Supplementary Materials for

# When Science Alone Fails to Convince: A Brief Intervention Fostering an Evidence-Oriented Mindset Strengthens Science-Based Corrections

## Study 1

### Materials:

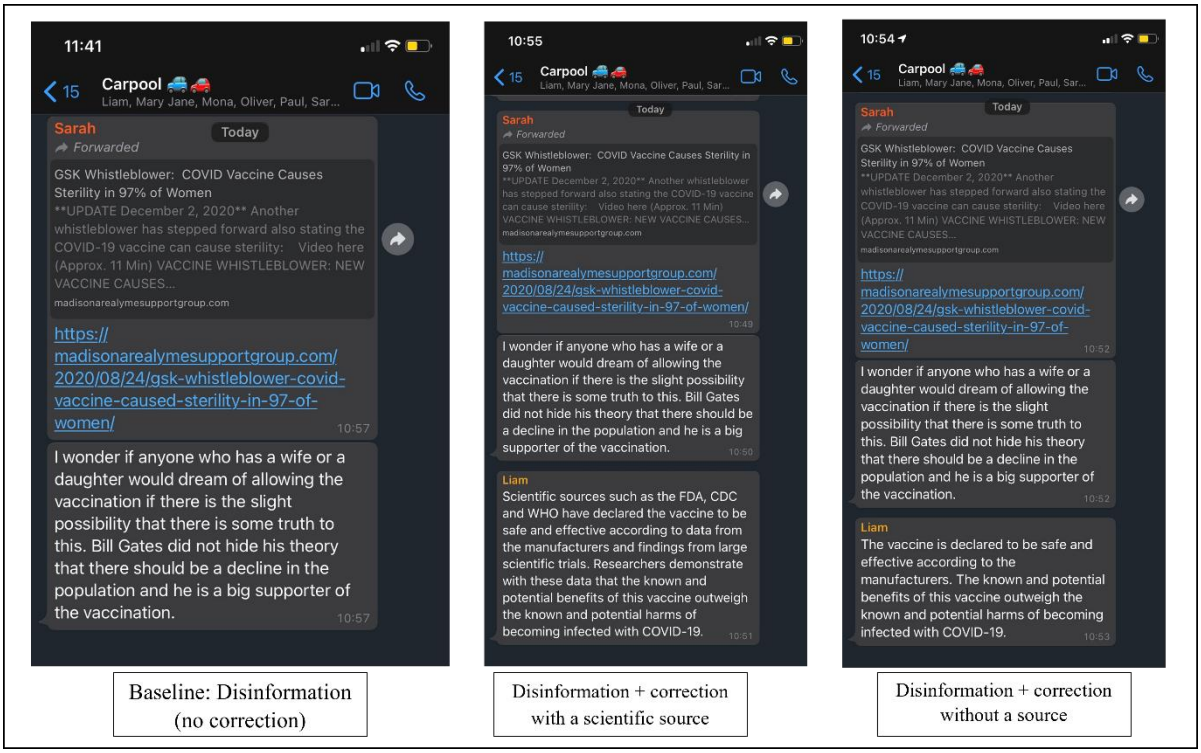



**Fig. S1. Stimuli Study 1.** The conversation presented was inspired by real-life disinformation circulating at the time of the study. Nevertheless, all WhatsApp messages and names are fictitious and were created to resemble a realistic exchange.

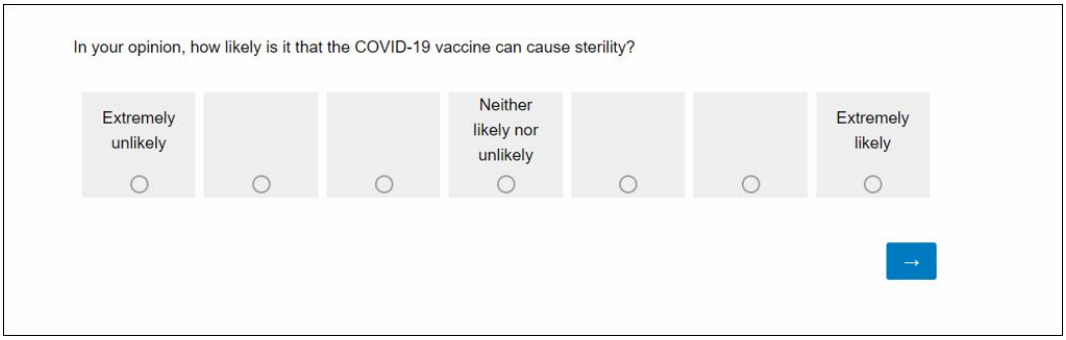


**Fig. S2**. **Dependent variable, Studies 1 and 2**. Belief in the presented disinformation about the COVID-19 vaccine (that the vaccine can cause sterility) on a 7-point scale from "extremely unlikely" (coded as 1) to "extremely likely" (coded as 7).

**Study 1: Further Findings and Analyses:**

COVID-19

We evaluated the data again without participants who reported high distress from the COVID-19 pandemic, that they are very worried about contracting the virus, or that they already have contracted the virus. After these participants were removed, a sample of 188 was left. The findings of a two-way ANOVA revealed a main effect of group, indicating that participants who learned ThinkFRE believed less in the presented disinformation ($M$ = 2.02, 95% CI [1.78, 2.27]) than did control participants ($M$ = 2.59, 95% CI [2.28, 2.91]), $F$(1, 182) = 7.94, $p$ = .005, $\eta_p^2$ = 0.04, 95% CI [0.003, 0.11]. The main effect of correction type was not significant and, similar to the main analysis, the interaction between group and correction type was also not significant, $F$ (2, 182) = 2.54, $p$ = 0.082. Corresponding to the main analysis, also here the contrast between the ThinkFRE group and the control group in the condition of the correction with the scientific reference was significant (t(182) = 3.43, $p$ < .001, Cohen's $d$ = 0.88, 95% CI [0.37, 1.40]) as opposed to the correction without a source ($p$ = .46) and the baseline condition ($p$ = .50).

Participants were asked about their stance towards the COVID-19 vaccine in the debrief section of the survey. Of the 287 participants, 225 reported that they are in favor of the vaccine, 27 declared to be against the vaccine, and 35 participants were not sure. Even when analyzing only participants who reported to be in favor of the vaccine, the findings showed a significant interaction between group and correction type, $F$(2, 254) = 4.00, $p$ = .019; $\eta_p^2$ = 0.03, 95% CI [0.00, 0.09]. However, neither the main effect of group nor the main effect of correction type was significant. Again, the interaction derived from the contrast between the control group and the ThinkFRE group in the condition of the correction with a scientific reference at $p$ = .018, Cohen's $d$ = 0.63, 95% CI [0.16, 1.09], indicating that the scientific reference is significantly more effective among participants who learned ThinkFRE than control participants.

Political Affiliation

Finally, we also tested our data considering participants' political affiliation. Of the 287 participants, 154 were Democrats, 29 Republicans, 82 Independent, and 22 who preferred not to identify. We found a significant effect, demonstrating that beyond the study conditions, participants' political affiliation had an effect on their belief that the COVID-19 vaccine can cause sterility, $F$(3, 283) = 10.77, $p$ < .001; $\eta_p^2$ = 0.10, 95% CI [0.04, 0.17]. More precisely, analyzing the specific contrasts, participants who reported to be Democrats believed less that the COVID-19 vaccine can cause sterility ($M$ = 1.81, 95% CI [1.62, 1.99]) compared to Republicans ($M$ = 3.24, 95% CI [2.62, 3.87]) and Independents ($M$ = 2.49, 95% CI [2.15, 2.82]). Thus, we tested whether the same pattern of belief in the presented disinformation existed among Democrat participants only. After analyzing Democrats only we found no main effects; however, the interaction between group and correction type was still significant, $F$(2, 148) = 3.20, $p$ = .043; $\eta_p^2$ = 0.04, 95% CI [0.00, 0.11]. Similar to the

main analysis, also here the contrast between the ThinkFRE group and the control group in the condition of the correction with the scientific reference was significant ($t(148) = 2.41$, $p = .02$, Cohen's $d = 0.66$, 95% CI [0.12, 1.21]) as opposed to the correction without a source ($p = .53$) and the baseline condition ($p = .25$).

Familiarity

Among the initial 287 participants, 63 were familiar with the statement that the COVID-19 vaccine can cause sterility. After excluding them, none of the main effects nor the interaction effect were significant. In other words, among the participants who were unfamiliar with the disinformation, neither the group nor the correction type or the interaction of both variables had an influence on the belief in the disinformation. These findings could be an indication of the Illusory Truth Effect: Information that is repeated, and thus becomes familiar, is more fluent than new information and is, therefore, perceived to be more accurate/true regardless of its actual truth value (Dechêne et al., 2010). However, participants' prior familiarity with the statement did not affect the belief in the disinformation beyond the conditions. This pattern was not replicated in Study 2 and, therefore, we did not elaborate on it.

General Note regarding the preregistration: As documented in the preregistration, the current study was followed by a Conjunction Fallacy task, which was part of a separate project. As none of the findings of the Conjunction Fallacy task were significant, we did not include it in the data analyses. This is also true for Study 2.

Validation: Finally, according to preregistration, we conducted a two-way ANOVA for our main analysis. We realized that our data is not distributed normally. Therefore, to validate the quality of our data and to ensure that there is no violation of the assumptions, we conducted three alternative checks: (1) Exclusion of outliers, (2) Permutation Test, and (3) Ordinal Regression. The patterns of the results of all three checks remained the same as in the ANOVA analysis; thus, we confirmed that our data is valid.

## Study 2

**Materials:**

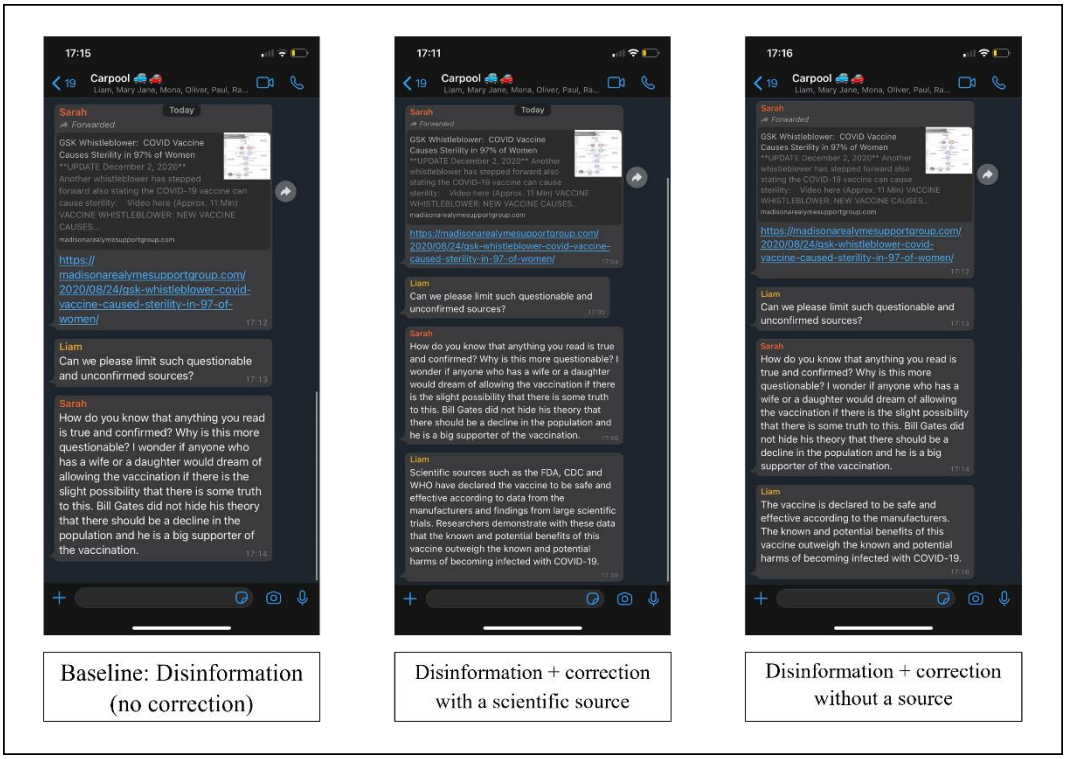



**Fig. S3. Stimuli Study 2.** The conversation presented was inspired by real-life disinformation circulating at the time of the study. Nevertheless, all WhatsApp messages and names are fictitious and were created to resemble a realistic exchange.

### Study 2: Further Findings and Analyses

COVID-19

For further analyses, according to preregistration, we evaluated the data again without participants who reported high distress from the COVID-19 pandemic—that they are very worried about contracting the virus, or that they already have contracted the virus. After these participants were removed, a sample of 191 was left. The findings of a two-way ANOVA showed a main effect of group, indicating that participants who learned ThinkFRE believed less in the presented disinformation ($M = 1.92$, 95% CI [1.69, 2.15]) than did control participants ($M = 2.55$, 95% CI [2.20, 2.89]), $F(1, 185) = 10.18$, $p = .002$, $\eta_p^2 = 0.05$, 95% CI [0.008, 0.126]. The main effect of correction type was not significant, and neither was the interaction between group and correction type, $F(2, 185) = 2.81$, $p = .063$. Again, as in the main analysis, the contrast between the ThinkFRE group and the control group in the condition of the correction with the scientific reference was significant ($t(185) = 3.52$, $p <$

.001, Cohen's $d$ = 0.92, 95% CI [0.40, 1.45]) as opposed to the correction without a source ($p$ = .07) and the baseline condition ($p$ = .73).

Out of the 287 participants, 232 reported that they are in favor of the vaccine, 16 participants declared to be against the vaccine, and 39 participants were not sure. Even when analyzing only participants who reported to be in favor of the vaccine, the findings showed a significant main effect of group, demonstrating that participants who learned ThinkFRE showed less belief in the disinformation (M = 1.57, 95% CI [1.41, 1.73]) compared to the control group (M = 1.95, 95% CI [1.70, 2.19]), $F$ (1, 226) = 6.60, $p$ = .011; $\eta_p^2$ = 0.02, 95% CI [0.001, 0.084]. The main effect of correction type was not significant, but there was a significant interaction between group and correction type, $F$(2, 226) = 8.93, $p$ < .001; $\eta_p^2$ = 0.07, 95% CI [0.018, 0.142]. Again, the interaction derived from the contrast between the control group and the ThinkFRE group in the condition of the correction with a scientific reference ($t$(226) = 4.86, $p$ < .001, Cohen's $d$ = 1.12, 95% CI [0.65, 1.58]), indicating that the scientific reference is significantly more effective among participants who learned ThinkFRE than among control participants, whereas the comparisons between control participants and ThinkFRE participants in the baseline condition ($p$ = .68) and the one with no source ($p$ = .42) are not significant.

Political Affiliation

Finally, we also tested our data considering participants' political affiliation. Of the 287 participants, 156 were Democrats, 23 Republicans, 89 Independent, and 19 preferred not to identify. Also here we found a significant effect, demonstrating that beyond the study conditions, participants' political affiliation influenced their belief that the COVID-19 vaccine can cause sterility, $F$(3, 283) = 10.08, $p$ < .001; $\eta_p^2$ = 0.10, 95% CI [0.036, 0.16]). We also analyzed whether the effects of this study appeared among Democrats only. The results showed no main effect of group ($p$ = .11), no main effect of correction type ($p$ = .15), but a significant interaction between group and correction type, $F$(2, 150) = 7.35, $p$ < .001; $\eta_p^2$ = 0.09, , 95% CI [0.017, 0.18]. Similar to the main analysis, also here the contrast between the ThinkFRE group and the control group in the condition of the correction with the scientific reference was significant ($t$(150) = 3.96, $p$ < .001, Cohen's $d$ = 1.10, 95% CI [0.54, 1.66]) as opposed to the correction without a source ($p$ = .21) and the baseline condition ($p$ = .99).

Familiarity

Of the sample of 287 participants, 63 reported that they were familiar with the statement that the COVID-19 vaccine can cause sterility. Analyzing the data without these 63 participants, we found slightly different results compared to Study 1. The main effect of group was not significant, $F$(1, 218) = 3.79, $p$ = .053. There was no main effect of correction type, $F$(2, 218) = 1.24, $p$ = .29; however, there was a significant interaction, $F$(2, 218) = 3.13, $p$ = .046, $\eta_p^2$ = 0.03, 95% CI [0.00, 0.08]. Yet, there was still some evidence of the Illusory Truth Effect: A Welch's two-sample $t$-test showed a significant difference in belief in the

disinformation between the two familiarity groups. The disinformation was rated to be more true by participants who were familiar with the statement ($M$ = 2.68, 95% CI [2.28, 3.08]) compared to participants who had never heard the statement before ($M$ = 1.95, 95% CI [1.77, 2.12]), $t(285) = 3.69$, $p < .001$, Cohen's $d = 0.71$, 95% CI [0.28, 1.14].

## Study 3

### Materials:

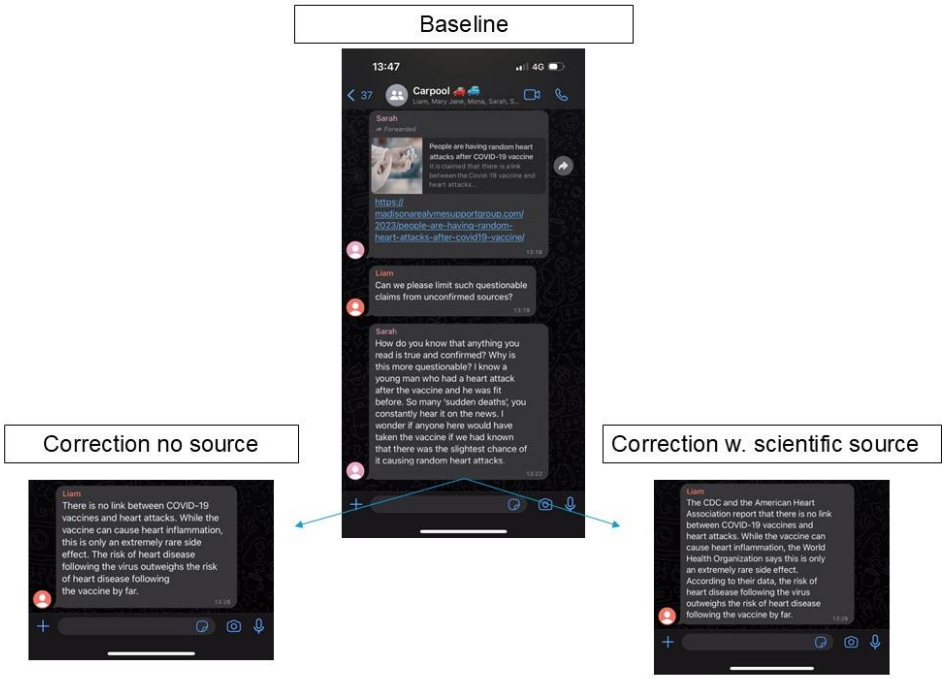



**Fig. S4. Stimuli for Study 3.** The conversation presented was inspired by real-life disinformation circulating at the time of the study. Nevertheless, all WhatsApp messages and names are fictitious and were created to resemble a realistic exchange.

### Participants:

| | COVID-19 vaccine supporters | | COVID-19 vaccine skeptics | |
|---|---|---|---|---|
| | Control | ThinkFRE | Control | ThinkFRE |
| Baseline (no correction) | 81 | 91 | 81 | 76 |
| Corrrection no source | 83 | 86 | 76 | 72 |
| Correction with a scientific s | 89 | 85 | 81 | 74 |

Number of participants in each condition (Study 3)

**Descriptives Main Analysis Study 3:**

**Belief in Causal Connection Between the COVID-19 Vaccine and Heart Disease by Vaccination Attitude, Group and Correction Type:**

*1.1. COVID-19 Vaccine Supporters*

| Correction Type | Group | Mean | SD | N | 95% CI Lower | 95% CI Upper |
|---|---|---|---|---|---|---|
| **Baseline** | **Control** | 2.06 | 1.37 | 81 | 1.76 | 2.36 |
| | **ThinkFRE** | 1.74 | 1.53 | 91 | 1.42 | 2.06 |
| **Correction no source** | **Control** | 1.87 | 1.33 | 83 | 1.58 | 2.16 |
| | **ThinkFRE** | 2.12 | 1.39 | 86 | 1.82 | 2.42 |
| **Correction with scientific source** | **Control** | 1.85 | 1.26 | 89 | 1.59 | 2.12 |
| | **ThinkFRE** | 1.90 | 1.31 | 85 | 1.62 | 2.19 |

*1.2. COVID-19 Vaccine Skeptics*

| Correction Type | Group | Mean | SD | N | 95% CI Lower | 95% CI Upper |
|---|---|---|---|---|---|---|
| **Baseline** | **Control** | 6.87 | 1.79 | 81 | 6.48 | 7.27 |
| | **ThinkFRE** | 6.30 | 1.76 | 76 | 5.90 | 6.71 |
| **Correction no source** | **Control** | 6.97 | 1.86 | 76 | 6.54 | 7.39 |
| | **ThinkFRE** | 6.63 | 1.95 | 72 | 6.17 | 7.08 |
| **Correction with scientific source** | **Control** | 6.90 | 1.56 | 81 | 6.55 | 7.24 |
| | **ThinkFRE** | 6.01 | 2.00 | 74 | 5.54 | 6.47 |

*Note*. Mean belief in disinformation scores (combined measure), standard deviations (*SD*), sample sizes (*N*), and 95% confidence intervals (CI) for COVID-19 vaccine supporters across different groups and correction types.

**Study 3: Further Findings and Analyses:**

Correlation Tables:

*Correlation table between the various items measuring the belief in the presented disinformation, correcting information and distinction between the two:*

| Measure | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1. Belief Disinformation | - | | | | | |
| 2. Virus and Inflammation | 0.680*** | - | | | | |
| 3. Vaccine and Inflammation | 0.810*** | 0.813*** | - | | | |
| 4. Cause for inflammation (Vaccine – Virus) | -0.771*** | -0.559*** | -0.727*** | - | | |
| 5. Heart attack / Inflammation following Virus | 0.300*** | 0.239*** | 0.217*** | -0.208*** | - | |
| 6. Heart attack / Inflammation following Vaccine | 0.626*** | 0.430*** | 0.525*** | -0.563*** | 0.664*** | - |

*Correlation table between the various items measuring the belief in the presented disinformation, correcting information and distinction between the two, once for COVID-19 vaccine supporters and once for COVID-19 vaccine skeptics:*

Pro-vaxxers

| Measure | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1. Belief Disinformation | - | | | | | |
| 2. Virus and Inflammation | 0.303*** | - | | | | |
| 3. Vaccine and Inflammation | 0.415*** | 0.662*** | - | | | |
| 4. Cause for inflammation (Vaccine – Virus) | -0.320*** | -0.122* | -0.358*** | - | | |
| 5. Heart attack / Inflammation following Virus | 0.145** | 0.091* | 0.013 | -0.044 | - | |
| 6. Heart attack / Inflammation following Vaccine | 0.30*** | 0.03 | 0.118* | -0.205*** | 0.654*** | - |

Anti-vaxxers

| Measure | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1. Belief Disinformation | - | | | | | |
| 2. Virus and Inflammation | 0.645*** | - | | | | |
| 3. Vaccine and Inflammation | 0.776*** | 0.777*** | - | | | |
| 4. Cause for inflammation (Vaccine – Virus) | -0.486*** | -0.387*** | -0.511*** | - | | |
| 5. Heart attack / Inflammation following Virus | 0.208** | 0.176*** | 0.128** | -0.039 | - | |
| 6. Heart attack / Inflammation following Vaccine | 0.408*** | 0.293*** | 0.349* | -0.314*** | 0.681*** | - |

<u>Main analysis including participants who reported a different vaccination attitude than indicated by the prescreening</u>

*COVID-19 Vaccine Skeptics:*

Two-way ANOVA for the effect of Group and Correction on belief in disinformation (combined measure):

| | Sum Sq | df | F-value | p-value |
|---|---|---|---|---|
| **Group** | 59.36 | 1 | 13.84 | < .001 |
| **Correction** | 17.85 | 2 | 2.08 | .126 |
| **Group × Correction** | 5.76 | 2 | 0.67 | .511 |
| **Residual** | 2307.61 | 538 | | |

Note. Sum Sq = Sum of Squares.

*COVID-19 Vaccine Supporters:*

Two-way ANOVA for the effect of Group and Correction on belief in disinformation (combined measure):

| | Sum Sq | df | F-value | p-value |
|---|---|---|---|---|
| **Group** | 0.13 | 1 | 0.0601 | .8064 |
| **Correction** | 2.06 | 2 | 0.4872 | .6146 |
| **Group × Corre** | 5.99 | 2 | 1.4132 | .2442 |
| **Residual** | 1169.50 | 552 | | |

Note. Sum Sq = Sum of Squares.

Comparison of Correction Types Within Each Group (COVID-19 Vaccine Skeptics):

The scientific correction was ineffective in the control group, showing no significant difference when compared to the baseline condition ($p$ = .92) or to the correction without a source ($p$ = .36). In the ThinkFRE group, the scientific correction ($M$ = 5.55, 95% CI [5.13, 5.98]) did not influence belief in the disinformation compared to the baseline condition ($M$ = 5.99, 95% CI [5.55, 6.43]; $p$ = .16) but was effective compared to the no-source correction ($M$ = 6.19, 95% CI [5.76, 6.62]), $t$(538) = 2.07, $p$ = .039, $d$ = 0.31, 95% CI [0.02, 0.60].

Comparison of ThinkFRE and Control Across Correction Types (COVID-19 Vaccine Skeptics):

COVID-19 vaccine skeptics who used ThinkFRE had lower general disinformation belief in the scientific-correction condition ($M$ = 5.55, 95% CI [5.13, 5.98]) than control participants ($M$ = 6.50, 95% CI [6.07, 6.92]), $t$(538) = 3.10, $p$ = .002, $d$ = 0.46, 95% CI [0.17, 0.75]. However, there was no significant difference between ThinkFRE and control in the baseline condition ($p$ = .13) and in the no-source correction condition ($p$ = .07).

Similar to the analysis reported in the manuscript, none of the specific contrasts above were significant for the COVID-19 vaccine supporters.

Three-Way Interaction (Combined Measure)

We conducted a three-way ANOVA with a 2 (vaccination attitude: supporters/skeptics) x 2 (group: ThinkFRE/Control) x 3 (correction type: correction with scientific source/correction with no source/baseline) design. We found the following effects: (1) A main effect of vaccination attitude, highlighting that COVID-19 vaccine skeptics believed significantly more that the vaccine is related to heart disease ($M$ = 6.62, 95% CI [6.45, 6.79]) compared to COVID-19 vaccine supporters ($M$ = 1.92, 95% CI [1.80, 2.04]), $F(1, 963) = 2093.71$, $p < .001$; $\eta_p^2 = 0.68$, 95% CI [0.66, 0.71]. (2) A main effect of group, indicating that participants who learned the ThinkFRE strategy believed less in the claimed link between the COVID-19 vaccine and heart disease ($M$ = 3.93, 95% CI [3.69, 4.18]) compared to those in the control group ($M$ = 4.34, 95% CI [4.08, 4.60]), $F(1, 963) = 7.99$, $p < .01$; $\eta_p^2 = 0.008$, 95% CI [0.001, 0.02]. (3) A significant interaction between the vaccination attitude and the group, $F(1, 963) = 8.41$, $p < .01$; $\eta_p^2 = 0.009$, 95% CI [0.001, 0.024].

Specific Items:

*Belief in disinformation (single item):*

Conducting a three-way ANOVA with a 2 (vaccination attitude: supporters/skeptics) × 2 (group: ThinkFRE/Control) × 3 (correction type: correction with scientific source/correction with no source/baseline) design. We found the following main effects: (1) A main effect of vaccination attitude, highlighting that COVID-19 vaccine skeptics believed significantly more that the vaccine causes random heart attacks ($M$ = 5.57, 95% CI [5.44, 5.69]) compared to COVID-19 vaccine supporters ($M$ = 2.00, 95% CI [1.90, 2.0]), F(1, 963) = 2095.33, $p < .001$; $\eta_p^2 = 0.69$. (2) A main effect of group, indicating that participants who learned the ThinkFRE strategy believed less that the vaccine might cause random heart attacks ($M$ = 3.45, 95% CI [3.26, 3.64]) compared to those in the control group ($M$ = 3.91, 95% CI [3.72, 4.11]), $F(1, 963) = 23.79$, $p < .001$; $\eta_p^2 = 0.02$. (3) A main effect of correction type, indicating differences in belief in the presented disinformation across the correction conditions: Participants in the baseline condition (no correction) believed the disinformation the most ($M$ = 3.89, 95% CI [3.66, 4.12]), followed by participants who viewed a correction without a source ($M$ = 3.64, 95% CI [3.40, 3.88]), and those who saw a correction with a scientific reference believed it the least ($M$ = 3.51, 95% CI [3.28, 3.75]), $F(2, 963) = 7.38$, $p < .001$; $\eta_p^2 = 0.02$. (4) A significant interaction effect of group and the participants' vaccination attitude, $F(1, 963) = 7.91$, $p = .005$; $\eta_p^2 = 0.008$. Specifically, while ThinkFRE had a significant effect on the COVID-19 vaccine skeptics, it did not affect the COVID-19 vaccine supporters. This effect aligns with the observation that COVID-19 vaccine supporters showed low belief in the presented disinformation from the outset and, thus, did not require a corrective strategy, unlike the COVID-19 vaccine skeptics.

**COVID-19 Vaccine Skeptics:** We conducted a two-way ANOVA among COIVD-19 vaccine skeptics with a 2 (group: ThinkFRE/Control) × 3 (correction type: correction with scientific

source/correction with no source/baseline) design. The analysis revealed a significant main effect of group, showing that participants who learned ThinkFRE believed the disinformation significantly less (M = 5.25, 95% CI [5.06, 5.45]) than control participants (M = 5.86, 95% CI [5.71, 6.01]), F(1, 454) = 24.08, p < .001, $\eta_p^2$ = 0.05, 95% CI [0.018, 0.095]. There was no main effect of correction type (p = .23), nor was there an interaction effect of group and correction type (p = .31).

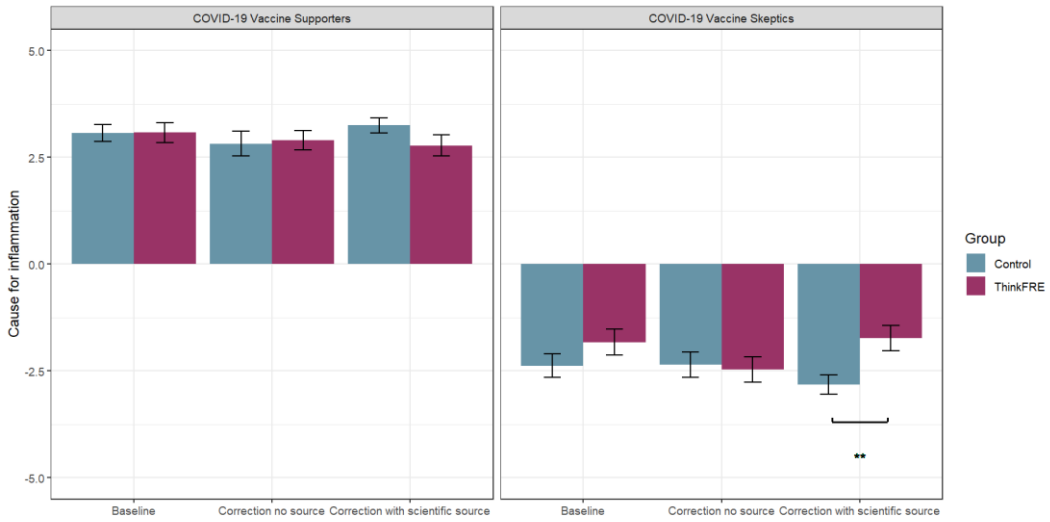
**COVID-19 Vaccine Supporters:** Among COVID-19 vaccine supporters there was no significant main effect of group, $F(1, 509) = 3.18$, $p = .08$, indicating no difference between participants in the ThinkFRE group ($M$ =1.92, 95% CI [1.79, 2.05]) and control participants ($M$ = 2.08, 95% CI [1.94, 2.22]) in the extent to which they believed the disinformation. There was a significant effect of correction type, $F(2,509) = 7.78$ , $p < .001$, $\eta_p^2$ =0.03, 95% CI [0.006, 0.062]. Specifically, despite low belief in the disinformation among COVID-19 vaccine supporters, the corrections, both with ($M$ = 1.80, 95% CI [1.66, 1.95]) and without a scientific source ($M$ = 1.94, 95% CI [1.78, 2.10]), resulted in lower belief in the disinformation compared to the baseline condition without a correction ($M$ = 2.25, 95% CI [2.06, 2.44]). Lastly, there was no interaction effect between group and correction type, $F(2, 509) = 2.35$, $p = .096$.

*Attributing the Cause for Heart Inflammation: COVID-19 Vaccine vs. COVID-19 Virus:*

Conducting a three way ANOVA for the causal attribution item, we found a strong main effect of vaccination attitude, indicating that while COVID-19 vaccine supporters see the virus as a more common cause for heart inflammation ($M$ = 2.98, 95% CI [2.80, 3.17]), COVID-19 vaccine skeptics see the vaccine as a more common cause for heart inflammation ($M$ = -2.27, 95% CI [-2.50, -2.05]), $F(1, 963) = 1253.5$, p < .001; $\eta_p^2 = 0.57$. There is also a significant interaction effect between vaccination attitude and group, $F(1, 963) = 4.77$, $p$ = .029; $\eta_p^2 = 0.005$ (see Fig. 10). No other factors or their interactions affected this item.

**COVID-19 Vaccine Skeptics:** The ThinkFRE paradigm was effective among the COVID-19 vaccine skeptics, which is expressed in the main effect of group, $F(1, 454) = 5.06$, $p = .025$; $\eta_p^2 = 0.025$. Specifically, COVID-19 vaccine skeptics tended to believe that the vaccine is the more common cause for heart inflammation compared to the virus, and this belief was reduced in the ThinkFRE group ($M$ = -2.00, 95% CI [-2.35, -1.66]) compared to control participants ($M$ = -2.53, 95% CI [-2.83, -2.22]). Similar to the belief in the disinformation and the combined measure, there is no significant main effect of correction type ($p$ = .57) and no significant interaction ($p$ = .10).

**COVID-19 Vaccine Supporters:** Among COVID-19 vaccine supporters, however, there were no significant main effects of group ($p$ = .50) and correction type ($p$ = .64), nor a significant interaction ($p$ = .43).




**Three-way ANOVA for cause attribution for heart inflammation.** Participants completed a task asking them to move a circle along a slider to indicate, in their opinion, the more common cause for heart inflammation. (Slider from "COVID-19 Vaccine" to "COVID-19 Virus".) The participants' responses of the slider scale were recorded from -5 to +5, with -5 indicating a belief that the vaccine is the primary cause of heart inflammation and +5 indicating a belief that the virus is the primary cause. Negative values on this scale reflect participants who believe that the COVID-19 vaccine is the more common cause of heart inflammation than the COVID-19 virus, while positive values indicate the opposite. A score closer to zero suggests a more balanced or uncertain perception between the two causes.

## Intellectual Humility

We measured intellectual humility with the Leary scale (2017). COVID-19 vaccine supporters showed significantly higher scores ($M$ = 4.11, 95% CI [4.06, 4.16]) compared to COVID-19 vaccine skeptics ($M$ = 3.89, 95% CI [3.82, 3.96]), $F(1, 963) = 26.22$, $p < .001$; $\eta_p^2 = 0.03$. Participants who learned the ThinkFRE strategy reported higher intellectual humility ($M$ = 4.08, 95% CI [4.02, 4.14]) compared to control participants ($M$ = 3.93, 95% CI [3.87, 3.99]), $F(1, 963) = 12.08$, $p < .001$; $\eta_p^2 = 0.01$. There was a significant negative correlation between the intellectual humility score and the belief in the presented disinformation; however, it was very small.

## Political Affiliation

*Table of number of participants by self-reported political affiliation:*

| | **COVID-19 vaccine supporters** | **COVID-19 vaccine skeptics** |
|---|---|---|

| | | |
|---|---|---|
| Republican | 29 | 234 |
| Democrat | 340 | 49 |
| Independent | 137 | 162 |
| Prefer not to identify | 9 | 15 |