Are negative frames equally sticky across cultural contexts? (#50290)

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1) Have any data been collected for this study already?
It's complicated. We have already collected some data but explain in Question 8 why readers may consider this a valid pre-registration nevertheless.

2) What's the main question being asked or hypothesis being tested in this study?
Question 1: Do attitudes change less in response to reframing when frames switch from negative-to-positive (vs. positive-to-negative) for Arab participants?
Question 2: Do Arab participants show a similar strength of negativity bias in reframing as American participants from previous studies?
Question 3: Are attitudes at Time 1 more positive when the Time 1 frame is positive (vs. negative) for Arab participants?
Question 4: Do Arab participants show a similar size of Time 1 framing effects as American participants from previous studies?

3) Describe the key dependent variable(s) specifying how they will be measured.
Questions 1 and 2: Following past studies, the key dependent variable will be attitude change toward the Time 2 frame, calculated as (T2 attitude – T1 attitude) for the negative-to-positive condition, and as -1*(T2 attitude – T1 attitude) for the positive-to-negative condition, such that higher numbers in both conditions indicated greater attitude change toward the Time 2 frame.

T1 and T2 attitudes are calculated as follows: After reading the initial frame (Time 1) and again after reading the reframe (Time 2), participants will rate how they feel about a cognitive training regimen on a 100-point, unmarked scale from “Very Negative” to “Very Positive,” as well as their views of the regimen (“Harmful” to “Beneficial” and “Completely Oppose” to “Completely Favor”). If scale reliability >= .70, the three items will then be averaged at each time point to form a composite measure of positivity toward the regimen. If alpha < .70, we will first try to drop an item to achieve adequate reliability; if that is not possible, we will analyze the three items separately.

Questions 3 and 4: The key dependent variable will be T1 attitudes, calculated as described above.

4) How many and which conditions will participants be assigned to?
Participants will be randomly assigned to one condition in our 2 (frame valence order: negative-to-positive vs. positive-to-negative) between subjects design. We will focus a priori hypotheses on participants who self-identify as holding Arab ethnicity to maintain cultural homogeneity for cross-cultural comparisons.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
Question 1: To test whether attitudes change less in response to reframing when frames switch from negative-to-positive (vs. positive-to-negative) for Arab participants we will conduct a 2 (timepoint: Time 1 vs. Time 2) X 2 (framing order condition: negative-to-positive vs. positive-to-negative) mixed-design ANOVA on the recoded DV (or a statistically equivalent independent samples t-test on attitude change scores) to test whether attitudes change less when framing switches from negative to positive (vs. positive to negative).

Question 2: To test whether Arab participants show similar levels of framing effects as American participants from previous studies, we will construct a confidence interval around the effect size estimate for the size of the negativity bias in reframing (tested in Question 1) and examine it alongside the effect size estimate for the U.S. sample examined in Sparks & Ledgerwood (2017, Study 1) as well as the effect size estimate for the large, aggregate U.S. dataset examined in Sparks & Ledgerwood (2019)

Question 3: To test whether Arab participants show a single-shot framing effect at Time 1, we will conduct an independent samples t-test comparing attitudes at Time 1 in the positive-first (vs. negative-first) condition.

Question 4: To assess how single-shot framing effects in Arab participants might compare to single-shot framing effects in U.S. participants, we will construct a confidence interval around the effect size estimate for the size of the Time 1 framing effect and examine it alongside the effect size estimate for the U.S. sample examined in Sparks & Ledgerwood (2017, Study 1) as well as the effect size estimate for the large, aggregate U.S. dataset examined in Sparks & Ledgerwood (2019).

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
Test data (data recorded via preview mode, or listed with the ID “00000” will be fully deleted from the dataset)

Students who are under 18 years of age are allowed to participate in the study for class credit and to receive equitable research experiences, however they
are not considered research participants, and their data must be fully deleted from the dataset

If participants' sona identification codes appear more than once, we will include only their first submission by date and time; subsequent submissions will be excluded.

Participants who fail to move the sliders for all items will be excluded.

Participants who report knowing about framing effects in the funnel debriefing questions, as coded by a researcher blind to condition and study results, will be excluded.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.

We conducted an a priori power analysis using G*Power and an effect size estimate for the negativity bias in reframing of $d = .51$, based on a similar study examining negativity bias in reframing using a cognitive training regimen scenario in a U.S. sample (Sparks & Ledgerwood, 2017, Study 1); this analysis suggested that $N = 124$ ($n = 62$ per framing order condition) would provide 80% power to detect an effect of this size. To maximize power, we decided to recruit as many participants as possible during the fall semester.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

Data have been collected from approximately half of the participants in the participant pool. We have not looked at any data from the primary variables, but did pause the study to establish exclusion criteria based on participant behavior thus far (e.g., establishing how many participants are repeating submissions of data, etc.).

Additional analyses will explore whether the size of the negativity bias in reframing is correlated with perceptions of trend reversal in Arab participants, and whether similar results are found for any non-Arab participants in the sample.