

Supplementary Materials: Distancing and Moral Dumbfounding Pilot Studies

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Author Note

All procedures performed in studies involving human participants were approved by the Institutional Research Ethics Committee and conducted in accordance with the Code of Professional Ethics of the Psychological Society of Ireland and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study. The authors declare that there are no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Abstract

Moral dumbfounding occurs when people maintain a moral judgment in the absence of supporting reasons. Drawing on dual-process approaches to moral judgment, one possible explanation for moral dumbfounding proposes that it occurs as a result of a conflict between intuitive and deliberative processes. Consistent with this explanation, previous research has shown that under manipulations designed to lead to more intuitive thinking rather than deliberative thinking (such as increased cognitive load), people are less likely to provide reasons for their judgments, and more likely to provide dumbfounded responses in a moral dumbfounding task. Building on this work the present research examines if dumbfounded responding can be reduced through experimental manipulations designed to facilitate deliberative thinking (over intuitive thinking). Drawing on construal-level theory, and the finding that distancing facilitates deliberative thinking, we predict that including a distancing manipulation in a moral dumbfounding task will increase reason-giving, and reduce dumbfounded responding. We propose a pre-registered study to test this prediction.

Keywords: moral dumbfounding, distancing, construal-level theory, dual-processes, reasons, intuitions

Supplementary Materials: Distancing and Moral Dumbfounding Pilot Studies

Below we present eight pilot studies to test the hypothesized relationship between distancing and dumbfounded responding. Recent work (McHugh et al., 2023) has provided a conflict in dual-processes (e.g., Bonner & Newell, 2010) explanation of moral dumbfounding. According to this view, dumbfounding occurs when a habitual (moral judgment) response is in conflict with a deliberative response (providing reasons). This explanation is consistent with dual-process approaches to moral judgment (e.g., Bago & De Neys, 2019; Cushman, 2013; Greene, 2008), as well as with a unimodel (Kruglanski & Gigerenzer, 2011) and categorization (McHugh et al., 2022 approaches).

A key prediction of this explanation is that rates of reason-giving should be influenced by experimental manipulations that impact intuitive vs deliberative thinking. Previous work has demonstrated that inhibiting deliberative thinking through a cognitive load manipulation can reduce reason-giving, leading to higher rates of dumbfounding (McHugh et al., 2023). A corollary of this finding is that reason-giving should be increased under manipulations that encourage deliberative thinking. Drawing on construal-level theory (Förster et al., 2004; Liberman et al., 2002), we predict that increased distance will facilitate the identification of reasons, leading to lower levels of dumbfounded responding.

The Current Pilot Studies

We tested the feasibility of different manipulations of both temporal distance and psychological distance. A-priori power analysis indicated that in order to detect a large effect size ($V = .35$) with 80% power, a sample of $N = 79$ participants is required, in order to detect a medium effect size ($V = .21$) with 80% power a sample of $N = 218$ participants is required, and in order to detect, a small effect size ($V = .07$) with 80% power a sample of $N = 1966$ is required. The pilot studies below are sufficiently powered to detect large effects only. Based on previous research investigating influences on moral dumbfounding we anticipate a small to medium effect size (e.g., McHugh et al., 2023, report $V = 0.12$). Despite being under-powered, these studies are

descriptively informative, and provide a preliminary estimate of the direction of any possible effect that would be expected from a higher powered study.

Pilot Studies 1 and 2 employ a manipulation of psychological distance compared against no manipulation. Pilot Studies 3, 4, 6, and 7 employ a temporal distance manipulation, comparing increased temporal distance against decreased temporal distance. For consistency across conditions, and in order to enhance the plausibility of the materials, participants in these studies were encouraged to think about the scenarios from the perspective of a third person (thus these studies additionally included a psychological distance manipulation, however this was kept constant across conditions). Pilot Studies 5 and 8 were also employed a temporal distance manipulation, and participants were encouraged to think about the scenarios from a first person perspective. Pilot Studies 1-5, and 8 used the *Julie and Mark* scenario while Pilot Studies 6 and 7 used the *Jennifer* scenario. Pilot Studies 1, 2, 3, 4, 5, 7, and 8, recorded dumbfounded responding using the ‘critical slide’ (McHugh et al., 2017, 2023), while Pilot Study 6 trialed a more continuous measure of dumbfounded responding. The designs and results of Pilot Studies 1-8 are summarized in Figure 1.

Figure 1

Overview of Pilot Studies 1-8.

Study	Distancing	Manipulation	Conditions	Perspective	Scenario	Measure	N	Result	<i>p</i>	direction
Pilot 1	Psychological	Anne vignette	Present vs Absent	First person	Julie & Mark	Critical Slide	120	No sig. Effect	.292	(predicted)
Pilot 2	Psychological	Anne vignette	Present vs Absent	First person vs third person	Julie & Mark	Critical Slide	104 / 76	No sig. Effect	.098 / .101	(predicted)
Pilot 3	Temporal	Anne vignette	Increased vs decreased	Third person	Julie & Mark	Critical Slide	117 / 71	Sig. Effect	.010 / .017	predicted
Pilot 4	Temporal	Anne vignette	Increased vs decreased	Third person	Julie & Mark	Critical Slide	165 / 77	No sig. Effect	.741 / .879	(predicted)
Pilot 5	Temporal	Imagined assignment	Increased vs decreased	First Person	Julie & Mark	Critical Slide	97 / 71	No sig. Effect	.432 / .464	(predicted)
Pilot 6	Temporal	Anne vignette	Increased vs decreased	Third person	Jennifer	Scale Measure	158 / 76	No sig. Effect	.306 / .278	(predicted)
Pilot 7	Temporal	Anne vignette	Increased vs decreased	Third person	Jennifer	Critical Slide	159 / 87	No sig. Effect	.868 / .472	(predicted)
Pilot 8	Temporal	Modified Scenario	Increased vs absent	First Person	Julie & Mark	Critical Slide	286 / 124	No sig. Effect	.482 / .681	(opposite)

Note. Sample sizes listed are the total samples that passed the attention checks, without exclusion based on responses to Need for Closure, followed by the sample size when excluding participants who failed the Need for Closure attention check.

Pilot Study 1: Psychological Distance, “Julie and Mark”

The aim of Pilot Study 1 was to investigate if a psychological distance manipulation influenced participants’ ability to justify their moral judgment. We also measured social desirability (Ballard, 1992; Crowne & Marlowe, 1960; Strahan & Gerbasi, 1972) as a potential correlate/moderator variable.

Pilot Study 1: Method

Pilot Study 1: Participants and Design

Pilot Study 1 was a between subjects design. The dependent variable was rates of providing reasons/dumbfounding (measured using to the critical slide with 3 response options: 1: reason-giving; 2: nothing-wrong; 3: dumbfounded response - an admission of not having reasons). The independent variable was psychological distancing with two levels: present and absent. To manipulate distancing participants were told that a philosophy student (Anne) had been asked to consider the moral scenario, and participants were asked to consider the reasons they might use to justify Anne’s judgement. Social desirability (Ballard, 1992; Crowne & Marlowe, 1960; Strahan & Gerbasi, 1972) was included as an additional potential predictor variable.

A total sample of 120 participants (62 female, 58 male; $M_{\text{age}} = 38.02$, $\text{min} = 22$, $\text{max} = 75$, $SD = 11.9$) took part. Participants were recruited through MTurk. Participation was voluntary and participants were paid 0.50 US dollars for their participation. Participants were recruited from English speaking countries or from countries where residents generally have a high level of English (e.g., The Netherlands, Denmark, Sweden).

Pilot Study 1: Procedure and Materials

Data were collected using an online survey generated using Questback (Unipark, 2013). The survey opened with questions relating to basic demographics. Following this, participants were presented with two statements relating to the norm principle

(taken from McHugh et al., 2020; Royzman et al., 2015).¹ At this point, the distancing group were presented with an additional set of instructions prior to being presented with the the *Julie and Mark* scenario (taken from Haidt et al., 2000). Participants in the control group did not receive the additional instructions, and proceeded directly to the *Julie and Mark* scenario. The distancing instructions, and the *Julie and Mark* scenario read as follows:

Distancing Instructions.

Anne is a student of philosophy. She generally shows a good understanding of the subject matter, and this is reflected in her grades. Sometimes, however, she may adopt a position on an issue and struggle (or even fail) to defend it.

She is currently taking a course in ethics and has been asked to study the following scenario.

How should Anne judge the actions of the two people involved?

What reasons would you use to explain why she should make that judgement?

Julie and Mark Scenario.

Julie and Mark, who are brother and sister, are travelling together in France. They are both on summer vacation from college. One night they are staying alone in a cabin near the beach. They decide that it would be interesting and fun if they tried making love. At very least it would be a new experience for each of them. Julie was already taking birth control pills, but Mark uses a condom too, just to be safe. They both enjoy it, but they decide not to do it again. They keep that night as a special secret between them, which makes them feel even closer to each other.

¹ Responses to this are not relevant for the research question of interest here and as such we do not discuss this in our analyses.

Participants rated how right or wrong the behaviour of Julie and Mark was on a 7-point Likert scale (where, 1 = *Morally wrong*; 4 = *neutral*; 7 = *Morally right*), and were asked to provide reasons for their judgement. Participants then read a series of counter-arguments (developed by McHugh et al., 2017), which refuted commonly used justifications for rating the behaviour as “wrong”.

Done as far as here

Dumbfounding was measured using the critical slide (McHugh et al., 2017). This contained a statement defending the behaviour and a question as to how the behaviour could be wrong (“Julie and Mark’s behaviour did not harm anyone, how can there be anything wrong with what they did?”). There were three possible answer options: (a) “There is nothing wrong”; (b) an admission of not having reasons (“It’s wrong but I can’t think of a reason”); and finally a judgement with accompanying justification (c) “It’s wrong and I can provide a valid reason”. The order of these response options was randomised. Participants who selected (c) were prompted to type a reason. The selecting of option (b), the admission of not having reasons, was taken to be a dumbfounded response. We note that this measure provides a conservative measure of dumbfounded responding (see McHugh et al., [mchugh__searching__2017a?](#) for discussion).

The substantive content of the questionnaire was the same as was used in Studies 6 through 9. It opened with questions relating to basic demographics. The two statements relating to the norm principle were then presented. At this point, the distancing group were presented with an additional set of instructions which read as follows: Anne is a student of philosophy. She generally shows a good understanding of the subject matter, and this is reflected in her grades. Sometimes, however, she may adopt a position on an issue and struggle (or even fail) to defend it. She is currently taking a course in ethics and has been asked to study the following scenario. How should Anne judge the actions of the two people involved? What reasons would you use to explain why she should make that judgement?

Level 2 Heading: Flush Left, Bold, Title Case

Subsections of the introduction have level 2 headings. A paragraph after a level 2 Heading is on a new line. Regular paragraphs are indented, flush left, and double-spaced.

You do not need to put text after a heading. You can put a higher-level heading directly underneath if you want.

A Level 2 Heading Without Text Below It***Level 3 Heading: Flush Left, Bold Italic, Title Case***

Subsections of a level 2 heading are placed under level 3 headings.

Another Level 3 Heading

Level 4 Heading. A level 4 heading should be indented, flush left, bold, title case, and end with a period. A paragraph after a level 4 or 5 heading is on a new line in this markdown document but will appear as if it were in the same paragraph when rendered. You need at least one paragraph after a level 4 or 5 heading. If you forget the period at the end of the level 4 or 5 heading, it will be added automatically. A period will not be added if the heading ends with a question mark or an exclamation point.

Subsequent paragraphs go on their own lines.

Level 5 Heading. A level 5 heading should be indented, flush left, bold italic, title case, and end with a period. Notice that there was no period after this level 5 heading in the markdown document, but it does appear in the rendered document.

Subsequent paragraphs go on their own lines.

How to Cite References

I am going to cite a reference here in square brackets (**CameronTrivedi2013?**). This reference was in my bibliography file. Here are some variations on parenthetical citations:

- Page references (or any other suffixes are placed after the reference. If you want a comma, you'll need to insert it yourself: (**CameronTrivedi2013?**)

- Prefixes (with or without a comma) are placed before the reference: (e.g., **CameronTrivedi2013?**)
- 2 or more citations separated by a semicolon (**CameronTrivedi2013?;** **cohen2003applied?**)
- Any prefixes or suffixes needing a literal semicolon will confuse Quarto (actually Pandoc). To make it clear that you need to print a semicolon, put a backslash before the semicolon: [FOIL; (**CameronTrivedi2013?**)]

Text references are possible, too.

- (**CameronTrivedi2013?**) said some interesting things.
- (**cohen2003applied?**) said specific things on specific pages.
- Place the reference's year by itself with a minus sign: (**CameronTrivedi2013?**)

Hypotheses, Aims, and Objectives

The last paragraph of the introduction usually states the specific hypotheses of the study, often in a way that links them to the research design.

Method

General remarks on method. This paragraph is optional.

Not all papers require each of these sections. Edit them as needed. Consult the [Journal Article Reporting Standards](#) for what is needed for your type of article.

Participants

Who are they? How were they recruited? Report criteria for participant inclusion and exclusion. Perhaps some basic demographic stats are in order. A table is a great way to avoid repetition in statistical reporting.

Measures

This section can also be titled **Materials** or **Apparatus**. Whatever tools, equipment, or measurement devices used in the study should be described.

Measure A

Describe Measure A.

Measure B

Describe Measure B.

Procedure

What did participants do?

How are the data going to be analyzed?

Results**Descriptive Statistics**

Here we describe the basic characteristics of our primary variables.

Let's make a figure. A reference label for a figure in APA format must have the prefix `apafg-`. This is different from the usual Quarto prefix `fig-`.

To refer to any figure or table, put the chunk label in curly braces. For example, see Figure 2. In Figure 3, we import an image.

We can make a table the same way as a figure except that the label prefix is `apatb-`. Again, this is different from the usual quarto prefix `tbl-`, which will put the table caption in the wrong place and with non-APA formatting.

To refer to this table in text, put the table's reference label in curly braces like so: As seen in Table 1, there is not much information.

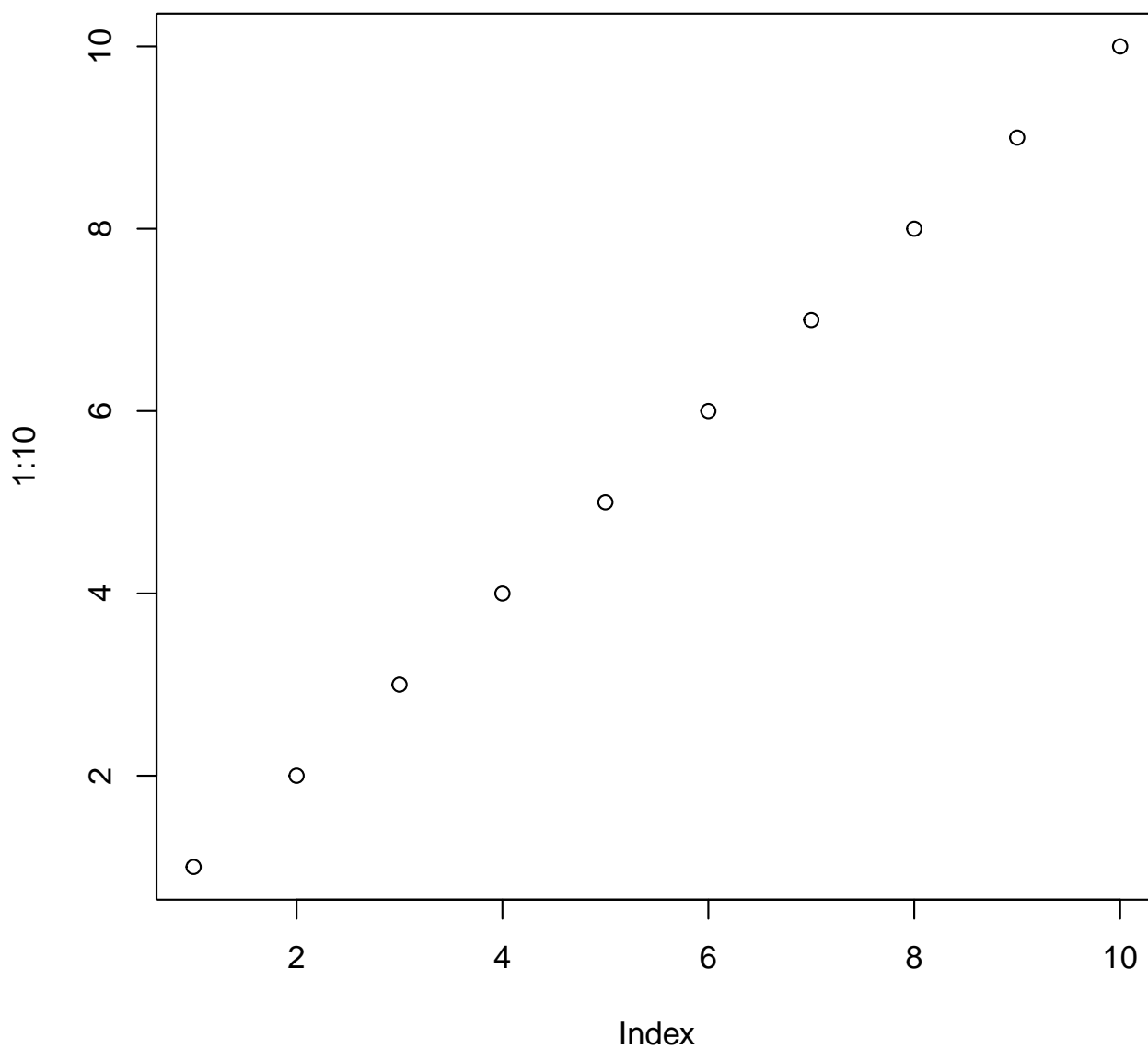
What if you want the tables and figures to be at the end of the document? In the .pdf format, you can set the `floatsintext` option to false. For .html and .docx documents, there is not yet an automatic way to put tables and figures at the end. You can, of course, just put them all at the end, in order. The reference labels will work no matter where they are in the text.

Discussion

Describe results in non-statistical terms.

Figure 2

This is the figure caption.



Note. This is a note below the figure.

Figure 3

This is an imported graphic.



Note. My note.

Table 1

Here is the table caption.

Numbers	Letters
1	A
2	B
3	C
4	D

Note. Here is the note below the table.

Limitations and Future Directions

Every study has limitations. Based on this study, some additional steps might include...

Conclusion

Let’s sum this up.

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Appendix

If there are multiple appendices, label them with level 1 headings as Appendix A, Appendix B, and so forth.