**Supplementary materials**

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## Power analyses

We based our experimental design on the Nichols and Knobe (2007) and Sarkissian et al. (2010) experimental philosophy paradigms. In these studies, participants were presented with an indeterministic versus deterministic universe and were asked which of the two was more similar to the real universe. In Sarkissian and colleagues’ study 82% of the 66 American participants indicated that the free will universe is more realistic, resulting in a chi-square effect of 40.960 (compared to a 50-50 expected random response), which can be converted to a Cohen d effect of 2.56, a very large effect.

In our experimental paradigm participants were presented with only one of the options and were asked to indicate their answers on a scale rather than dichotomous choice, and we therefore expected that the effect would be weaker than the converted chi-square but still moderate to strong (d > .60) for the comparisons between indeterministic and determinism universes. We also introduced an uncertain universe condition, and we wanted to be able to detect more moderate effects (d > .40) in the comparison between either the deterministic and free will universe and the uncertain universe.

Using G\*power 3.1.9.2 we calculate that to achieve .80 power with alpha of .05 and a one-tail effect size of .40 we require 78 participants per cell. We aimed for a sample of at least 100 per condition, and recruited 346 participants overall, achieving a post-hoc power of .91. The effect we found for the contrast between free will and determinism was d = -1.20 for realism and d > .79 for all other intuitions except prosociality. The found effect for the contrast between free will and uncertainty was d = .43 for realism and d > .38 for all other intuitions except prosociality.

## Open Science

Data and code will be shared using the Open Science Framework. Files are available for review using the following link: <https://osf.io/j4k9z/?view_only=753d0b85b2764f1c8cb44d8e5a3c9c1e>

## Procedure and data disclosures

### Data collection

Data collection was completed before conducting an analysis of the data.

### Conditions reporting

All collected conditions are reported.

### Data exclusions

There were no data exclusions. All data is included in the provided data.

### Variables reporting

All variables collected for this study are reported and included in the provided data.

The data collection included a second part with an experiment regarding the Knobe (2003) side-effect effect. That experiment is unrelated to the research questions in this manuscript and therefore not included or referenced.

## Pre-registration

We pre-registered the experiment on March 9th 15:03 UTC on the Open Science Framework and data collection was launched later that day. The pre-registration included additional studies and data collection unrelated to the research questions addressed in this manuscript.

The section pertaining to the current manuscript included the following below:

### Hypotheses

Description of essential elements

Judging the indeterministic universe:

1. The indeterministic universe is most similar to our own universe in comparison with deterministic universe.

Universe manipulations

1. Higher happiness and meaning in the indeterministic universe.
2. Higher moral accountability in the indeterministic universe.
3. Higher theory of mind in the indeterministic universe.

### Methods

Structure:

* Measure free will beliefs
* Manipulate universe - free will universe, deterministic universe, and control.
	+ Questions to contemplate the universe, happiness, meaning, etc.

Planned sample:

1. American MTurk workers,
2. Requirements: 100-10000 tasks, 95%+ approval rate. No other pre-selection rules.
3. No data collection termination rules.

Anticipated data exclusion criteria:

1. We will code answers describing indeterministic, deterministic, and uncertain universe for whether the participant understood the universe. Serious misunderstandings of the manipulations may serve as exclusion criteria.
2. Failing attention and manipulation checks.
3. Duplicate IPs.
4. Surveys completed in unreasonably fast time.
5. No demographic exclusions.
6. data-based outlier criteria;
7. method-based outlier criteria (e.g. too short or long response times).

Procedure

1. Materials are fixed order display, all measures described in the Qualtrics. Randomization is evenly presented (Qualtrics option).

## Materials used in the experiment

### Free will scale

In this part, you will be asked to answer a few questions about your general beliefs about life. Please note that some of the scales include attention checks, to make sure that you're paying attention. For the general questions, there are no right or wrong answers, so answer to the best of your understanding based on what you believe to be true.

Please indicate the extent to which you agree with the following statements:

1. Free will is a part of the human spirit
2. Free will is a basic part of human nature
3. I have free will even when my choices are limited by external circumstances
4. People have free will regardless of wealth or life circumstances
5. Life's experiences cannot eliminate a person's free will
6. I am in charge of the decisions I make
7. I decide what action to take in a particular situation
8. I am in charge of my actions even when my life's circumstances are difficult
9. I have free will

Attention checks:

1. One hundred is more than fifty
2. Poor people have more money than rich people

### Universe manipulation

We now move to different type of scenario that may require a bit of imagination. In the next few pages you will be presented with an imaginary universe. Please read the scenario carefully and answer the questions that follow.

Deterministic universe: Imagine a universe (Universe D) in which everything that happens is completely caused by whatever happened before it. This is true from the very beginning of the universe, so what happened in the beginning of the universe caused what happened next, and so on right up until the present. For example, one-day John decided to have French Fries at lunch. Like everything else, this decision was completely caused by what happened before it. So, if everything in this universe was exactly the same up until John made his decision, then it had to happen that John would decide to have French Fries.

Indeterministic universe: Imagine a universe (Universe D) in which almost everything that happens is completely caused by whatever happened before it. The one exception is human decision making. For example, one-day John decided to have French Fries at lunch. Since a person’s decision in this universe is not completely caused by what happened before it, even if everything in the universe was exactly the same up until John made his decision, it did not have to happen that John would decide to have French Fries. He could have decided to have something different.

Uncertain universe: Imagine a universe (Universe D) in which it is possible that everything that happens is completely caused by whatever happened before it. But in this universe, it is unclear whether human action follows this rule or if it is an exception to this rule. For example, one-day John decided to have French Fries at lunch. In this universe, it is unclear whether John's decision in this universe was or was not completely caused by what happened before it. Assuming everything in the universe was exactly the same up until John made his decision, it is unclear whether or not John could have decided to not have French Fries, and whether he could have decided to have something different.

### Manipulation check

To make sure you understood Universe D, please answer - In Universe D, why did John decide to have French Fries?

1. It had to happen, John could not have chosen otherwise
2. John was free to choose not to eat the French Fries, but decided to eat it
3. It is unclear why John decided what he decided

### Intuitions

#### Realism

1. How similar is Universe D to our own real universe?
	1. Not at all like our universe (0) - Exactly like our universe (5)
2. To what extent does Universe D follow the same laws of nature as our own real universe?
	1. Completely different laws of nature (0) - Exactly the same laws of nature (5)

#### Happiness

1. How happy do you think you can be if you were living in Universe D?
	1. Not at all happy (0) - The happiest possible (5)
2. In Universe D, to what extent is happiness possible?
	1. Happiness not at all possible (0) - Happiness very possible (5)

#### Learning

1. In Universe D, to what extent is learning possible?
	1. Learning not at all possible (0) - Learning very possible (5)
2. In Universe D, does learning something mean anything?
	1. Learning something is meaningless (0) - Learning something is very meaningful (5)

#### Future-orientation

1. In Universe D, which would be more important - past or the future?
	1. Past would be more important (0) - Future would be more important (5)

#### Meaning

1. How meaningful do you think life would be for people living in Universe D?
	1. Without any meaning (0) - Very meaningful (5)
2. How purposeful (filled with purpose) do you think life would be for people living in Universe D?
	1. Without any purpose (0) - Very purposeful (5)
3. Please rate your level of agreement with the following:   In Universe D human action is more meaningful (has unique meaning) than that of other animals
	1. Strongly disagree (0) - Strongly agree (5)
4. Please rate your level of agreement with the following:   In Universe D human action is more purposeful (has a sense of purpose) than that of other animals
	1. Strongly disagree (0) - Strongly agree (5)

#### Uniqueness

1. Please rate your level of agreement with the following:   In Universe D humans are just like any other object in the universe (reversed)
	1. Strongly disagree (0) - Strongly agree (5)
2. Please rate your level of agreement with the following:   In Universe D humans operate under different natural laws than all other objects
	1. Strongly disagree (0) - Strongly agree (5)
3. Please rate your level of agreement with the following:   In Universe D humans possess unique attributes that make them different from all other elements of nature
	1. Strongly disagree (0) - Strongly agree (5)

#### Prosociality

1. In your opinion, would people living in Universe D be more pro-social or more self-centered?
	1. Extremely self-centered (1) - Extremely pro-social (6)
2. In your opinion, would people living in Universe D prefer to promote their own goals or social goals?
	1. Only own goals (1) - Only social goals (6)

#### Moral responsibility

1. Should people living in Universe D be held morally responsible for their negative actions?
	1. People should NOT be held accountable for their actions (0) - People should definitely be held responsible for their actions (5)
2. Do you agree with the following statement? - If someone living in Universe D committed a crime, this person should pay for the crime committed
	1. Strongly disagree (0) - Strongly agree (5)