0.65	0.99	0.13
Linktest _hat	17.1	1.04***	1.02***	1.22***
Linktest _hatsq	16.7	0.03	0.11	0.09

Sensitivity Analysis – Victimization and Altruism

Below we report the results of sensitivity analysis on awareness of outgroup suffering, recent victimization, and past victimization from manuscript Table 2 using methods developed by Altonji et al. (2005) as well as recent advances by Diegert et al. (2022a-b). We start with the approach by Altonji et al. (2005) which is most familiar. It uses the coefficients from regression models estimating the average treatment effect with and without covariate conditioning to assess how much greater the influence of unobservable factors would need to be, relative to observable factors, to explain away treatment effects. The ratio is calculated as $\beta_f/[\beta_r-\beta_f]$ where β_f is the full model with conditioning on covariates and β_r is the restricted model without conditioning. The smaller the difference in the coefficients, the less the difference is affected by selection on observables, which means the larger the selection on unobservables needs to be relative to observables, to explain away the treatment effect. Using the coefficients from Manuscript Table 2 without conditioning (Model 1) and with conditioning on all the independent variables (Model 4), we estimate the ratio to be 2 for the effect of awareness of other's suffering which means that the effect of unobservables would need to be nearly 4 times greater than observables to explain away the association between awareness and altruism. The effect of unobservables would need to be nearly 11 times greater to explain away the effect of present victimization on altruism, and 4 times greater to explain the effect of past victimization on altruism.

MS Table 2	β_r	β_f	$\beta_f/[\beta_r-\beta_f]$
Awareness of Other's Suffering	1.69	1.35	4.0
Present Victimization Index	3.43	3.15	11.3
Past Victimization Index	1.06	1.41	4.0

Next, we utilize Diegert, Master, and Poirier's (2022) and Oster's (2019) approaches with the same covariates and the **regsensitivity** package in STATA. We start with DMP, which estimates the

sensitivity parameter using the ratio of selection on unobservables to observables (rxbar), where rx=1 is a natural reference point for "equal selection" while rx<1 means observables are more important than unobservables (1/2 = 0.5 would mean observables are twice as important as unobserved variables). However DPM (2022 p. 30) notes that "the interpretation of this reference point depends on the choice of covariates that we calibrate against. Put differently, when we say that we compare "selection on unobservables to selection on observables," which observables do we mean?" Importantly, DMP (2022, p. 31) indicate that "the value of using relative sensitivity parameters like ¯rX is not that they allow us to obtain a universal threshold for what is or is not a robust result."

Using STATA's **regsensitivity** with control covariates for gender, age, education, income, employment and west vs. east Mosul sampling locations, the DMP sensitivity parameter rxbar is estimated as follows in the table and figure below. The breakdown point is 54.9% meaning that the relationship between awareness of out-group suffering and altruism is greater than zero ($\beta > 0$) as long as selection on unobservables is no more than 54.9% as large as selection on observables. For our study, this is generally a positive sign for the robustness of our results. We find a similar breakdown point of 71.5% for ISIS-related victimization and 52.5% for past victimization. Results are robust to the use of the Oster (2019) method.

References

Altonji, Joseph G., Todd E. Elder, and Christopher R. Taber. "Selection on observed and unobserved variables: Assessing the effectiveness of Catholic schools." *Journal of Political Economy* 113, no. 1 (2005): 151-184.

Diegert, Paul, Matthew A. Masten, and Alexandre Poirier. "Assessing omitted variable bias when the controls are endogenous." *arXiv preprint arXiv:2206.02303* (2022).

Diegert, Paul, Matthew Masten, and Alexandre Poirier. "REGSENSITIVITY: Stata module for regression sensitivity analysis." (2022).

Oster, Emily. "Unobservable selection and coefficient stability: Theory and evidence." *Journal of Business & Economic Statistics* 37, no. 2 (2019): 187-204.

Power Calculations – Awareness and Victimization Effects

Given our sample size of 278, we consider whether our study has sufficient sample size or is underpowered to detect awareness and victimization effects from manuscript Table 2. We compute the following sample sizes for alpha of 0.05 and power of 0.95. In our case, the dependent variable is altruism toward outgroups. We find that our sample size is sufficient to detect the effects of awareness of outgroup suffering and victimization experiences based on power analysis of beta coefficients in logistic regression slope tests in bivariate models and power analysis of R-squared in reduced and full models.

In the table below we estimate using G*Power and powerlog in STATA the minimum sample size using the Odds Ratio for a bivariate logistic regression for awareness, past and present victimization separately. We do this assuming a power of 0.90-0.95 (if the effect exists, there is a 90-95% chance of detecting a true positive) and alpha of 0.05 (if the effect does not exist, there is a 5% chance of detecting a false positive).

Power Calculations for Awareness of Out-Group Suffering

In this case, our predictor variable is binary in which case 9% having heard or saw out-groups being killed by ISIS. Using logistic regression, we estimate an odds ratio of the effect of awareness on out-group altruism of 5.44 where the probability of out-group altruism is approximately 20% with no awareness of out-group suffering and 58% with awareness. Using G*Power, we would require a sample 223 respondents for the awareness of out-group suffering variable for alpha=0.05 and power=0.95.

z tests - Logistic regression
Options: Large sample z-Test, Demidenko (2007) with var corr
Analysis: A priori: Compute required sample size
Input: Tail(s) = One
Odds ratio = 5.44
Pr(Y=1|X=1) H0 = 0.2
α err prob = 0.05
Power (1-β err prob) = 0.95
R^2 other X = 0
X distribution = Binomial
X parm π = 0.09
Output: Critical z = 1.6448536
Total sample size = 223
Actual power = 0.9506250

Power Calculations for ISIS Victimization on Out-Group Altruism

In this case, our predictor variable for ISIS victimization is a continuous index which has been normalized to range from 0 to 1 with a mean of 0.35 and st. dev=0.16. Using logistic regression, we estimate the probability of displaying out-group altruism is approximately 23% at the mean level of victimization and 34% at +1 standard deviation above the mean. Using G*Power, we would require a sample 215 respondents for the ISIS victimization variable for alpha=0.05 and power=0.90.

z tests - Logistic regression

Options:	Large sample z-Test, Demidenko (2007) with var corr	
Analysis:	A priori: Compute required sample size	
Input:	Tail(s)	= One
	Odds ratio	= 1.7246377
	Pr(Y=1|X=1) H0	= 0.23
	α err prob	= 0.05
	Power (1-β err prob)	= 0.95
	R^2 other X	= 0
	X distribution	= Normal
	X parm μ	= 0
	X parm σ	= 1
Output:	Critical z	= 1.6448536
	Total sample size	= 215
	Actual power	= 0.9504226

Power Calculations for Pre-ISIS Victimization on Out-Group Altruism

In this case, our predictor variable for ISIS victimization is a continuous index which has been normalized to range from 0 to 1 with a mean of 0.30 and st. dev=0.39. Using logistic regression, we estimate the probability of displaying out-group altruism is approximately 22% at the mean level of victimization and 31% at +1 standard deviation above the mean. Using G*Power, the effect of our pre-ISIS victimization variable with a sample of 278 respondents has an actual power of 0.95 for alpha=0.05.

z tests - Logistic regression
Options: Large sample z-Test, Demidenko (2007) with var corr
Analysis: Sensitivity: Compute required effect size

Input:	Tail(s)	=	One
	Effect direction	=	p2 >= p1
	α err prob	=	0.05
	Pr(Y=1|X=1) H0	=	0.22
	Power (1-β err prob)	=	0.95
	Total sample size	=	278
	R^2 other X	=	0
	X distribution	=	Normal
	X parm μ	=	0
	X parm σ	=	1
Output:	Critical z	=	1.6448536
	Pr(Y=1|X=1) H1	=	0.3137527
	Actual power	=	0.9500000

Manuscript Table 3 Robustness Checks

Below, we provide manuscript Table 3 for reference.

Empathy, Victimization Priming, and Out-group Altruism (OLS Regression)

VARIABLES	(1) Out-Group Empathy	(2) Out-Group Empathy	(3) Out-Group Empathy
Victimization Priming	1.139***		0.856***
	(0.22)		(0.176)
Out-Group Altruism		1.090**	0.930***
		(0.19)	(0.139)
Awareness of Other's Suffering			-0.239
			(0.425)
Present Victimization Index			-0.126
			(0.618)
Past Victimization Index			0.618***
			(0.0688)
Contracted Covid-19			-0.199
			(0.233)
Friends or family died from Covid-19			0.699***
			(0.113)
Women			0.236
			(0.388)
Age			-0.0201**
			(0.00693)
Professional			0.0628
			(0.0644)
Laborer			-0.176**
			(0.0465)
Unemployed			-0.337
			(0.192)
West Mosul region			0.0168
			(0.0520)
Constant	2.419***	2.963***	2.814***
	(0.20)	(0.11)	(0.557)
Extended Controls	No	No	Yes
SEs	Robust	Robust	Clustered
Observations	278	278	278
adj. r2	0.108	0.0831	0.233

*** p<0.01, ** p<0.05, * p<0.1

Conceptualizing Empathy

The concept of empathy is complex and multifaceted in that it is often linked to a family of other concepts including sympathy and compassion. The review of the concept by Cuff et al. (2016), referenced in the manuscript, is especially informative. For example, Cuff et al. (2016) point to 15 definitions that merge concepts of empathy and sympathy, and/or distinctions between the concepts are unclear. For example, Bateson et al. (1998, p. 20) define empathy as "the other-focused, congruent emotion produced by witnessing another person's suffering involves such feelings as sympathy, compassion, softheartedness, and tenderness." Pavey et al. (2012, p. 681) define it as "the experience of sympathetic emotions and concern for another person in distress." Others have distinguished empathy from sympathy as the difference between "feeling as and feeling for the other" (Hein and Singer 2008, p. 151). For example, empathy consists of feeling as or like another person might feel while sympathy involves feeling sad for the suffering of another (akin to pity). Empathy has also been associated with compassion (Goetz et al., 2010) and tenderness or a "warm and fuzzy feeling" (Lishner et al. 2011). Yet others have distinguished between "negative empathy" (ex. anger, sadness, fear, revolt, disgust, pain over another's suffering) and "positive empathy" (ex. happiness or pride in another's success or achievement). Cuff et al. (2016) note that literature is far more focused on negative than positive dimensions of empathy. Finally, Ickes (2003) distinguishes among an even wider variety of "pathos" including "*compathy* (shared feelings due to shared circumstances), *empathy* (understanding another's emotions through perspective taking), *mimpathy* (imitating another's emotions, without experiencing them oneself), *sympathy* (intentionally reacting emotionally), *transpathy* (emotional contagion, where one is "infected" by another's emotions), and *unipathy* (an intense form of transpathy)."

Beyond conceptualization, Cuff et al. (2016) report contention about whether empathy is cognitive or affective, such that it requires not only awareness of another's suffering (cognitive) but also an emotional reaction (affective), or both. There is disagreement over whether empathy must be congruent (shared or experienced between observer and observed) or incongruent, whether empathy requires some form of stimulant in order to generate, whether self/other distinctions exist (such that the person feeling empathy is aware that the feeling is in response to another's suffering), whether empathy is a stable trait (like an ability or capability) or an ephemeral state (context-specific, subject to change), whether or not it requires a behavioral response (ex. prosociality, helpfulness), a reflexive automated response or something that one can control.

We are not able to resolve these contentions within the literature in a single study. Instead, we identify empathy as an area of interest for future research in relation to victimization during war. We find that people who experience victimization at the hands of ISIS and are made aware of the suffering of other people who are out-groups feel closer to them, and are more supportive of their entitlement to basic human rights and protection from harm and are more prosocial toward them in a dictator game. We think empathy (and its extended family of related concepts) could be an important mechanism, and we hope this discussion will inform others about potential fruitful directions for future research.

References

Batson C. D., Fultz J., Schoenrade P. A. (1987). Distress and empathy: Two qualitatively distinct vicarious emotions with different motivational consequences. *Journal of Personality*, 55, 19–39.

Cuff, Benjamin MP, Sarah J. Brown, Laura Taylor, and Douglas J. Howat. 2016. "Empathy: A review of the concept." *Emotion review* 8(2): 144-153.

Goetz J. L., Keltner D., Simon-Thomas E. (2010). Compassion: An evolutionary analysis and empirical review. *Psychological Bulletin*, 136(3), 351–374.

Hein G., Singer T. (2008). I feel how you feel but not always: The empathic brain and its modulation. *Current Opinion in Neurobiology*, 18, 153–158.

Ickes W. (2003). *Everyday mind reading*. New York, NY: Prometheus Books.

Lishner D. A., Batson C. D., Huss E. (2011). Tenderness and sympathy: Distinct empathic emotions elicited by different forms of need. *Personality and Social Psychology Bulletin*, 37, 614–625.

Pavey L., Greitemeyer T., Sparks P. (2012). “I help because I want to, not because you tell me to”: Empathy increases autonomously motivated helping. *Personality and Social Psychology Bulletin*, 38(5), 681–689.

Construction of Outgroup Empathy Index

Factor analysis indicates that feelings of closeness to various outgroups align primarily a single dimension (Factor 1 Eigenvalue=1.76). We created an index based on interitem correlations as our measure of out-group empathy. Results are robust to factor analysis index construction.

Factor analysis/correlation — Number of obs = 273
Method: principal factors — Retained factors = 2
Rotation: (unrotated) — Number of params = 11

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	1.76283	1.04442	0.9058	0.9058
Factor2	0.71840	0.71884	0.3691	1.2750
Factor3	-0.00044	0.08469	-0.0002	1.2747
Factor4	-0.08513	0.11240	-0.0437	1.2310
Factor5	-0.19753	0.05446	-0.1015	1.1295
Factor6	-0.25199	.	-0.1295	1.0000

LR test: independent vs. saturated: chi2(15) = 373.32 Prob>chi2 = 0.0000

Factor loadings (pattern matrix) and unique variances

Variables	Factor1	Factor2	Uniqueness
closeshia	0.7387	-0.1221	0.4394
closeyazidi	0.7648	-0.0968	0.4058
closekurd	0.5483	-0.2394	0.642
closechris~n	0.4042	-0.0622	0.8327
closeforei~r	0.2434	0.5827	0.6012
closegay	0.3301	0.5417	0.5976

Sensitivity Analysis – Empathy, Victimization Priming, and Out-Group Altruism

Below we report the results of sensitivity analysis on our main treatment effect using methods developed by Altonji et al. (2005) as well as recent advances by Diegert et al. (2022a-b). We start with the approach by Altonji et al. (2005) which is most familiar. It uses the coefficients from regression models estimating the average treatment effect with and without covariate conditioning to assess how much greater the influence of unobservable factors would need to be, relative to observable factors, to explain away treatment effects. The ratio is calculated as $\beta_f/[\beta_r-\beta_f]$ where β_f is the full model with conditioning on covariates and β_r is the restricted model without conditioning. The smaller the difference in the coefficients, the less the difference is affected by selection on observables, which means the larger the selection on unobservables needs to be relative to observables, to explain away the treatment effect. Using the coefficients from the manuscript Table 3 without conditioning (Model 1) and with conditioning on all the independent variables (Model 3), we estimate the ratio to be 3.6 for the direct effect of victimization priming which means that the effect of unobservables would need to be 3 times greater than observables to explain away the association between victimization priming and altruism. We find that the effect of unobservables would need to be 5.8 times greater to explain away the effect of out-group altruism on empathy.

MS Table 2	β_r	β_f	$\beta_f/[\beta_r-\beta_f]$
Victimization Priming	1.14	0.86	3.6
Out-Group Altruism	1.09	0.93	5.8

Next, we utilize Diegert, Master, and Poirier's (2022) and Oster's (2019) approaches with the same covariates and the **regsensitivity** package in STATA. We start with DMP, which estimates the sensitivity parameter using the ratio of selection on unobservables to observables (rxbar), where rx=1 is a natural reference point for "equal selection" while rx<1 means observables are more important than unobservables (1/2 = 0.5 would mean observables are twice as important as unobserved variables). However DPM (2022 p. 30) notes that "the interpretation of this reference point depends on the choice of covariates that we calibrate against. Put differently, when we say that we compare "selection on unobservables to selection on observables," which observables do we mean?" Importantly, DMP (2022, p. 31) indicate that "the value of using relative sensitivity parameters like $\bar{r}X$ is not that they allow us to obtain a universal threshold for what is or is not a robust result."

Using STATA's **regsensitivity** with control covariates for gender, age, education, income, employment and west vs. east Mosul sampling locations, the DMP sensitivity parameter rxbar is estimated as follows in the table and figure below. The breakdown point is 66.8% meaning that the relationship between victimization priming and altruism is greater than zero ($\beta > 0$) as long as selection on unobservables is no more than 66.8% as large as selection on observables. We find a similar breakdown point for outgroup altruism at 75.7%. For our study, this is generally a positive sign for the robustness of our results. Results are robust to using the Oster (2019) method.

References

Altonji, Joseph G., Todd E. Elder, and Christopher R. Taber. "Selection on observed and unobserved variables: Assessing the effectiveness of Catholic schools." *Journal of Political Economy* 113, no. 1 (2005): 151-184.

Diegert, Paul, Matthew A. Masten, and Alexandre Poirier. "Assessing omitted variable bias when the controls are endogenous." *arXiv preprint arXiv:2206.02303* (2022).

Diegert, Paul, Matthew Masten, and Alexandre Poirier. "REGSENSITIVITY: Stata module for regression sensitivity analysis." (2022).

Oster, Emily. "Unobservable selection and coefficient stability: Theory and evidence." *Journal of Business & Economic Statistics* 37, no. 2 (2019): 187-204.

Balance Tests on Victimization Order Randomization

We indicate the manuscript that we randomize question ordering such that the treatment group receives victimization items first and the control group receives them after the empathy items on closeness. Below we provide balance tests to show that victimization and demographics are generally well balanced across our treatment and control groups. Exceptions include more people who witnessed violence against Sunni by ISIS, who had female family members abused by ISIS in the control group, and more people who were punished by ISIS, imprisoned during liberation, and had Covid-19 exposure and losses in the treatment group. There were also more people from western Mosul in the control group than treatment group but otherwise demographics are well-balanced. Imbalances could be due to heterogeneous victimization experiences across sampling neighborhoods, which we account for using neighborhood clustered standard errors.

Kolmogorov-Smirnov Balance Tests

	Treatment		Control		KS Balance
	N	Mean	N	Mean	test
1=witnessed ISIS killing Sunni	196	0.00	82	0.71	0.71***
1=heard of ISIS killing out-groups	196	0.08	82	0.07	0.01
1=saw ISIS killing out-groups	196	0.00	82	0.07	0.07
1=punished by ISIS	196	0.25	82	0.02	0.23***
1=reported sexual assault	196	0.01	82	0.17	0.16
1=family punished by ISIS	196	0.06	82	0.00	0.06
1=family injured by ISIS	196	0.10	82	0.00	0.10
1= female family members abused by ISIS	196	0.28	82	0.66	0.38***
1=forced to flee home by ISIS	196	0.12	82	0.05	0.07
1=home/property damaged/looted by ISIS	196	0.16	82	0.29	0.13
1=injured during liberation	196	0.03	82	0.02	0.01
1=family injured during liberation	196	0.09	82	0.00	0.09
1=family killed during liberation	196	0.01	82	0.02	0.01
1=home/property damaged during liberation	196	0.05	82	0.05	0.00
1=imprisoned during liberation	196	0.20	82	0.00	0.20**
1=forced to flee home during liberation	196	0.10	82	0.02	0.08
1=home looted during liberation	196	0.17	82	0.27	0.09
1=female family abused during liberation	196	0.27	82	0.68	0.42***
1=family killed/injured during Iran Iraq war	196	0.17	82	0.10	0.08
1=family killed/injured during Gulf War	196	0.03	82	0.00	0.02
1=family killed/injured by Saddam forces	196	0.03	82	0.05	0.02
1=family killed/injured during Iraq War	196	0.03	82	0.05	0.02
1=family killed/injured by postwar insurgency	196	0.23	82	0.15	0.08
1=family killed/injured by postwar crime	196	0.28	82	0.39	0.11
1=had Covid-19	196	0.63	82	0.15	0.48***
1=family or close friends died from Covid-19	196	0.42	82	0.05	0.37***
female	196	0.17	82	0.11	0.06
age	196	34.22	82	33.34	0.14

education	196	3.52	82	3.32	0.13
income	196	2.77	82	2.59	0.08
professional	196	0.57	82	0.44	0.13
laborer	196	0.11	82	0.05	0.06
unemployed	196	0.11	82	0.10	0.01
1=West Mosul sampling region	196	0.29	82	0.50	0.21***

*** p<0.01, ** p<0.05

Next, we consider whether any of the reported imbalances could have impacted the overall treatment effect of priming on victimization before asking respondents about outgroup empathy. In the control group, victimization primes only occur after the empathy items in the survey. Items related to Covid-19 were always after the empathy items so respondents were never primed on Covid exposure prior to out-group empathy. In the regression models below, we show the basic priming effect on closeness to outgroups in Model 1. In Models 2-4, we find that the effect of the prime remains robust to controls for victimization and demographics. Because there are more people who saw people die from Covid in the treatment group relative to control, this could have biased the treatment effect showing greater out-group empathy relative to control. Also because there were more people who witnessed violence against Sunni Iraqis in the control group relative to treatment, this could also have potentially added bias enlarging the treatment effect of priming relative to control. To address these concerns, we conduct coarsened exact matching (Blackwell et al. 2009) on Covid-19 loss and having witnessed Sunni Iraqis killed by ISIS in Model 5. Applying weights to adjust for these imbalances, we show that the main treatment effect remains robust, reducing concerns that our treatment effect is merely due to imbalances across observable differences in the treatment relative to the control group.

Correlates of Empathy (OLS Regression)

VARIABLES	(1) Outgroup Empathy	(2) Outgroup Empathy	(3) Outgroup Empathy	(4) Outgroup Empathy	(5) Outgroup Empathy
Victimization Prime	1.139***	0.789***	1.128***	0.952**	1.864***
	(0.22)	(0.159)	(0.0746)	(0.355)	(0.415)
Heard about out-group killing		-0.0926		-0.630	-0.161
		(0.414)		(0.426)	(0.533)
Witnessed out-group killing		1.550		1.944	-0.991**
		(0.774)		(1.024)	(0.327)
Witnessed in-group killing		-0.351		-0.317	-
		(0.230)		(0.181)	
Punished by ISIS		0.760***		0.321	0.262
		(0.133)		(0.319)	(0.849)
Injured during Liberation		-0.189		0.0599	-2.330***
		(0.557)		(0.493)	(0.494)
Imprisoned during Liberation		-0.0468		-0.355	-0.546
		(0.338)		(0.272)	(0.354)
Sexually assaulted		0.481		0.623	6.469***
		(0.491)		(0.453)	(0.911)
Family punished by ISIS		0.148		0.377	-1.151**
		(0.0923)		(0.308)	(0.364)
Family injured by ISIS		1.195***		0.755***	0.371
		(0.206)		(0.115)	(0.322)
Family injured during Liberation		-0.526		-0.563**	-1.534**
		(0.420)		(0.162)	(0.531)
Female family abused by ISIS		-0.110		-0.464*	0.0177
		(0.265)		(0.222)	(0.826)
Forced to flee home by ISIS		0.177		-0.0921	-0.348
		(0.206)		(0.199)	(0.347)
Home/property damaged by ISIS		-0.590***		-1.138***	-3.467**
		(0.0972)		(0.146)	(1.127)
Forced to flee home during Liberation		0.286		0.149	-0.827***
		(0.463)		(0.471)	(0.114)
Home/property damaged during Liberation		1.195		1.240	-0.420
		(0.949)		(0.715)	(0.656)
Home looted during Liberation		1.085**		1.110***	2.258
		(0.374)		(0.269)	(1.252)
Iran-Iraq War victimization			-0.870***	-0.501	-1.050***
			(0.134)	(0.311)	(0.207)
Gulf War victimization			0.435***	0.779*	-0.538
			(0.0799)	(0.329)	(0.492)
Saddam regime persecution			0.586*	1.147**	1.183
			(0.235)	(0.428)	(0.604)
2003 Iraq War victimization			0.265	0.0583	0.181
			(0.894)	(1.041)	(0.671)
Post-2003 insurgency victimization			0.418**	0.481	-1.112
			(0.123)	(0.396)	(0.608)

Post-2003 crime-related victimization			-0.435**	-0.0727	-1.858**
			(0.115)	(0.355)	(0.649)
Contracted Covid-19				-0.596	-0.747
				(0.386)	(0.581)
Friends or family died from Covid-19				0.647***	-
				(0.0617)	
Women				0.474	-0.532
				(0.372)	(0.297)
Age				-0.0147	-0.0343**
				(0.0108)	(0.00980)
Professional				-0.151	0.420
				(0.203)	(0.274)
Laborer				-0.489**	0.206
				(0.181)	(0.413)
Unemployed				-0.508	1.050*
				(0.312)	(0.434)
West Mosul region				-0.0336	0.0176
				(0.0317)	(0.0426)
Constant	2.419***	2.344***	2.571***	3.312***	4.439***
	(0.20)	(0.243)	(0.0857)	(0.408)	(0.720)
SEs	Robust	Clustered	Clustered	Clustered	Clustered
Observations	278	278	278	278	137
R-squared	0.108	0.244	0.192	0.356	0.568
adj. r2	0.105	0.194	0.171	0.275	0.451

Robust standard errors clustered by neighborhood in parentheses
*** p<0.01, ** p<0.05, * p<0.1

References:

Blackwell, Matthew, Stefano Iacus, Gary King, and Giuseppe Porro. “cem: Coarsened exact matching in Stata.” The Stata Journal 9, no. 4 (2009): 524-546.

Power Calculations – Experimental Average Treatment Effect

Given our sample size of 278 and randomization into 2 groups, we consider whether our study has sufficient sample size or is underpowered to detect treatment effects. We compute the following sample sizes for alpha of 0.05 and power ranging from 0.80 to 0.99 for our average treatment effect. In our case, the dependent variable is feelings of closeness to outgroups. The treatment group mean is 3.557, SD=1.39, N=196 while the control group mean is 2.419, SD=1.80, N=82. The difference in means (the effect size) is 1.138 and the ratio of respondents in our treatment to the control group is (196/82 =2.39).

In the table below we estimate the minimum sample size using the observed effect size (Delta=1.138). For a power of 0.99 (if the effect exists, there is a 99% chance of detecting a true positive) and alpha of 0.05 (if the effect does not exist, there is a 5% chance of detecting a false positive), we find that for our observed effect size, we would require at minimum a sample 201 respondents with 142 in the treatment and 59 in the control group, which is well below our actual sample size. Hence, our sample is not underpowered to detect our observed treatment effects.

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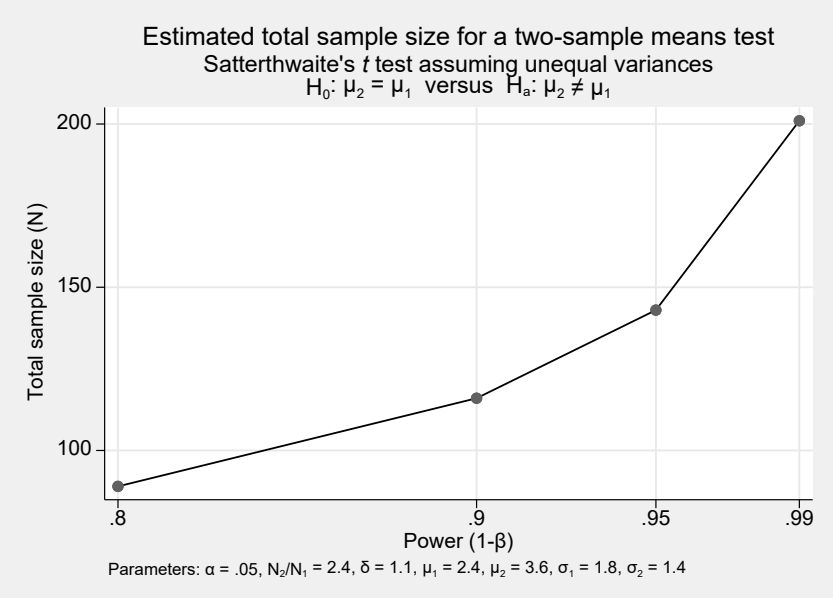
Estimated sample sizes for a two-sample means test
Satterthwaite's t test assuming unequal variances
Ho: m2 = m1  versus  Ha: m2 != m1
```

alpha	power	N	N1	N2	nratio	delta	m1	m2	sd1	sd2
.05	.8	89	26	63	2.39	1.138	2.419	3.557	1.8	1.35
.05	.9	116	34	82	2.39	1.138	2.419	3.557	1.8	1.35
.05	.95	143	42	101	2.39	1.138	2.419	3.557	1.8	1.35
.05	.99	201	59	142	2.39	1.138	2.419	3.557	1.8	1.35



Effects of Victimization Priming on Other Out-Group-Related Variables

Below are the range of out-group-related variables that appear in the survey after our closeness measure. Respondents encountered these items either before or after victimization priming. We provide analysis on each item in relation to victimization priming, victimization experience, and out-group altruism below.

How Close do you feel to the following people? (randomized order)

	How close do you feel to the following people?
a) Iraqi Sunni	(not close at all) 0 1 2 3 4 5 6 7 8 9 10 (very close)
b) Iraqi Shia	(not close at all) 0 1 2 3 4 5 6 7 8 9 10 (very close)
c) Yazidi	(not close at all) 0 1 2 3 4 5 6 7 8 9 10 (very close)
d) Iraqi Kurds	(not close at all) 0 1 2 3 4 5 6 7 8 9 10 (very close)
e) Iraqi Christians	(not close at all) 0 1 2 3 4 5 6 7 8 9 10 (very close)
f) Foreigners	(not close at all) 0 1 2 3 4 5 6 7 8 9 10 (very close)
g) Gay people	(not close at all) 0 1 2 3 4 5 6 7 8 9 10 (very close)

How often do you have contact with the following people (randomize order)?

	Very often	Sometimes	Not very often	Rarely	never
Iraqi Sunni	1	2	3	4	5
Iraqi Shia	1	2	3	4	5
Yazidi	1	2	3	4	5
Iraqi Kurds	1	2	3	4	5
Iraqi Christians	1	2	3	4	5
Foreigners	1	2	3	4	5
Gay people	1	2	3	4	5

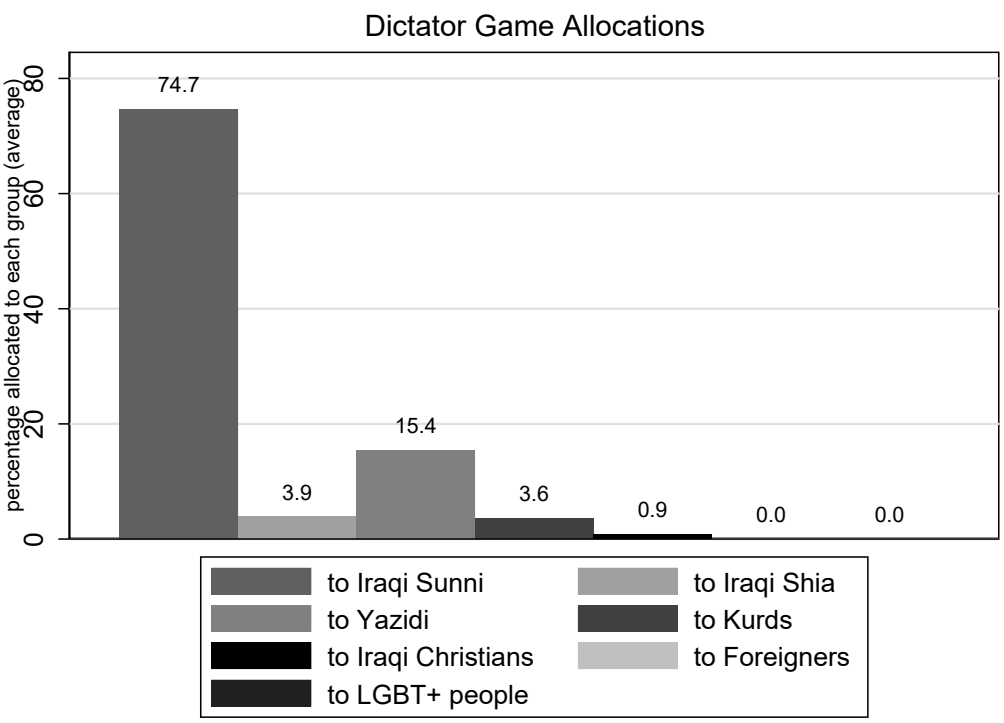
To what extent do you agree or disagree that the following people are entitled to human rights protections under Iraqi law (randomize order)?

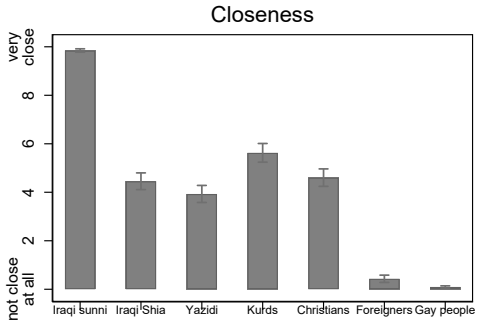
	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
Iraqi Sunni	1	2	3	4
Iraqi Shia	1	2	3	4
Yazidi	1	2	3	4
Iraqi Kurds	1	2	3	4
Iraqi Christians	1	2	3	4
Foreigners	1	2	3	4
Gay people	1	2	3	4

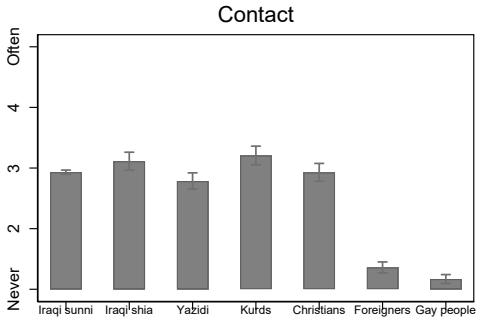
To what extent do you agree or disagree that Iraqi authorities should do more to protect the following people from violence (randomize order)?

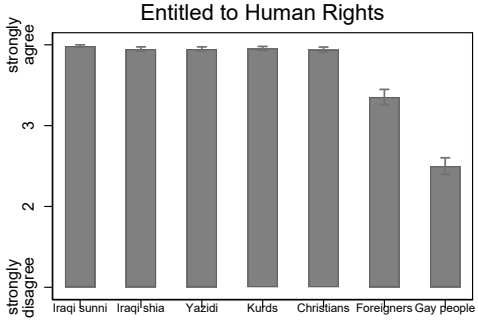
	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
Iraqi Sunni	1	2	3	4
Iraqi Shia	1	2	3	4
Yazidi	1	2	3	4
Iraqi Kurds	1	2	3	4
Iraqi Christians	1	2	3	4
Foreigners	1	2	3	4
Gay people	1	2	3	4

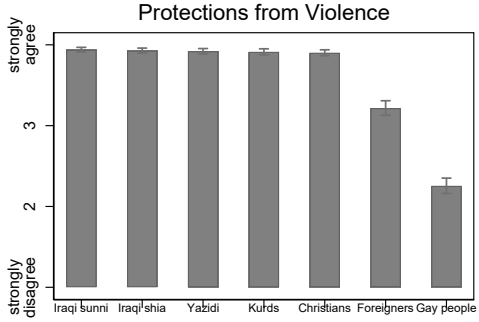
First, we provide an overview of the distribution of responses to each set of survey items for specific outgroups below. Generally, feelings of closeness are most in line with altruism distributions in the dictator game. People feel much closer to Sunni than other groups and dictator giving mirrors this behavior. In terms of contact, the average respondent has some contact with Sunni, Shia, Yazidi, Iraqi Kurds, and Christians, and much less contact with foreigners or gay people. So contact is a potential independent predictor of altruism but it may not be a viable mechanism for explaining how thinking about victimization could change one's views (unless the question were phrased in terms of desirability of contact, but it's written in terms frequency of contact). One possibility is that people are more willing to acknowledge contact with outgroups after receiving victimization priming and that feelings of closeness elevate respondents' perception of frequency of contact. Treatment effects are robust to clustering of standard errors by neighborhood which would address potential neighborhood differences in inter-group contact. Also, Mosul is much more homogenously Sunni and Arab after ISIS than before, as outgroups fled the city in the wake of ISIS persecution. Finally, respondents generally strongly agree that Iraqi Sunni, Shia, Kurds, Christians, and Yazidi are entitled to basic human rights and that the government should do more to protect them from violence. They also generally agree that such rights and protections apply to foreigners with greater ambivalence toward the rights of gay people, which is consistent with the conservatism of the region on LGBT+ rights.


Dictator Game Allocations
percentage allocated to each group (average)
0
20
40
60
80
74.7
3.9
15.4
3.6
0.9
0.0
0.0
to Iraqi Sunni
to Iraqi Shia
to Yazidi
to Kurds
to Iraqi Christians
to Foreigners
to LGBT+ people


Closeness
very close
not close at all
2
4
6
8
Iraqi Sunni
Iraqi Shia
Yazidi
Kurds
Christians
Foreigners
Gay people


Contact
Often
Never
2
3
4
Iraqi Sunni
Iraqi shia
Yazidi
Kurds
Christians
Foreigners
Gay people


Entitled to Human Rights
strongly agree
strongly disagree
2
3
Iraqi Sunni
Iraqi shia
Yazidi
Kurds
Christians
Foreigners
Gay people


Protections from Violence
strongly agree
strongly disagree
2
3
Iraqi Sunni
Iraqi shia
Yazidi
Kurds
Christians
Foreigners
Gay people

Next, we create indices for outgroup contact, support for outgroup human rights, and protections for outgroups from violence using factor analysis. In each case, responses aligned on primarily one principle factor for outgroup contact (1st Eigenvalue=2.33), support for human rights (1st Eigenvalue=3.47), and protections from violence (1st Eigenvalue=3.39) indicating that respondents answered questions related to outgroup contact, support for human rights, and protections from violence consistently, suggesting latent variables.[1]

In terms of correlations, contact and closeness are strongly positively correlated (Pearson's rho = 0.73) and agreement on entitlement to basic human rights and protections from violence show strong positive correlations (Pearson's rho = 0.51). Other cross-correlations are weekly positive (Pearson's rho<0.10).

Next, we plot the relationship between each index and victimization priming using OLS regression. People indicate that they feel closer to outgroup, are more willing to admit frequent contact with outgroups, and are more supportive of basic human rights and protections of outgroups from violence after experiencing victimization priming than in the control group without victimization priming.

Effects of Victimization Priming on Out-Group-Related Survey Items (OLS Regression)

VARIABLES	(1) Close outgroup	(2) Contact outgroup	(3) Human Rights outgroup	(4) Protect outgroup
Victimization priming	0.610***	0.858**	0.449***	0.302*
	(0.12)	(0.10)	(0.17)	(0.16)
Constant	-0.431***	-0.600***	-0.318*	-0.214
	(0.10)	(0.08)	(0.17)	(0.15)
Observations	273	266	268	266
R-squared	0.103	0.188	0.042	0.020
adj. r2	0.0995	0.185	0.0389	0.0161

*** p<0.01, ** p<0.05, * p<0.1

[1] In the manuscript we use an alpha index of interim correlation for closeness to outgroups but the two indices are highly correlated (Pearson's rho = 0.97).

Treatment effects for closeness and contact are robust to extended controls in the manuscript for victimization experiences and demographics. Victimization priming effects on support for human rights and protections against out-group violence are explained by the inclusion of extended controls.

Victimization Priming and Out-Group-Related Survey Items (OLS Regression, Extended Controls)

VARIABLES	(1) Close outgroup	(2) Contact outgroup	(3) Human Rights outgroup	(4) Protect outgroup
Victimization Priming	0.543**	0.576***	0.153	0.0824
	(0.192)	(0.105)	(0.135)	(0.158)
Head about out-group killing	-0.0882	0.365	0.168	0.386
	(0.341)	(0.193)	(0.443)	(0.265)
Witnessed out-group killing	1.285*	-0.0466	-1.880**	-0.946***
	(0.592)	(0.345)	(0.631)	(0.188)
Witnessed in-group killing	-0.0891	-0.118	-0.779***	-0.611**
	(0.0601)	(0.0847)	(0.118)	(0.185)
Punished by ISIS	0.252	0.127	0.405***	0.735*
	(0.195)	(0.238)	(0.0855)	(0.356)
Injured during Liberation	-0.0188	-0.106	-0.583	0.269
	(0.302)	(0.140)	(0.563)	(0.378)
Imprisoned during Liberation	-0.237	0.366	-0.0559	0.188**
	(0.144)	(0.183)	(0.104)	(0.0524)
Sexually assaulted	0.399*	0.597**	0.384***	0.730***
	(0.175)	(0.193)	(0.0598)	(0.124)
Family punished by ISIS	0.220	-0.0320	-0.411*	0.0541
	(0.250)	(0.242)	(0.171)	(0.492)
Family injured by ISIS	0.562*	0.187	-0.168	0.0211
	(0.250)	(0.399)	(0.186)	(0.493)
Family injured during Liberation	-0.141	0.525**	0.253	0.544**
	(0.183)	(0.197)	(0.167)	(0.206)
Female family abused by ISIS	-0.281	-0.198	0.310	1.092***
	(0.163)	(0.208)	(0.258)	(0.263)
Forced to flee home by ISIS	0.109	0.882***	-0.937***	0.173
	(0.198)	(0.213)	(0.121)	(0.450)
Home/property damaged by ISIS	-0.645***	-0.509	0.0912	0.824**
	(0.0813)	(0.315)	(0.216)	(0.296)
Forced to flee home during Liberation	-0.311	0.341	0.246	0.515***
	(0.247)	(0.198)	(0.170)	(0.0512)
Home/property damaged during Liberation	0.0685	0.377	0.0780	0.551***
	(0.261)	(0.276)	(0.0842)	(0.0365)
Home looted during Liberation	0.583***	0.547	0.299	0.150*

	(0.0639)	(0.308)	(0.151)	(0.0617)
Iran-Iraq War victimization	-0.462*	-0.282	-0.0635	-0.351**
	(0.180)	(0.201)	(0.0324)	(0.123)
Gulf War victimization	0.243	-0.683***	0.588**	0.303
	(0.173)	(0.0810)	(0.146)	(0.226)
Saddam regime persecution	0.498**	0.00699	-1.248**	-1.240*
	(0.193)	(0.192)	(0.375)	(0.553)
2003 Iraq War victimization	-0.160	-0.475*	-0.371**	-0.351
	(0.605)	(0.190)	(0.140)	(0.315)
Post-2003 insurgency victimization	0.188	0.0497	-0.260***	-0.228
	(0.216)	(0.184)	(0.0597)	(0.127)
Post-2003 crime-related victimization	-0.0979	-0.407*	-0.317	-0.747**
	(0.217)	(0.196)	(0.200)	(0.211)
Contracted Covid-19	-0.239	-0.363*	-0.265	-0.144
	(0.184)	(0.146)	(0.225)	(0.280)
Friends or family died from Covid-19	0.196**	0.117	-0.344	-0.0737
	(0.0553)	(0.0584)	(0.187)	(0.0957)
Women	0.215	0.0187	-0.0884	0.0263
	(0.222)	(0.0978)	(0.0500)	(0.108)
Age	-0.00944	0.00161	0.00133	0.00388
	(0.00851)	(0.00300)	(0.00103)	(0.00433)
Professional	-0.0381	0.139*	-0.0465	0.185
	(0.128)	(0.0583)	(0.0808)	(0.157)
Laborer	-0.112	-0.160**	0.347	0.503
	(0.0930)	(0.0455)	(0.179)	(0.268)
Unemployed	-0.104	0.0545	0.146	0.0127
	(0.164)	(0.0701)	(0.0735)	(0.525)
West Mosul region	-0.0461	-0.0923	0.0173	0.0433
	(0.0365)	(0.0665)	(0.0233)	(0.0552)
Constant	0.105	-0.374	0.268	-0.714***
	(0.304)	(0.243)	(0.293)	(0.0459)
Observations	273	266	268	266
R-squared	0.357	0.538	0.360	0.219
adj. r2	0.274	0.476	0.276	0.116

Robust standard errors clustered by location in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Next, we examine the relationship between outgroup altruism and each out-group-related variable (closeness, contact, support for human rights, protections from harm). With the exception of views on entitlement to basic human rights, other out-group-related variables are positively correlated with out-group altruism.

Altruism and Out-Group-Related Survey Items (OLS Regression)

VARIABLES	(1) Closeness to outgroups	(2) Contact with outgroups	(3) Basic human rights	(4) Protection from harm
Out-group altruism	0.591**	0.671***	-0.252	0.276**
	(0.147)	(0.136)	(0.291)	(0.0811)
Constant	-0.139	-0.161	0.0601	-0.0601
	(0.143)	(0.191)	(0.0897)	(0.106)
Observations	273	266	268	266
adj. r2	0.0803	0.0965	0.00803	0.00981

Robust standard errors clustered by location in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Next, we examine the effect of outgroup altruism using instrumental variable probit regression (IV-probit). The intuition here is that we can focus on the effect of altruism that is endogenous to victimization priming (Bullock and Green 2021).[2] We treat our random victimization prime as an exogenous instrument through which altruism affects downstream outcome variables. When we instrument on victimization priming using IV-probit estimation, all but support for basic human rights are positively correlated with out-group altruism.

Instrumenting on Victimization Priming (IV-Probit)

VARIABLES	(1) Closeness to outgroups	(2) Contact with outgroups	(3) Basic human rights	(4) Protection from harm
Out-group altruism	5.105***	6.625***	3.749*	3.329*
	(1.099)	(0.892)	(2.070)	(1.872)
Constant	-1.197***	-1.594***	-0.895***	-0.726**
	(0.165)	(0.134)	(0.319)	(0.288)
Observations	273	266	268	266

Robust standard errors clustered by location in parentheses
*** p<0.01, ** p<0.05, * p<0.1

[2] Instrumenting our randomized victimization priming treatment (Z) on the relationship between altruism (X) and outcomes like empathy (Y) and satisfies IV assumptions of *relevance* (Z has a causal effect on X), *monotonicity* (respondents complied with the treatment), *independence* (no confounding of the effect of Z on Y), and the *exclusion restriction* (Z effects Y only through X).

Victimization Effects – Inclusion of Basra Data

Our survey took place in both Mosul and Basra but we only utilized the data from Mosul in this analysis because we do not have data on ISIS victimization from Basra as ISIS was not in control there. The Basra data (N=216) was primarily collected for case comparison between a predominately ISIS-affected region (Mosul) and a more unaffected, peaceful region (Basra). We provide analysis showing that our results are robust to the including of Basra data on a more limited range of victimization variables (non-ISIS victimization) below.

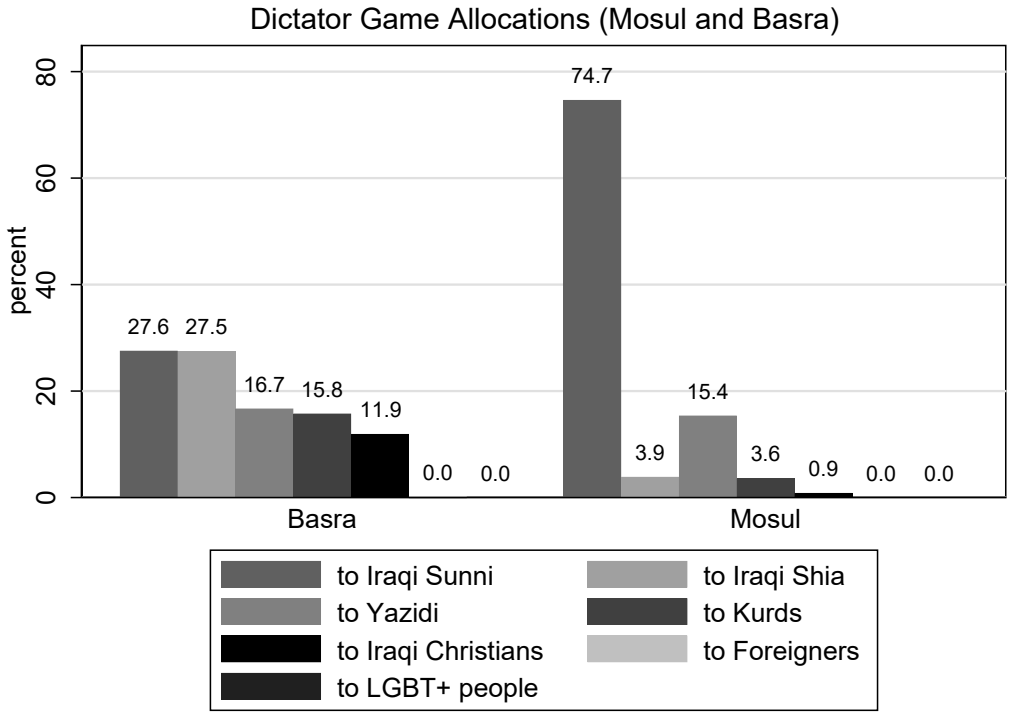


Table 2. Effects of Victimization and Empathy on Out-group Altruism

VARIABLES	(1) Out-group altruism	(3) Out-group altruism	(4) Out-group altruism
Mosul	-5.508***	-5.576***	-6.292***
	(0.611)	(0.707)	(0.928)
Sunni	-1.494*	-1.036	-0.880
	(0.801)	(1.048)	(1.161)
Out-Group Empathy	0.469***	0.378***	0.425***
	(0.0733)	(0.0849)	(0.0547)
Iran-Iraq War victimization		-0.129	0.182
		(0.519)	(0.606)
Gulf War victimization		0.469	0.673
		(2.110)	(2.270)
Saddam regime persecution		3.132***	3.839***

		(0.402)	(0.615)
2003 Iraq War victimization		1.370***	1.694***
		(0.336)	(0.558)
Post-2003 insurgency victimization		1.022**	1.736**
		(0.413)	(0.807)
Post-2003 crime-related victimization		-0.261	0.00701
		(0.434)	(0.655)
Post-2014 victimization		0.768*	1.101
		(0.419)	(0.730)
Contracted Covid-19			0.269
			(0.423)
Friends or family died from Covid-19			-1.151***
			(0.123)
Women			1.268**
			(0.540)
Age			-0.00119
			(0.0107)
Professional			-0.821***
			(0.284)
Laborer			-0.713
			(0.469)
Unemployed			-0.103
			(0.213)
Constant	4.163***	3.510***	4.002***
	(0.668)	(0.609)	(0.850)
Observations	494	478	478
adj. r2	0.543	0.571	0.603

Robust standard errors clustered by location in parentheses
*** p<0.01, ** p<0.05, * p<0.1