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# Supporting Information: *Knowing is Half the Battle: How Education Decreases the Fear of Terrorism*

September 29, 2021

## Appendix A: Pre-Treatment Covariate Balance

Our studies vary in the degree to which they rely on randomization. It is important to consider pre-treatment covariate balance to rule out the possibility that differences between the treatment and control groups explain differences in post-treatment terrorism threat perception. There are several critiques of using knife's-edge hypothesis testing to assess covariate balance (Ho *et al* 2007, Imai, King, & Stuart 2008, Mutz, Pemantle, & Pham 2019). Because of this, we rely on standardized mean differences (SMD) to assess balance. Large average or maximum SMDs have been shown to be highly correlated with biased estimates of treatment effects (Ali *et al.* 2014, Belitser *et al.* 2011, Stuary, Lee, & Leacy 2013). We consider the balance of each of our survey studies in turn.

### Study 1: As-If Randomized College Student Survey

	Means (Treated)	Means (Control)	Std. Mean Diff.
Age	21.34	20.80	0.75
Female	0.31	0.55	-0.51
Male	0.69	0.45	0.51
Political Orientation	-0.80	-1.10	0.21
Religion: Unaffiliated	0.23	0.30	-0.17
Religion: Protestant	0.11	0.20	-0.27
Religion: Catholic	0.57	0.35	0.45
Religion: Other	0.03	0.00	0.17
Religion: Jewish	0.00	0.10	-0.53
Religion: Muslim	0.06	0.00	0.25
Religion: Buddhist	0.00	0.05	-0.37
Pre-Treat. Interest	5.77	5.65	0.15
Pre-Treat. Knowledge	3.57	3.40	0.19
Pre-Treat. Personal Threat	3.11	2.75	0.28
Pre-Treat. US Threat	4.63	3.95	0.52

Table A.1: This table shows the means for each covariate for treated and control groups along with the standardized mean difference (SMD) between the two groups for Study 1.

Study 1 is an as-if randomized study that relies on randomized course registration times to determine the treatment and control groups. As Table A.1 and Figure A.1 show, the samples are not particularly well balanced pre-treatment. For example, treated individuals

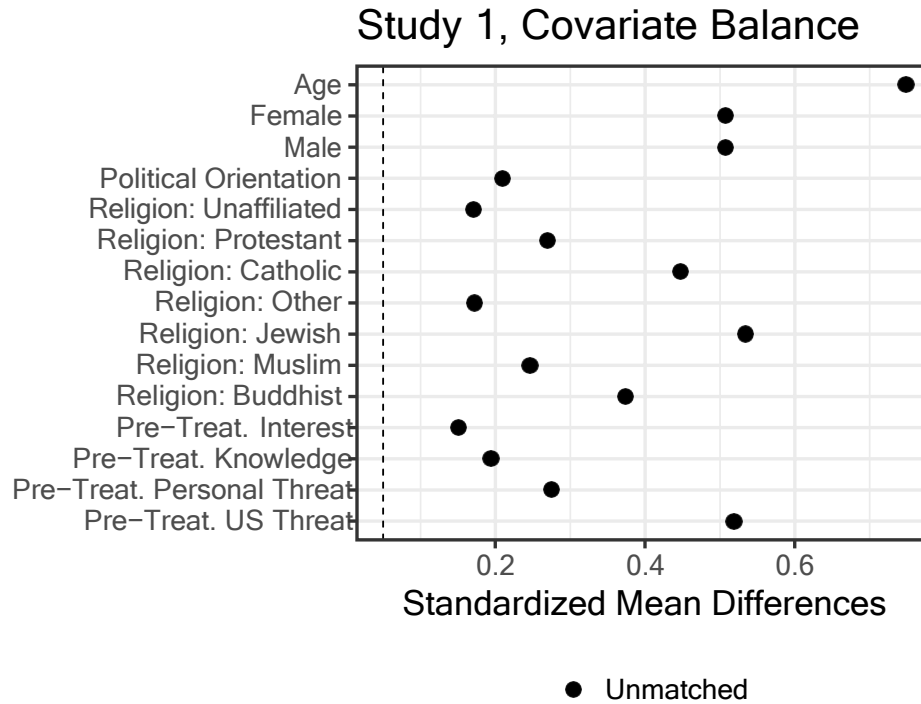


Figure A.1: This figure plots the standardized mean difference (SMD) for each covariate in Study 1 along with a dashed line at .1, a common threshold for determining whether there are meaningful differences between groups.

are slightly older—because students are randomized within their graduation year—and a greater proportion are males. It is important to note that even though individuals across groups are relatively well-balanced on pre-treatment terrorism interest and knowledge—absolute differences of .12 and .17, respectively—the standardized mean differences suggest they are poorly balanced because of the small sample size ( $N=58$ ). For Study 1, we choose not to use matching for similar sample size concerns. Instead, we estimate the treatment effect by controlling for the covariates shown in Table A.1 and Figure A.1.

## Study 2: Multi-University Student Survey

	Pre-Means (T)	Pre-Means (C)	Pre SMD	Post-Means (T)	Post-Means (C)	Post SMD	% Improvement, SMD
Age	22.43	20.63	0.44	22.07	21.16	0.22	49.33
Female	0.57	0.31	0.54	0.51	0.47	0.07	86.77
Male	0.43	0.69	-0.54	0.49	0.53	-0.07	86.77
Political Orientation	-0.43	-0.67	0.16	-0.50	-0.50	0.00	96.83
Religion: Unaffiliated	0.32	0.28	0.09	0.31	0.30	0.03	68.13
Religion: Protestant	0.33	0.45	-0.23	0.38	0.43	-0.11	54.50
Religion: Catholic	0.01	0.02	-0.09	0.01	0.02	-0.05	35.40
Religion: Other	0.17	0.07	0.32	0.14	0.11	0.10	67.93
Religion: Jewish	0.08	0.09	-0.02	0.08	0.06	0.06	-292.10
Religion: Muslim	0.07	0.09	-0.05	0.07	0.07	-0.02	63.00
Religion: Buddhist	0.01	0.02	-0.04	0.01	0.02	-0.02	47.68
Religion: Hindu	0.00	0.00	0.10	0.00	0.00	0.08	20.55
Pre-Treat. Interest	5.41	4.95	0.45	5.34	5.27	0.07	85.56
Pre-Treat. Knowledge	3.60	3.68	-0.08	3.60	3.74	-0.14	-73.40
Pre-Treat. Personal Threat	3.08	2.82	0.22	3.01	2.92	0.08	65.55
Pre-Treat. US Threat	4.37	4.42	-0.04	4.37	4.34	0.03	33.38

Table A.2: This table shows the means for each covariate in Study 2 for treated and control groups along with the standardized mean difference (SMD) between the two groups for both unmatched and matched samples. The final column shows the percent improvement in SMD for each covariate as a result of matching.

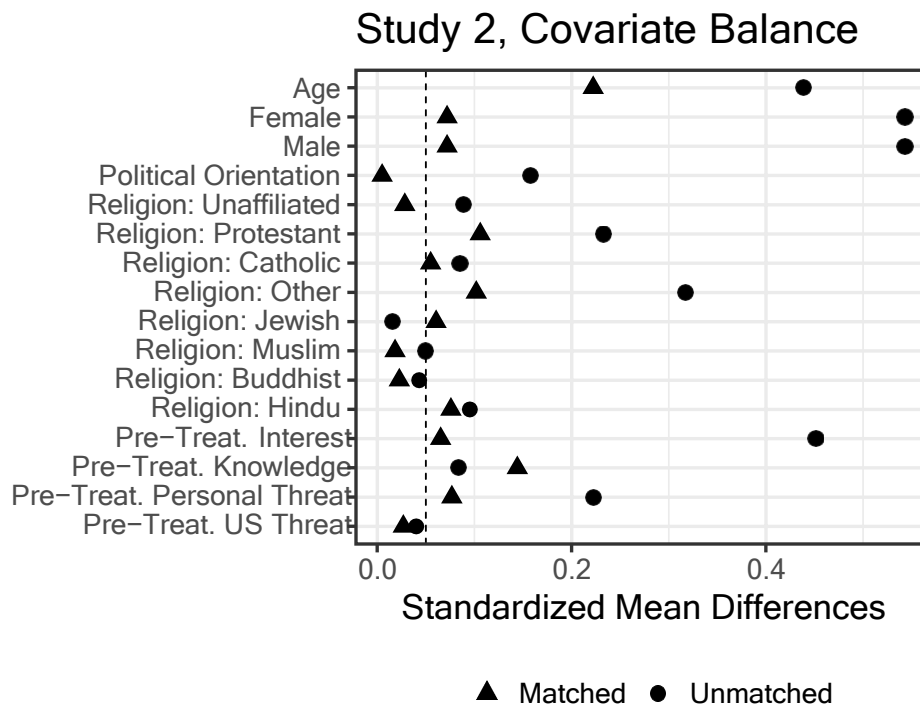


Figure A.2: This figure plots the standardized mean difference (SMD) before matching (circles) and after matching (triangle) for each covariate in Study 2 along with a dashed line at .1, a common threshold for determining whether there are meaningful differences between groups.

Study 2 is a multi-university study that uses a sample of college students enrolled in terrorism-specific courses (treatment) and other social science courses (control). Table A.2 and Figure A.2 show that before matching, the samples are very unbalanced. After matching, however, the treatment and control groups become much more even across key covariates. As the final column of Table A.2 shows, matching leads to a substantial improvement in

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standardized mean differences (SMD) for all but two covariates—the proportion of Jewish respondents and pre-treatment terrorism knowledge. These variables were very well balanced before matching, and their greater SMDs after matching reflect the tradeoffs in achieving covariate balance. Overall, the covariate balance is greatly improved following matching, but it is not perfect. Therefore, we choose to control for all variables in Table A.2 and Figure A.2 when estimating the *Education Treatment* effect.

## Study 3: MOOC Student Survey

	Pre-Means (T)	Pre-Means (C)	Pre SMD	Post-Means (T)	Post-Means (C)	Post SMD	% Improvement, SMD
Age	38.67	35.92	0.20	38.49	40.92	-0.18	11.55
Female	0.63	0.49	0.28	0.62	0.64	-0.03	88.92
Male	0.37	0.51	-0.28	0.38	0.36	0.03	88.92
Political Orientation	-0.48	-1.10	0.42	-0.53	-0.36	-0.12	72.32
Religion: Unaffiliated	0.35	0.41	-0.13	0.36	0.29	0.13	0.17
Religion: Protestant	0.15	0.13	0.08	0.15	0.15	0.01	84.09
Religion: Catholic	0.23	0.23	-0.00	0.23	0.34	-0.27	-38327.57
Religion: Buddhist	0.03	0.06	-0.16	0.03	0.02	0.02	89.70
Religion: Muslim	0.06	0.03	0.10	0.05	0.05	0.03	75.36
Religion: Jewish	0.03	0.01	0.15	0.03	0.03	-0.01	94.38
Religion: Hindu	0.03	0.02	0.02	0.03	0.01	0.10	-522.59
Religion: Other	0.12	0.10	0.07	0.12	0.10	0.07	-5.16
Pre-Treat. Interest	5.48	4.44	0.89	5.40	5.17	0.19	78.25
Pre-Treat. Knowledge	3.65	3.80	-0.15	3.66	3.76	-0.09	38.21
Education: High School	0.04	0.03	0.02	0.04	0.04	-0.03	-93.16
Education: Freshman	0.02	0.00	0.20	0.02	0.00	0.18	9.26
Education: Sophomore	0.01	0.00	0.14	0.01	0.00	0.13	9.26
Education: Junior	0.03	0.01	0.11	0.03	0.03	-0.05	56.27
Education: Senior	0.11	0.06	0.18	0.10	0.08	0.08	58.33
Education: Masters	0.22	0.30	-0.18	0.22	0.22	0.00	99.31
Education: Ph.D.	0.04	0.15	-0.38	0.05	0.10	-0.17	54.76
Education: Not Student	0.54	0.45	0.19	0.54	0.52	0.03	83.84
Pre-Treat. Personal Threat	3.14	3.10	0.02	3.12	3.12	-0.00	92.57
Pre-Treat. US Threat	4.37	4.10	0.20	4.35	4.12	0.16	17.59

Table A.3: This table shows the means for each covariate in Study 3 for treated and control groups along with the standardized mean difference (SMD) between the two groups for both unmatched and matched samples. The final column shows the percent improvement in SMD for each covariate as a result of matching.

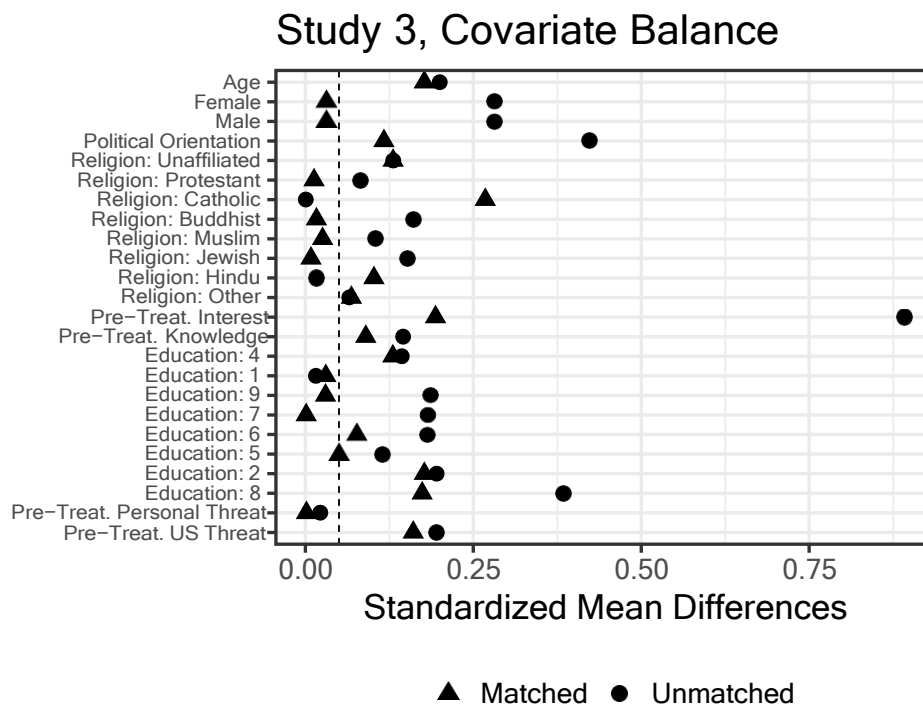


Figure A.3: This figure plots the standardized mean difference (SMD) before matching (circles) and after matching (triangle) for each covariate in Study 3 along with a dashed line at .1, a common threshold for determining whether there are meaningful differences between groups.

Study 3 surveys respondents from massive online open courses (MOOCs) focusing on terrorism (treatment) and Chinese politics or qualitative methods (control). As Table A.3 and

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Figure A.3 show, the treatment and control groups are not well matched before matching but become substantially more balanced following matching. As in Study 2, some variables become less balanced across samples as a result of the matching algorithm. However, these tradeoffs are necessary for achieving better covariate balance across all covariates. Although the samples are significantly more balanced after matching, we estimate the *Education Treatment* effect controlling for each of the covariates in Table A.3 and Figure A.3.

## Study 4: MTurk Survey Experiment

### Video

	Means (Treated)	Means (Control)	Std. Mean Diff.
Age	34.15	34.85	-0.06
Female	0.61	0.51	0.21
Male	0.39	0.49	-0.21
Political Orientation	-0.58	-0.43	-0.09
Religion: Catholic	0.15	0.15	-0.01
Religion: Protestant	0.19	0.17	0.03
Religion: Muslim	0.00	0.01	-0.15
Religion: Buddhist	0.02	0.01	0.06
Religion: Jewish	0.01	0.00	0.10
Religion: Unaffiliated	0.56	0.57	-0.00
Religion: Other	0.07	0.09	-0.05
Pre-Treat. Interest	3.72	3.96	-0.16
Pre-Treat. Knowledge	3.60	3.74	-0.12
Education: High School	0.05	0.05	-0.04
Education: Freshman	0.02	0.02	-0.02
Education: Sophomore	0.00	0.02	-0.22
Education: Junior	0.08	0.10	-0.05
Education: Senior	0.11	0.12	-0.03
Education: Ph.D.	0.08	0.02	0.22
Education: Not Student	0.66	0.66	-0.01

Table A.4: This table shows the means for each covariate for treated and control groups along with the standardized mean difference (SMD) between the two groups for Study 4 (Video).

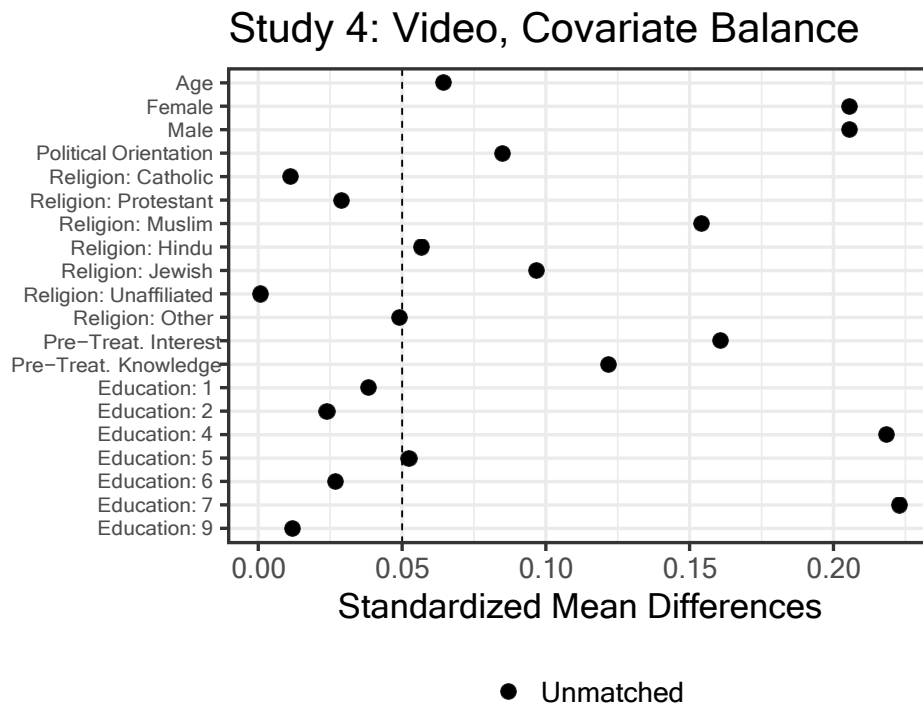


Figure A.4: This figure plots the standardized mean difference (SMD) for each covariate in Study 4 (Video) along with a dashed line at .1, a common threshold for determining whether there are meaningful differences between groups.

## Audio

	Means (Treated)	Means (Control)	Std. Mean Diff.
Age	34.60	34.61	-0.00
Female	0.55	0.52	0.06
Male	0.45	0.48	-0.06
Political Orientation	-0.62	-0.83	0.12
Religion: Catholic	0.20	0.16	0.10
Religion: Protestant	0.20	0.23	-0.09
Religion: Muslim	0.01	0.01	-0.00
Religion: Hindu	0.01	0.00	0.10
Religion: Buddhist	0.02	0.02	-0.00
Religion: Jewish	0.02	0.03	-0.08
Religion: Unaffiliated	0.41	0.49	-0.17
Religion: Other	0.14	0.05	0.24
Pre-Treat. Interest	4.46	4.34	0.08
Pre-Treat. Knowledge	3.92	3.66	0.24
Education: High School	0.10	0.07	0.10
Education: Freshman	0.02	0.01	0.07
Education: Sophomore	0.10	0.01	0.31
Education: Junior	0.03	0.05	-0.13
Education: Senior	0.12	0.11	0.06
Education: Masters	0.08	0.11	-0.08
Education: Ph.D.	0.00	0.02	-0.21
Education: Not Student	0.53	0.62	-0.17

Table A.5: This table shows the means for each covariate for treated and control groups along with the standardized mean difference (SMD) between the two groups for Study 4 (Audio).

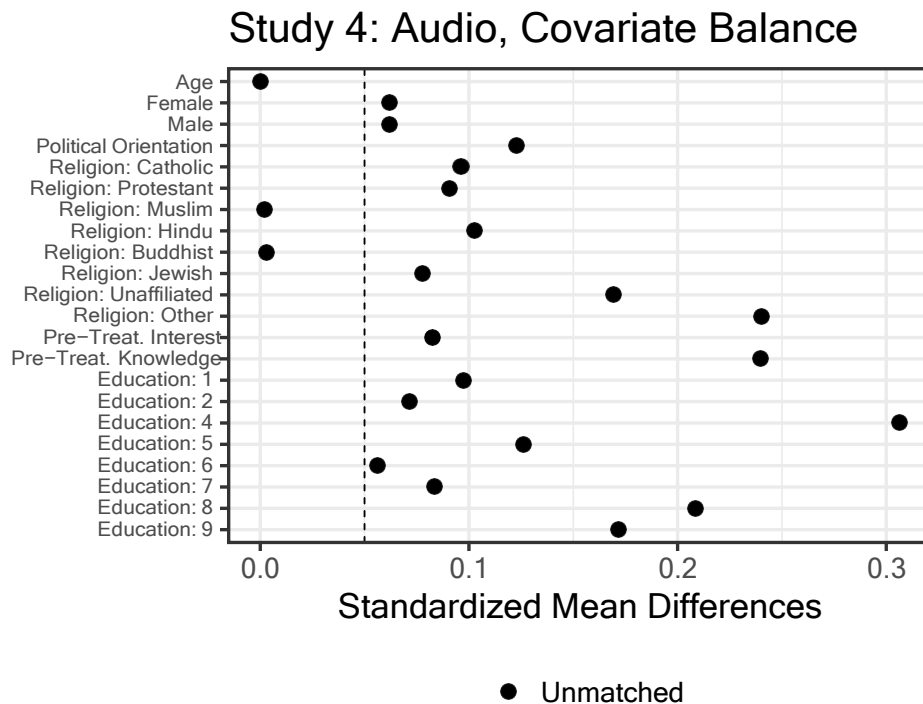


Figure A.5: This figure plots the standardized mean difference (SMD) for each covariate in Study 4 (Audio) along with a dashed line at .1, a common threshold for determining whether there are meaningful differences between groups.



## Transcript

	Means (Treated)	Means (Control)	Std. Mean Diff.
Age	35.80	35.83	-0.00
Female	0.47	0.44	0.05
Male	0.53	0.56	-0.05
Political Orientation	-0.76	-0.82	0.03
Religion: Catholic	0.11	0.16	-0.15
Religion: Protestant	0.28	0.21	0.15
Religion: Muslim	0.02	0.00	0.13
Religion: Hindu	0.03	0.01	0.09
Religion: Buddhist	0.02	0.03	-0.11
Religion: Jewish	0.01	0.02	-0.14
Religion: Unaffiliated	0.41	0.47	-0.14
Religion: Other	0.14	0.09	0.12
Pre-Treat. Interest	4.44	4.48	-0.03
Pre-Treat. Knowledge	3.92	3.65	0.27
Education: High School	0.04	0.02	0.11
Education: Freshman	0.02	0.01	0.05
Education: Sophomore	0.06	0.04	0.07
Education: Junior	0.04	0.01	0.16
Education: Senior	0.08	0.14	-0.19
Education: Masters	0.08	0.05	0.12
Education: Ph.D.	0.01	0.03	-0.25
Education: Not Student	0.66	0.69	-0.07

Table A.6: This table shows the means for each covariate for treated and control groups along with the standardized mean difference (SMD) between the two groups for Study 4 (Transcript).

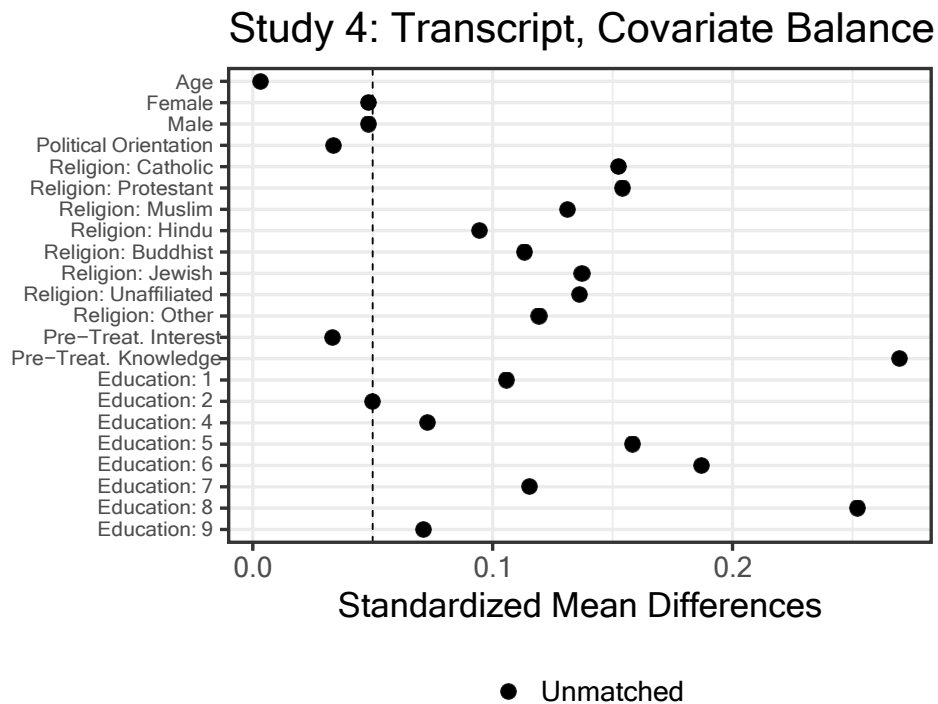


Figure A.6: This figure plots the standardized mean difference (SMD) for each covariate in Study 4 (Transcript) along with a dashed line at .1, a common threshold for determining whether there are meaningful differences between groups.

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Study 4 is a true survey experiment administered to respondents from MTurk. It was carried out in three waves, varying the treatment media between video, audio, and transcript representations. The tables and figures show that Study 4 is significantly better balanced than Studies 1-3. Most covariates are within an acceptable margin of error in terms of balance, making comparisons between the treatment and control groups appropriate. However, in the interest of consistency, we control for each of these covariates across all regressions when estimating the *Education Treatment* effects.

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## Appendix B: MTurk Transcripts

### Treatment: Terrorism

Hello, my name is [COAUTHOR] and I'm an assistant professor at [UNIVERSITY] and a research affiliate at [UNIVERSITY]. Today I'm gonna talk you about the definition and threat of terrorism. How should we define terrorists? This is a term that is used all the time by the media and friends and family. But how would you define terrorism? Think for a moment about your own definition. The first assignment that I give all my students in my class on terrorism is how they define it.

This is a wordcloud that represents their definitions. What a wordcloud does is it takes a bunch of text and then the more times a word is mentioned in that text, in this case the more of my students that use a certain term in their definition for terrorism, the larger the word is here. So what we see is my students think that terrorism is political violence. But we also see words like "religious," "group," "fear," "population," "goal." So there's a number of potential terms that feed into how one defines terrorism.

We can also see though, there's not full consensus among my students in terms of how to define this term given the number of different words that are here in the wordcloud. Now, among politicians and the media there's also a disagreement over how to define terrorism. Here's a quote, "The historical and linguistic origins of the political term 'terror' prove that it can not be applied to a revolutionary war of liberation." That's from Menachem Begin, member of the Zionist militia who fought against the British and the local Arab population for founding the state of Israel.

What's fascinating is that one of Begin's biggest rivals and enemies, Yasser Arafat head of Fatah and the Palestine Liberation Organization would have agreed with that quote. From both of their perspectives, and to be clear both of these individuals used or ordered terrorist attacks, was that it's not just the act itself that matters, it's whether you have a just cause. And from their perspective, if you're fighting for a quote "revolutionary war of liberation for independence for your people" you therefore are not a terrorist and you're not committing a terrorist attack. In terms of countries today, China like most countries has anti-terrorism laws.

In the case of China, they say that not only violent attacks are terrorist, but also quote "thought or speech" that aims to quote "subvert state power or split the state" is also terrorist. So again, some difference and debate in terms of what would actually qualify as terrorism. In the case of China it could include speech that aims to split the state. In terms of academics there's more consensus on what the definition of terrorism is, and this is what it is. Terrorism is the use or threat of violence, by a non-state group, against noncombatants, to inspire fear or alarm in an audience beyond the immediate target for political ends.

Now let's walk through each of those five parts together. First, what is terrorism? The use or threat of violence. Could be detonating a bomb, could be shooting a gun, could be threatening to do so, but having that use or threat of violence is the key component of the definition. Secondly, who's actually carrying out this violence? A non state perpetrator. A non state perpetrator is an individual who is not a member of the government or a member of the state military.

And to be clear, state militaries can and do commit massive amounts of violence, but we

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call those things war or mass killings or genocide. We don't call them terrorists. Now, in terms of who the target of terrorist attacks is, non combatants. So what this means is, to be a terrorist attack, it has to kill a non combatant or a civilian. Someone who themselves is not a member of the government or a member of the state military. If an attack is launched against a state military, then we would call it insurgency, we would call it rebellion.

But we would not call it a terrorist act. Fourthly, how does terrorism work? By inspiring fear or alarm, not just in the individual who is being hit with the violence, but in the broader community. Either through the media or through people talking about it, the goal of terrorists is to get fear in the broader community so therefore people change their behavior or make political concessions. And that leads to the final component which is the fact that terrorism has to be committed for political goals.

This is what differentiates terrorism from say someone being mugged on the street for money. That's just for economic goals. Terrorism must be for political goals, in this case things like overthrowing the government, replacing who's running a country or changing the policies and laws of a given country. Now, what are some examples of terrorist groups? Many of us know of groups like ISIS and Al-Qaeda today, but historically there have been many more. Groups like the KKK, the Ku Klux Klan in the United States certainly committed terrorist acts, as did groups like the Tamil Tigers in Sri Lanka, and this group, The Weather Underground.

This picture is actually a picture of three members of The Weather Underground who was a splinter group who wanted to stop the Vietnam War. There were Americans who felt that protesting was not effective, was not doing enough to stop the Vietnam War and so they formed a terrorist organization that launched bombings in places like the Pentagon, in federal buildings. Tried to coerce the government to stop the war as well as seeing themselves as part of a broader socialist uprising internationally. For the most part their members were 18, 19, 20 year olds, mostly caucasian men and women who joined this organization.

Other examples of terrorist groups: the Irish Republican Army fighting for the independence of Ireland and Northern Ireland, Palestinian Hamas, Boko Haram in Nigeria, Hezbollah in Lebanon, and then this group the Earth Liberation Front. The Earth Liberation Front is an extremist environmental group. They care about things like clean air and clean water but when they see things like mass cutting down of old growth trees or killing of whales or things of that nature, they won't just write letters or protest.

They will use direct action and sometimes violent direct actions like arson to try to spread fear and make political changes. Now, how large is the threat of terrorism? That's another important question because again we hear this term all the time but is it a big threat? Is it a small threat? Think to yourself for a moment about how big you think the threat of terrorism is. On the one hand, some people say that the threat of terrorism is increasing. Groups like Al-Qaeda and ISIS who are Salafi-Jihadist groups.

Groups who use this concept of Jihad, the use of violence to do what they say is defending the broader Muslim community or Umma. They are actually spreading. So from Al-Qaeda in the 1980s up into the present day the number of Salafi-Jihadist groups has increased significantly. Even though again to be clear, the vast majority of Muslims would not say that Al-Qaeda and ISIS are using true Islam and for the most part Al-Qaeda and ISIS victims are themselves Muslim. Nonetheless, the number of these organizations that have this extreme interpretation and use terrorism in support of it, has increased over time.

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On the other hand, we have scholars like John Mueller at Ohio State who say that the threat of terrorism is overblown. We spend far too much money on countering terrorism and not that many people, especially in the United States are actually affected by it. So he thinks the threat itself is overblown. Now let's look at some of the data for a moment. Think to yourself about these questions. How many people are actually killed by terrorist attacks each year in the United States and globally?

And then how many people are killed by say the flu or domestic violence or car accidents or lightning. Think to yourself for just a moment. Here's what the data looks like. Car accidents and the flu kill about 35,000 Americans per year each. Domestic violence kills about 13,000 Americans per year and lightning kill about 55 Americans per year. Terrorism kills about 70 Americans per year if you include the 9/11 attacks. If you exclude that massive attack that in many ways is an outlier only about 10 Americans die per year from terrorist attacks.

So what that means is every single year far more Americans die in car accidents than terrorism, far more Americans die from the flu than die from terrorism. More die from domestic violence every single year but 2001 than from terrorism. And most years more Americans die from lightning strikes than from terrorism as well. If we think about attacks on the United States, it's also true that in terms of international terrorist attacks, there used to be far more in the late 1980s and early 1990s than there are today.

So it's not that the number of terrorist attacks inside the United States are increasing either. If we look globally, it is correct to say that the amount of terrorist attacks has increased but 90% of those attacks are happening in five countries. Iraq, Afghanistan, Pakistan, Nigeria and Syria. Look at the chart here. Even though the red line of global total is going up from 2010, most of it is going up with that green line for those five countries. When we look at the rest of the world, that blue line along the bottom.

That includes the United States, Europe, all countries in South America, Countries in Southeast Asia and most of Africa and most of the Middle East. In those places, the number of terrorist attacks and the number of deaths from terrorism has not increased at all. In fact, it has been quite flat and not that significant compared to these other five countries. Why do those five countries have a lot of attacks? Because they have ongoing civil wars. That's where we see most terrorism. Most of the rest of the world is not a significant threat and it certainly hasn't been increasing that much over the years.

To conclude, the media and politicians often label terrorism as quote "what the bad guys do." But there is a general academic consensus and a systematic definition for terrorists. The use or threat of violence by non-state groups, against noncombatants, to spread fear or alarm for political goals. Second, there are terrorist groups, not just ISIS and Al-Qaeda, but also groups like the Weather Underground and the Earth Liberation Fund or ELF, and then finally even though the number of terrorist attacks may be increasing globally, they are still very rare inside the United States. Thank you very much.

## **Control: Financial Crises**

Hello. I'm [COAUTHOR], Assistant Professor at [UNIVERSITY] and Research Affiliate at [UNIVERSITY]. Today I'm going to talk to you about the definition and threat of financial crisis. How should we define financial crisis? This is a term that we hear about

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all the time on the media or from family and friends, but how would you define financial crisis? Think for a moment about your own definition. The first assignment that I give my students when they come to class is how do they define financial crisis?

And what I do is I take all of their definitions and I put it into a wordcloud. And wordcloud is where you take a bunch of text and then the wordcloud itself spits back out words. The larger the word, the more times that that word appears. In this case, the more of my students that are using that word in their definition for financial crisis. So we see things like “banking,” “currency,” “finance,” “investors,” “panic;” things of this nature that are all part of definitions. However, we also see the fact that there’s not just a single definition of financial crisis because we have all these scattered words all over the place that people have used to define the term.

To be clear, there’s also a debate over the definition of financial crisis among media members and among politicians. Some call it, “the value of financial institutions or assets dropping rapidly.” That’s what they think a financial crisis is. Others say, “recession or depression driven by a lack of necessary liquidity in the market.” Yet others say, “a breakdown of trust in the financial system.” Now, to be clear, academics have more of a consensus on what a financial crisis is.

They would generally define it as, “a situation in which the supply of money is outpaced by the demand for money. Liquidity quickly evaporates because available money is withdrawn from the banks, forcing the banks to either sell other investments or collapse.” There are three key parts to this definition. First and foremost, it’s the idea that the demand for money exceeds the supply of money. So what that means is people want money to pay their workers or run their businesses. People want money to invest in their homes, and yet banks don’t have that money to supply, either through loan or even just giving people the money that they themselves have put into a bank in trust.

This gets to point number two which is there’s a lack of trust. Banks themselves actually lend out more money than they physically possess and so the challenge can be if all the sudden people are concerned that banks aren’t going to be able to pay them back the money that they put into the bank and they all show up on one day asking for all of their money to take it out, which legally they should be able to do. Banks all the sudden won’t have all of that money. That’s called a bank run, and that will actually lead to in many ways a mini, if not a broader, financial crisis if this happens in a large scale at a number of banks.

Finally, a significant decrease in value. It could be a decrease in the value of stocks or the stock market. It could be a significant decrease in the value of homes, but things of this nature, especially when it’s happening quickly, usually is what we see as a financial crisis. Now, what are some examples of financial crises? Going back to the beginning of the United States in 1792, there was a major panic as a result of the U.S. federal bank loaning money to people and then not being able to have people pay it back.

There was the railroad crisis in 1857 where a lot of money was put into railroads thinking that was just going to go really well and then all of a sudden that bubble popped, there was a major financial crisis. Obviously the Wall Street Crash, the Great Depression in the 1920s and 30s, and then a more modern example, in 1973, the Oil Crisis, whereby oil producing and exporting countries, OPEC, ultimately had embargoes against the United States and other European countries, as well as countries like Japan because of their support in the 1973 Arab-Israeli war, and this helped to trigger a large global financial crisis.

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Other examples: 1990 and 1997 we had an asset bubble in Japan and then in 1997 an Asian Crisis in Southeast Asia due to investments and problems there in terms of funding and then in 2001 we had the dot com crash whereby people were putting in tons of money into websites like pets.com thinking they would make tremendous returns and then when they started to look at the balance sheets, they saw that these websites and these web-companies weren't making any profits and so all of the sudden, the valuation went down very quickly and there was a major crash in all of these dot com and broader internet companies.

Finally, in 2008, we had a major global financial crisis based in large part on real estate. The fact that in the United States and elsewhere, people were being able to take out loans very easily to buy homes they could not afford. And then what happened is over time they were defaulting on those loans in large numbers to the point that it was putting banks out of business and to the point that people no longer had trust in many of these investment and so there was a global financial downturn, not just in the United States, but elsewhere.

A second question: how large is the threat of financial crises? Is this something that's going to happen every year? Is it something that's going to impact lots of people? How much money changes hands or how much money do people lose in these crises? Think for a moment about how big you think the threat is of financial crises. There's a big debate over this. Some people think that ultimately, the threat of financial crises is increasing over time because of globalization, because we're more interconnected, because there's increased greed, increased money in some of these countries.

And they actually think that we're going to see and have seen more and more financial crises over the years. On the other hand there are people who feel that no- because of capital controls because of currency controls, because of us understanding what happened and went wrong before, that we're actually preventing ourselves against that and our global economy, whether the stock markets that are, you know, computerized or in terms of individuals and how they now to invest more smartly, we're not going to have as many financial crises as we did before.

Now, here's the first argument. Globalization may actually cause more financial crises because of the fact that banks themselves are international, they have branches often in multiple countries. People invest their money in multiple countries, and businesses keep them there. And so if you have one bank who makes a bunch of bad bets and bad loans and all the sudden they go belly-up and collapse, that can ultimately lead to other banks collapsing, either because people go and make runs on those banks, or both of those banks were invested in similar bad bets, or sometimes the banks have money between each other.

Long and short of it, when you have globalization, you have greater interconnection and flows of people and capital and goods across international borders, that could actually lead to more financial crises because if one area of the world coughs, other parts of the world could actually get a financial cold from that.

Now, let's look at one specific financial crisis, the 2008 Financial Crisis. How much money do you think each U.S. household lost in income, stock, and home value in that crisis? How much money do you think U.S. stock market lost in the crisis? And how many jobs do you think were lost as a result of the crisis? Think about your answers for just a moment.

The answer is this: U.S households lost \$5,800 in income, and \$100,000 in stock and home values. Every single U.S. household on average lost that amount of money. The U.S. lost 7.4 trillion dollars in stock wealth and 5.5 million more jobs were lost in the financial

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crisis and in the following years due to the economic downturn.

Now, in terms of some of the good news, the United States recovers much more quickly than do European countries from crisis like the Financial Crisis in 2008. Arguably, only Germany recovered more quickly than the United States, and then the longer term, the U.S. has recovered better, whereas countries like Greece and Italy and Ireland still have not recovered economically in any significant way from the 2008 financial crisis.

So in that sense, the United States is much better equipped to perhaps recover more quickly if and when a crisis happens whether it's initiated in the United States or in other countries around the world. Also important to note, that less connected countries are less affected by financial crises. So we see countries like in Latin America or the Asian Tigers in Southeast Asia, they had initial slowdowns and downturns, but because the crisis was centered in the United States and in Europe due to the real estate market and some banking issues there, those other parts of the world were affected by the financial crisis, but less so, and their growth went up much more quickly than it did in the United States and Europe.

So, to summarize, there is a debate over the definition of financial crisis, but, common characteristics exist like the loss of value, or like the loss of trust in banks. Secondly, there are many financial crises historically. Not just the 2008 financial crisis, and the dot com bust of 2001, but also things like the oil crisis in 1973, the railroad crash in the 1850s and those going back to the founding of the United States.

Finally, even though global financial crises may be increasing as a result of globalization, the United States is better equipped and recovers more quickly from them than does Europe. Thank you very much.



## Appendix C: Full Regression Tables

### Study 1: As-If Randomized College Student Survey

This section shows the regression tables for models estimated on the sample of respondents from the as-if randomized college student sample. Columns 1 and 2 of Table ?? show the results for the *Personal Threat* and *U.S. Threat* outcomes respectively. For the categorical religion variable, 'Unaffiliated' is the excluded category.

	<i>Personal Threat</i>	<i>U.S. Threat</i>
DD	-0.61*	- 1.28*
	(0.24)	(0.31)
Treatment	0.01	0.24
	(0.19)	(0.25)
Post-Treatment	-0.30	-0.15
	(0.19)	(0.25)
Age	0.14	0.08
	(0.07)	(0.10)
Female	0.09	-0.09
	(0.16)	(0.21)
Political Orientation	0.01	-0.00
	(0.05)	(0.06)
Religion: Protestant	0.02	0.35
	(0.21)	(0.26)
Religion: Catholic	0.02	0.17
	(0.16)	(0.20)
Religion: Other	1.59*	0.26
	(0.55)	(0.66)
Religion: Jewish	0.15	-0.12
	(0.34)	(0.44)
Religion: Muslim	0.03	-0.58
	(0.39)	(0.51)
Religion: Buddhist	0.30	-0.05
	(0.48)	(0.63)
Pre-Treatment Interest	0.03	0.09
	(0.08)	(0.11)
Pre-Treatment Knowledge	-0.01	-0.20
	(0.09)	(0.11)
Pre-Treatment Personal Threat	0.63*	
	(0.06)	
Pre-Treatment U.S. Threat		0.65*
		(0.07)
Intercept	-1.99	- 0.28
	(1.69)	(2.19)
<i>N</i>	110	110

\* $p < 0.05$

Table A.7: As-If Randomized Survey Study Regression Results

## Study 2: Multi-University Student Survey

This section shows the regression tables for models estimated on the matched sample of respondents from the multi-university student survey. Columns 1 and 2 of Table ?? show the results for the *Personal Threat* and *U.S. Threat* outcomes respectively. Standard errors are clustered by the matched subclass of each observation. For the categorical religion variable, 'Unaffiliated' is the excluded category.

	<i>Personal Threat</i>	<i>U.S. Threat</i>
DD	-0.14* (0.02)	- 0.17* (0.05)
Treatment	0.02 (0.02)	0.00 (0.02)
Post-Treatment	-0.21* (0.09)	- 0.30* (0.03)
Age	0.00 (0.00)	0.01* (0.00)
Female	0.08* (0.02)	0.02 (0.03)
Political Orientation	0.03 (0.02)	0.02* (0.01)
Religion: Protestant	- 0.10 (0.10)	0.01 (0.06)
Religion: Catholic	- 0.20* (0.06)	0.37* (0.12)
Religion: Other	- 0.05 (0.10)	0.10 (0.07)
Religion: Jewish	0.06 (0.08)	0.14* (0.04)
Religion: Muslim	-0.04 (0.11)	- 0.02 (0.12)
Religion: Buddhist	0.45 (0.36)	0.23 (0.21)
Religion: Hindu	-0.11* (0.04)	- 0.32* (0.01)
Pre-Treatment Interest	-0.04 (0.02)	- 0.05* (0.01)
Pre-Treatment Knowledge	0.03 (0.03)	- 0.01 (0.02)
Pre-Treatment Personal Threat	0.77* (0.01)	
Pre-Treatment U.S. Threat		0.77* (0.04)
Intercept	0.70* (0.14)	1.08* (0.17)
<i>N</i>	620	620

\* $p < 0.05$

Table A.8: Multi-University Student Survey Regression Results

### Study 3: MOOC Student Survey

This section shows the regression tables for models estimated on the matched sample of respondents from the MOOC student survey. Columns 1 and 2 of Table ?? show the results for the *Personal Threat* and *U.S. Threat* outcomes respectively. Standard errors are clustered by the matched subclass of each observation. For the categorical religion and education variables, ‘Unaffiliated’ and ‘High School’ are the excluded categories.

	<i>Personal Threat</i>	<i>U.S. Threat</i>
DD	-0.14* (0.06)	-0.53 (0.32)
Treatment	- 0.00 (0.06)	0.07 (0.05)
Post-Treatment	-0.16* (0.05)	-0.16 (0.22)
Age	0.00 (0.00)	0.00 (0.00)
Female	0.00 (0.02)	- 0.06 (0.05)
Political Orientation	- 0.00 (0.01)	0.05* (0.02)
Religion: Protestant	0.10 (0.06)	-0.01 (0.07)
Religion: Catholic	0.05 (0.12)	0.04 (0.08)
Religion: Buddhist	0.02 (0.05)	0.05 (0.08)
Religion: Muslim	0.32* (0.09)	0.07 (0.07)
Religion: Jewish	0.20* (0.06)	0.13* (0.03)
Religion: Hindu	0.25* (0.10)	0.21* (0.08)
Religion: Other	0.04 (0.05)	0.15* (0.05)
Pre-Treatment Interest	-0.01 (0.00)	- 0.03* (0.00)
Pre-Treatment Knowledge	- 0.03* (0.01)	0.01* (0.00)
Education: Freshman	0.05 (0.10)	- 0.14* (0.05)
Education: Sophomore	- 0.03* (0.01)	0.05 (0.06)
Education: Junior	- 0.02 (0.05)	0.16* (0.07)
Education: Senior	0.01 (0.03)	- 0.03 (0.05)
Education: Masters	0.16* (0.04)	- 0.03 (0.13)
Education: Ph.D.	0.05 (0.04)	0.01 (0.05)
Education: Not Student	0.05 (0.06)	0.09 (0.05)
Pre-Treatment Personal Threat	0.78* (0.01)	
Pre-Treatment U.S. Threat		0.78* (0.01)
Intercept	0.77* (0.09)	0.93* (0.11)

\* $p < 0.05$

Table A.9: MOOC Student Survey Regression Results

## Study 4: MTurk Survey Experiment

This section shows the regression tables for models estimated on the sample of respondents from the MTurk survey experiment. Columns 1 and 2 of Table ?? show the results for the video treatment, columns 3 and 4 show the results for the audio treatment, and columns 5 and 6 show the results for the transcript treatment. Columns 1, 3, and 5 correspond to the *PersonalThreat* models, while columns 2, 4, and 6 correspond to the *U.S.Threat* models. For the categorical religion and education variables, 'Catholic' and 'High School' are the excluded categories.

	<i>Pers.Threat</i> : Vid.	<i>U.S.Threat</i> : V.	<i>Pers.Threat</i> : Aud.	<i>U.S.Threat</i> : Aud.	<i>Pers.Threat</i> : Tr.	<i>U.S.Threat</i> : Tr.
Treatment	-0.68* (0.19)	-1.37* (0.17)	-0.78* (0.19)	-1.37* (0.20)	-0.45* (0.18)	-0.77* (0.18)
Age	-0.01 (0.01)	-0.00 (0.01)	-0.01 (0.01)	0.00 (0.01)	-0.03* (0.01)	-0.03* (0.01)
Female	0.76* (0.20)	0.66* (0.19)	0.13 (0.19)	0.11 (0.20)	0.45* (0.18)	0.54* (0.18)
Political Orientation	0.25* (0.06)	0.26* (0.05)	0.05 (0.06)	0.09 (0.07)	0.06 (0.05)	0.01 (0.05)
Religion: Protestant	-0.34 (0.33)	-0.44 (0.31)	0.39 (0.31)	0.70* (0.32)	-0.36 (0.30)	-0.32 (0.30)
Religion: Muslim	3.14* (1.33)	1.06 (1.24)	0.65 (0.95)	-0.01 (0.99)	-0.55 (0.94)	-0.76 (0.92)
Religion: Hindu			1.39 (1.36)	0.77 (1.42)	0.03 (0.68)	-0.02 (0.67)
Religion: Buddhist	0.71 (0.80)	1.39 (0.74)	0.38 (0.70)	1.65* (0.73)	-0.41 (0.62)	0.03 (0.62)
Religion: Jewish	-0.33 (1.31)	1.17 (1.22)	-0.01 (0.64)	-0.56 (0.67)	1.46 (0.77)	1.21 (0.76)
Religion: Unaffiliated	-0.38 (0.29)	-0.43 (0.27)	-0.48 (0.29)	-0.29 (0.31)	-0.69* (0.28)	-0.86* (0.28)
Religion: Other	-0.42 (0.42)	-0.69 (0.39)	0.40 (0.38)	0.58 (0.40)	-0.73* (0.36)	-1.08* (0.36)
Pre-Treatment Interest	0.11 (0.08)	0.10 (0.08)	0.16 (0.08)	0.08 (0.09)	0.05 (0.08)	0.32* (0.08)
Pre-Treatment Knowledge	0.09 (0.10)	0.04 (0.09)	0.25* (0.10)	0.19 (0.11)	0.14 (0.11)	-0.18 (0.11)
Education: Freshman	1.26 (0.78)	1.16 (0.72)	0.47 (0.80)	-0.43 (0.84)	0.56 (0.87)	-0.18 (0.86)
Education: Sophomore	0.14 (1.02)	0.51 (0.95)	-0.17 (0.49)	0.06 (0.52)	0.05 (0.62)	-0.34 (0.61)
Education: Junior	-0.25 (0.52)	0.37 (0.49)	0.52 (0.54)	1.09 (0.57)	0.56 (0.71)	0.45 (0.70)
Education: Senior	-0.28 (0.50)	0.49 (0.46)	0.48 (0.43)	0.38 (0.45)	-0.36 (0.56)	-0.50 (0.55)
Education: Masters			0.36 (1.00)	1.18 (1.05)	-0.34 (0.80)	0.28 (0.80)
Education: Ph.D.	-0.60 (0.59)	-0.06 (0.55)	0.44 (0.43)	0.31 (0.45)	-0.52 (0.58)	-0.52 (0.58)
Education: Not Student	-0.53 (0.44)	0.38 (0.40)	0.16 (0.34)	0.06 (0.35)	-0.35 (0.49)	-0.33 (0.49)
Intercept	3.07* (0.61)	3.40* (0.57)	1.98* (0.62)	3.18* (0.65)	4.22*** (0.72)	5.35* (0.71)
N	200	200	190	189	213	210

\* $p < 0.05$

Table A.10: MTurk Survey Experiment Regression Results

## Study 4: MTurk Survey Experiment (One Week after Treatment)

This section shows the regression tables for models estimated on the sample of respondents from the MTurk survey experiment one week post-treatment. Columns 1 and 2 of Table ?? show the results for the video treatment, columns 3 and 4 show the results for the audio treatment, and columns 5 and 6 show the results for the transcript treatment. Columns 1, 3, and 5 correspond to the *PersonalThreat* models, while columns 2, 4, and 6 correspond to the *U.S.Threat* models. For the categorical religion and education variables, 'Catholic' and 'High School' are the excluded categories.

	<i>Pers.Threat</i> : V id.	<i>U.S.Threat</i> : V.	<i>Pers.Threat</i> : Aud.	<i>U.S.Threat</i> : Aud.	<i>Pers.Threat</i> : Tr.	<i>U.S.Threat</i> : Tr.
Treatment	−0.57* (0.25)	−0.92* (0.24)	−0.06 (0.24)	−0.40 (0.29)	−0.17 (0.24)	−0.77* (0.21)
Age	−0.01 (0.01)	−0.01 (0.01)	−0.01 (0.01)	0.01 (0.01)	−0.03* (0.01)	−0.02 (0.01)
Female	0.60* (0.26)	0.49* (0.25)	0.40 (0.25)	0.13 (0.30)	0.73* (0.25)	0.67* (0.22)
Political Orientation	0.15 (0.08)	0.21* (0.07)	0.16 (0.08)	0.02 (0.10)	0.07 (0.07)	0.02 (0.06)
Religion: Protestant	−0.65 (0.47)	−0.65 (0.45)	−0.07 (0.41)	0.38 (0.50)	−0.70 (0.41)	−0.36 (0.36)
Religion: Hindu	0.62 (0.86)	−0.46 (0.82)	−0.71 (1.22)	−1.34 (1.47)	−0.70 (0.67)	−0.73 (0.59)
Religion: Buddhist	1.27 (1.37)	−1.54 (1.31)	0.73 (0.99)	−0.16 (1.20)	−0.22 (1.36)	−1.93 (1.20)
Religion: Jewish	−0.64 (0.42)	−0.61 (0.40)	−0.38 (0.37)	−0.39 (0.44)	−1.22* (0.35)	−0.85* (0.31)
Religion: Unaffiliated	−0.58 (0.59)	−0.60 (0.57)	0.07 (0.46)	0.19 (0.56)	−1.02* (0.48)	−0.94* (0.42)
Pre-Treatment Interest	0.18 (0.11)	0.21* (0.10)	0.21 (0.10)	0.11 (0.13)	0.03 (0.11)	0.44* (0.10)
Pre-Treatment Knowledge	−0.03 (0.14)	−0.33* (0.13)	−0.05 (0.12)	0.12 (0.14)	0.18 (0.15)	−0.32* (0.14)
Education: Freshman	−0.23 (1.11)	0.58 (1.06)	−1.53 (1.23)	−2.39 (1.49)	−0.60 (1.46)	−0.43 (1.29)
Education: Sophomore	−0.20 (0.72)	0.21 (0.69)	0.20 (0.69)	−0.84 (0.83)	−1.27 (0.99)	−1.16 (0.88)
Education: Junior			0.25 (0.61)	0.86 (0.74)	−0.33 (0.79)	−0.55 (0.70)
Education: Senior	−0.15 (0.70)	0.54 (0.67)	0.24 (0.52)	−0.01 (0.63)	−0.88 (0.74)	−1.17 (0.66)
Education: Masters			−0.05 (1.03)	−0.21 (1.24)	−0.18 (1.17)	−0.29 (1.03)
Education: Ph.D.	−0.70 (0.93)	0.05 (0.89)	0.70 (0.52)	0.18 (0.63)	−1.07 (0.72)	−1.64* (0.64)
Education: Not Student	−0.01 (0.62)	0.18 (0.59)	0.06 (0.40)	0.07 (0.48)	−0.98 (0.61)	−0.99 (0.54)
Intercept	3.49* 113	4.95* 113	2.46* 109	2.75* 109	4.66* 132	5.41* 133

\* $p < 0.05$

Table A.11: MTurk Survey Experiment: One Week Post-Treatment Regression Results

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## Appendix D: Differences by Professor

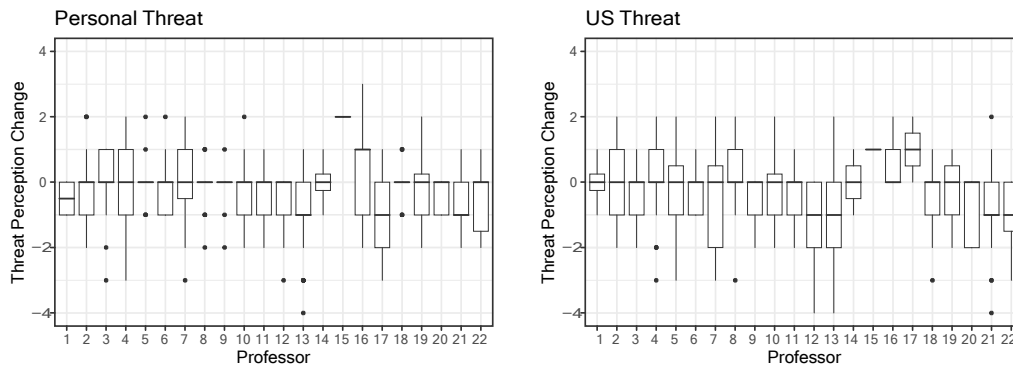


Figure A.7: Boxplots of Student Threat Perceptions by Individual Professor

The results reported in the main text and presented in Appendix C are not estimated in a multilevel framework. Rather, we choose to estimate standard errors clustered by matched subclass to follow the best practice recommendations for our matching approach (Ho, Imai, King, Stuart et al. 2011). However, we check that this decision is not driving our results in two ways.

The boxplots shown in Figure A.7 show no systematic difference in student threat perception changes as a function of individual professors. In addition to plotting the distribution of student responses, we estimate linear regressions of students' threat perceptions on professors' self-reported threat perceptions. We find no evidence that professors' threat perceptions affect students' change in beliefs, as the  $p$ -values for the *Professor's Threat Perception* measure are 0.95 and 0.29 in the *Personal Threat* and *US Threat* models respectively.

# Appendix E: Change in Interest

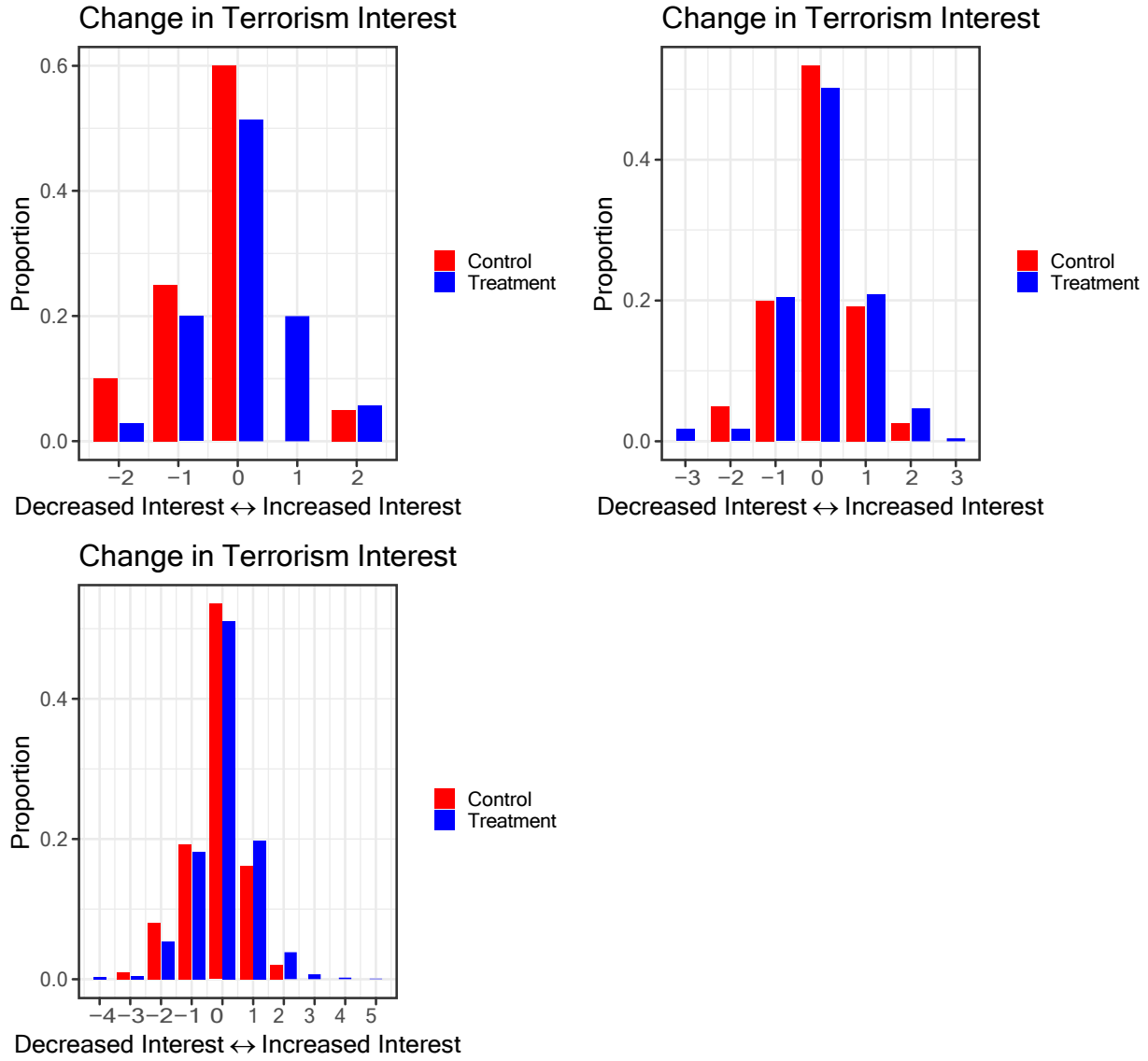


Figure A.8: Change in Interest in Terrorism in Studies 1, 2, and 3

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## References

- Ali, M Sanni, Rolf HH Groenwold, Wiebe R Pestman, Svetlana V Belitser, Kit CB Roes, Arno W Hoes, Anthonius de Boer & Olaf H Klungel. 2014. "Propensity score balance measures in pharmacoepidemiology: a simulation study." *Pharmacoepidemiology and drug safety* 23(8):802–811.
- Belitser, Svetlana V, Edwin P Martens, Wiebe R Pestman, Rolf HH Groenwold, Anthonius De Boer & Olaf H Klungel. 2011. "Measuring balance and model selection in propensity score methods." *Pharmacoepidemiology and drug safety* 20(11):1115–1129.
- Ho, Daniel E, Kosuke Imai, Gary King & Elizabeth A Stuart. 2007. "Matching as nonparametric preprocessing for reducing model dependence in parametric causal inference." *Political analysis* 15(3):199–236.
- Ho, Daniel E, Kosuke Imai, Gary King, Elizabeth A Stuart et al. 2011. "MatchIt: nonparametric preprocessing for parametric causal inference." *J Stat Softw* 42(8):1–28.
- Imai, Kosuke, Gary King & Elizabeth A Stuart. 2008. "Misunderstandings between experimentalists and observationalists about causal inference." *Journal of the Royal Statistical Society. Series A, (Statistics in society)* .
- Mutz, Diana C, Robin Pemantle & Philip Pham. 2019. "The perils of balance testing in experimental design: Messy analyses of clean data." *The American Statistician* 73(1):32–42.
- Stuart, Elizabeth A, Brian K Lee & Finbarr P Leacy. 2013. "Prognostic score–based balance measures can be a useful diagnostic for propensity score methods in comparative effectiveness research." *Journal of clinical epidemiology* 66(8):S84–S90.