**The Four-Case Argument and the Existential/Universal Effect**

**Abstract**

One debate surrounding Derk Pereboom’s (2001, 2014) four-case argument against compatibilism focuses on whether, and why, we judge manipulated agents to be neither free nor morally responsible. In this paper, we propose a novel explanation. The four-case argument features cases where an agent is the *only* individual in her universe who has been manipulated. Let us call manipulation whose scope includes at least one but not all agents *existential* *manipulation*. Contrast this with *universal manipulation,* which affects all agents within a universe. We propose that we find agents in Pereboom’s manipulation cases less free and morally responsible in part because they are the target of existential manipulation. We empirically tested this hypothesis and found that people’s free will and moral responsibility judgments were sensitive to the scope of manipulation: people judged existentially manipulated agents significantly less free and responsible than universally manipulated agents.

**Key words:** free will; manipulation; incompatibilism; compatibilism; experimental philosophy

**Word count:** 5127 (including abstract and references)

1. **Introduction**

Compare two universes, one featuring Katie and another Katie\*:

Universe A: Katie is essentially a normal woman, but unlike everyone else, her upbringing causally determines her behaviour. Katie is the only agent in her universe to be raised by her community to make decisions that almost always benefit her. Katie could not have prevented being raised this way, and it is ingrained in her. One day, due to her upbringing, Katie decides to kill Plum.

Universe B: Katie\* is a normal woman, and like everyone else, her upbringing causally determines her behaviour. Katie\*, like every agent in her universe, was raised by her community to make decisions that almost always benefit her. Katie\* could not have prevented being raised this way, and it is ingrained in her. One day, due to her upbringing, Katie\* decides to kill Plum.

Katie and Katie\* share much in common. Both were manipulated from birth to make decisions in a particular way and each of their upbringings causally determines them to decide to kill Plum. But there is an important difference between Katie and Katie\*. Katie is the *only* agent in her universe who has been manipulated. Call manipulation whose scope includes at least one but not all agents *existential* *manipulation*. In contrast, Katie\* is the target of *universal manipulation—*she occupies a universe where every agent is subject to the same kind of manipulation. Does the scope of manipulation affect our judgments about the degree to which Katie and Katie\* are free and responsible?

We empirically investigated this question using cases taken from Derk Pereboom’s (2001, 2014) four-case argument against compatibilism and found that free will and moral responsibility judgments were sensitive to the scope of manipulation. People judge existentially manipulated agents less free and responsible than universally manipulated agents. We also asked participants about existentially determined agents, those who are the only agents in their universe to be determined, and universally determined agents, those who exist in universes where all agents are determined. Again, people judge existentially determined agents less free and responsible than universally determined agents. Our results support the idea that people’s free will and responsibility judgments are sensitive to what we call the existential/universal effect: people judge existentially affected agents to be significantly less free and responsible than universally affected agents.

Our findings have significant implications for the four-case argument.[[1]](#footnote-1) To develop his argument, Pereboom relies on the intuition that manipulated agents are not free and responsible, which he secures by presenting three cases of existentialmanipulation. He then argues that manipulation is relevantly like determinism, which supports the conclusion that compatibilism is false: agents in deterministic universes are not free and responsible. But our findings indicate that there is an important difference between the kind of manipulation featured in Pereboom’s manipulation cases and the kind of determinism featured in deterministic universes. While the former is existential, the latter is universal, and our judgments about free will and responsibility are sensitive to this difference. These findings put pressure on the four-case argument, as well as compatibilist responses to it, and shed new light on how we evaluate free will and moral responsibility.

1. **State of the Debate**

To develop the four-case argument against compatibilism, Pereboom first presents three cases in which an agent, Plum, is manipulated in such a way that he is determined to decide to kill White and does so. In each case, Plum meets a wide-range of sufficient compatibilist conditions for responsibility, despite being manipulated by radio-like technology, neuroscientific programming, and community training. Pereboom argues that Plum is intuitively not morally responsible for his decision to kill White in each case. He also puts forward a candidate explanation for this intuition, which we will call the *determinism hypothesis.*

**Determinism hypothesis:** Because Plum is determinedtodecide to kill White by factors that are beyond his control, we find him not responsible. (Pereboom 2014: 77–78)[[2]](#footnote-2)

Pereboom then presents a fourth case where Plum is determined to decide to kill White not because he was manipulated, but simply because determinism is true. Because Plum is determined to decide to kill White by factors that are beyond his control in this case, the determinism hypothesis applies, and consistency compels us to judge that Plum is not responsible. Thus, Pereboom concludes that determinism undermines free will and moral responsibility.

Compatibilists have responded to the four-case argument in numerous ways. Many grant the intuition that manipulated agents are not morally responsible but deny the determinism hypothesis.[[3]](#footnote-3) Instead they argue that there is a distinctive feature of manipulation cases beyond determinism which explains why Plum is not responsible. One of the most common instantiations of this strategy focuses on the presence of a *manipulator* (Deery & Nahmias 2017, Schlosser 2014, Waller 2014).[[4]](#footnote-4) We will call this the *manipulator hypothesis*.

**Manipulator hypothesis:** Because Plum is determined to decide to kill White by other agents, we find him not responsible*.*

However, Plum in Case 4 is not determined to decide to kill White due to the intentional actions of a manipulator. So, the manipulator hypothesis does not apply, and consistency does not compel us to conclude that Plum in Case 4 fails to be free and morally responsible. On this view, while manipulation undermines free will and moral responsibility, determinism does not.

While the determinism and manipulator hypotheses may partially contribute to our understanding of the intuitions regarding Pereboom’s manipulation cases, they cannot entirely account for them. This is because there is another, under-appreciated, feature of these cases. In Pereboom’s manipulation cases, Plum is the target of *existential manipulation*: he is the onlyagent manipulated. In fact, the first sentence of Cases 2 and 3 indicates that Plum is different from ordinary humans *because* he is manipulated (Pereboom 2014: 77–78).[[5]](#footnote-5) We predict that it is because Plum is existentially manipulated in Cases 1–3 that drives the intuition that he is not responsible for deciding to kill White. We will call this the *existential hypothesis*.

**Existential hypothesis:** Because Plum is determined to decide to kill White by a manipulation which only affects him, we find him not responsible*.*[[6]](#footnote-6)

And while Plum is the target of existential manipulation in Cases 1–3, he is the target of *universal* determinism in Case 4. We are told that “*Everything* that happens in our universe is causally determined by virtue of its past states together with the laws of nature” (Pereboom 2014: 79, emphasis added). Thus, the existential hypothesis does not apply to Case 4 and consistency does not compel us to conclude that Plum is not free or responsible.

1. **The Experiment**

To test these competing hypotheses, we conducted an experiment. 400 people were recruited online using Amazon Mechanical Turk. 127 participants were excluded for failing to respond to the questions or answer the comprehension checks correctly. The final sample consisted of 273 participants (aged 21–63; 93 female; *M* = 33.66, *SD* = 9.32). Participants were randomly assigned to read one of four vignettes:

**Existential/Universal Manipulation**: Scientists and philosophers agree that our upbringings do not play an important role in determining our actions. However, this is not true of Katie. Katie is essentially a normal woman, but unlike everyone else, her upbringing causally determines her behaviour. She was raised since birth to make decisions that almost always benefit her. Katie could not have prevented being raised this way, and it is ingrained in her. / **[Scientists and philosophers agree that our upbringings play an important role in determining our actions. This is true of everyone, including Katie. Katie is a normal woman, and like everyone else, her upbringing causally determines her behaviour. Katie was raised since birth to make decisions that almost always benefit her. Katie, just like everyone else, could not have prevented being raised this way, and it is ingrained in her].** One day, Katie’s upbringing generates in Katie a desire to kill Mr. Plum. Katie is able to regulate her behaviour by moral reasoning and act differently in different situations with different reasons, but in the present circumstances, the desire to kill Mr. Plum is stronger than any competing desire. As a result of her upbringing generating in Katie the desire to kill Mr. Plum, Katie decides to kill Mr. Plum and does it. Reflecting on the action afterward, Katie identifies with the desire to kill Mr. Plum and the resulting action.[[7]](#footnote-7)

**Existential[[8]](#footnote-8)/Universal Determinism:** Scientists and philosophers agree that the past facts and the laws of nature do not play an important role in determining our actions. However, this is not true of Katie. Katie is essentially a normal woman, but unlike everyone else, the past facts and laws of nature causally determine her behaviour. The past facts and laws of nature causally determine Katie to make decisions that almost always benefit her. Katie could not have prevented being determined to make decisions this way and it is ingrained in her. / **[Scientists and philosophers agree that the past facts and the laws of nature play an important role in determining our actions. This is true of everyone, including Katie. Katie is a normal woman, and like everyone else, the past facts and laws of nature causally determine her behaviour. The past facts and laws of nature causally determine Katie to make decisions that almost always benefit her. Katie, just like everyone else, could not have prevented being determined to make decisions this way and it is ingrained in her].** One day, Katie forms the desire to kill Mr. Plum. Katie is able to regulate her behaviour by moral reasoning and act differently in different situations with different reasons, but in the present circumstances, the desire to kill Mr. Plum is stronger than any competing desire. As a result of both the past facts and the laws of nature generating in Katie the desire to kill Mr. Plum, Katie decides to kill Mr. Plum and does it. Reflecting on the action afterward, Katie identifies with the desire to kill Mr. Plum and the resulting action.

Following the vignette, participants were presented with two statements in randomized order: “Katie is morally responsible for killing Mr. Plum” and “Katie kills Mr. Plum of her own free will”. Participants were asked to indicate their level of agreement for each statement on separate 7-point Likert scales which ran from 1 (*strongly* disagree) to 7 (*strongly* agree). The orientation of the Likert scales was randomized.[[9]](#footnote-9)

On a separate follow-up screen, participants were then given three comprehension check questions in randomized order. Those that received a determinism vignette saw statements: (A) “The past facts and laws of nature completely determine Katie’s actions” and (B) “The past facts and laws of nature completely determine most people’s actions”. Those that received a manipulation vignette saw statements: (A) “Katie’s upbringing completely determines her actions” and (B) “Most people’s upbringings completely determine their actions”. Participants were asked to indicate their level of agreement with each statement on a separate 7-point Likert scale. Participants who received an existential vignette were excluded from the analyses if they failed to agree with Statement A (5, 6, 7) and disagree with Statement B (1, 2, 3). Participants who received a universal vignette were excluded from the analyses if they failed to agree with Statement A and Statement B.[[10]](#footnote-10) Finally, all participants saw the statement “In this vignette, you were asked to imagine that Katie…” along with four response options. These were: (a) “Did not want to kill Mr. Plum”, (b) “Was raised to make decisions that almost never benefited her”, (c) “Did not identify with the desire to kill Mr. Plum” and, (d) “Can regulate her behaviour by moral reasoning”. Participants who failed to choose option (d) were excluded from the analyses.

Table 1 summarises the descriptive results for moral responsibility judgments. The %MR column represents the proportion of participants who agree that Katie is morally responsible for killing Mr. Plum (5, 6, 7). The %~MR column represents the proportion of participants who disagree that Katie is morally responsible for killing Mr. Plum (1, 2, 3). The ‘4’ column represents the proportion of people who are indifferent to the statement. Separate one-sample t-tests were run for each condition to test whether mean levels of agreement significantly differed from 4 (indifference). Results of those tests below (two right-hand columns) show that, *overall*, participants judged Katie morally responsible for killing Mr. Plum in *all* conditions.

*Table 1. Descriptive results for moral responsibility judgments.*



Table 2 summarises the descriptive results for free will judgments and follows the same organisational pattern as Table 1. One-sample t-test results show that, overall, participants think that Katie freely kills Plum in all conditions *except* the existential determinism condition.

*Table 2. Descriptive data for free will judgments.*



To compare moral responsibility and free will judgements across conditions we ran a 2x2x2 mixed-model ANOVA with within-subjects factor of moral responsibility/free will, and between-subjects factor of existential/universal and manipulation/determinism. We found a significant main effect of existential/universal *F*(1, 269) = 29.091, *p* < .001. Universal judgments (*M* = 5.67, *SD* = 1.29) were overall significantly higher than existential judgments (*M* = 4.83, *SD* = 1.28). Critically, there was no significant main effect of, nor interaction effect involving, manipulation/determinism.[[11]](#footnote-11)

1. **The Existential/Universal Effect**

As predicted by the existential hypothesis, participants’ free will and moral responsibility judgments were subject to the existential/universal effect: participants judged existentially manipulated and determined agents less free and responsible than universally manipulated and determined agents. Furthermore, we found no evidence of a difference between manipulation and determinism, which was also predicted by the existential hypothesis. These findings support the existential hypothesis over both the determinism and manipulator hypotheses.

The determinism hypothesis predicted participants would judge Katie to be equally un-free and not morally responsible in existential and universal manipulation conditions, since she is determined by factors beyond her control in both. But participants by and large judged Katie to be free and responsible in these conditions, and, more importantly, there was a difference between participants’ judgments regarding them. The manipulator hypothesis predicted participants would judge Katie to be less free and responsible in manipulation conditions than determinism conditions, since her actions were only determined by manipulators in the former.[[12]](#footnote-12) But there was no evidence of a difference between participants’ judgments in manipulation and determinism conditions. Further, the manipulator hypothesis predicted there would be no difference between participants’ judgments regarding existential and universal manipulation conditions, since Katie’s action were determined by manipulators in both. But there was a difference between participants’ responses to these conditions.

These results have several notable implications for debates surrounding Pereboom’s four-case argument. First, contrary to defenders of the four-case argument, the fact that manipulated agents’ actions are determined by factors beyond their control cannot entirely explain our reactions to manipulation cases. Second, a popular response to the four-case argument also misses the mark: the fact that manipulated agents’ actions are determined by manipulators cannot fully account for our judgments about these cases. Instead, the intuition that manipulated agents are less free and responsible is likely due, at least in part, to the fact that they are the *only* agents in their universes targeted by the relevant manipulative techniques. Defenders of the manipulator hypothesis should revise their views to account for how the scope of manipulation can affect agents’ judgments of free will and moral responsibility.

Now, one could argue that Pereboom can replace his manipulation cases with *universal* manipulation cases. If he did this, the existential hypothesis would be unable to account for the intuition that manipulated agents are not free and responsible, and the cases would be relevantly like the determinism case. This brings us to the third implication of our study. When presented with a universal manipulation case, participants judged the manipulated agent to be both free and morally responsible. So, while universal manipulation cases are relevantly like determinism cases, they cannot secure the intuition required to get the argument off the four-case argument ground.

1. **Conclusion**

Our findings, while suggestive, are preliminary, and face limitations that should be addressed in future research. First, one might worry our study doesn’t measure agents’ judgments about the kind of moral responsibility incompatibilists take to be incompatible with determinism.[[13]](#footnote-13) Incompatibilists like Pereboom are concerned with moral responsibility in the *basic desert* sense*—*the sense in which agents truly deserve praise and blame for their actions. While Pereboom takes basic desert to be incompatible with determinism, he thinks forward-looking moral responsibility is not—it can be appropriate to praise and blame agents to, for example, promote moral development in deterministic universes. Unfortunately, the questions featured in our study do not distinguish between basic desert and forward-looking senses of moral responsibility. Both senses of moral responsibility are present in everyday life, and it is possible at least some participants reported forward-looking responsibility judgments and not basic desert ones.

However, the existential/universal effect manifested both in participants’ moral responsibility *and* free will judgments. And, while there might be a forward-looking conception of free will in the philosophical literature, there is no corresponding concept in everyday life. Thus, we can be reasonably confident our study measured participants’ judgments about the kind of free will at issue in the debate between incompatibilists and compatibilists. But it is a limitation of our study that we cannot rule out the possibility that at least some participants reported forward-looking responsibility judgments. Differentiating between various senses of moral responsibility would also allow us to investigate an interesting difference found between participants’ moral responsibility and free will judgments in our study. We found moral responsibility judgments (*M* = 5.47, *SD* = 1.39) were significantly higher than free will judgments (*M* = 5.03, *SD* = 1.50). Further, the existential/universal effect was greater for free will judgments than moral responsibility judgments.[[14]](#footnote-14) One explanation of this difference is that participants were divided between considering basic desert and forward-looking moral responsibility, and judgments of the latter were less (or un-)affected and thus higher. Future studies can investigate this hypothesis and test whether judgments about basic desert and/or forward-looking responsibility are subject to the existential/universal effect.

Second, one might worry that our response to the four-case argument does not meet the relevant argumentative burden. Pereboom argues that in order to object to the four-case argument, one must “…point out a relevant and principled difference between any two adjacent cases that would show why the agent might be responsible in the later but not in the earlier one” (2014: 75). And while our study indicates that there is a difference between manipulation and determinism cases that impacts our judgments about them*—*the former are existential while the latter are universal*—*it does not address whether this is a *principled* difference or shed light on *why* our judgments are impacted by the existential/universal effect.

But we need not offer a principled defence of the existential/universal effect in order to object to the four-case argument. Our study suggests we find manipulated agents less free and responsible than other agents not merely because their actions are determined by factors beyond their control but because they are determined by a manipulation which only affects them. This suggests that the determinism hypothesis cannot adequately account for our reaction to cases in the four-case argument. And, without the determinism hypothesis, the four-case argument cannot succeed. Notice that we need not explain *why* we find existentially manipulated agents less free and responsible than others, nor whether we *should* do so, to illustrate that the determinism hypothesis is incomplete.[[15]](#footnote-15) Still, these questions are interesting in their own right, and exploring them could serve to improve accounts of free will and responsibility more generally. Thus, we take these to be important questions to address in future research.

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1. Though we focus on Pereboom’s four-case argument in this paper, our findings will likely generalise to other manipulation arguments against compatibilism (see Kane 1996, Mele 2006) as well. [↑](#footnote-ref-1)
2. One could also defend a weaker hypothesis: we find Plum *less* responsible because his decision has been determined by factors beyond his control. Todd (2011) argues this is all Pereboom needs for the four-case argument to go through. We will consider this weak version of the determinism hypothesis, and the competing hypotheses, when discussing their predictions. [↑](#footnote-ref-2)
3. McKenna (2008) calls this strategy the ‘soft-line,’ In contrast, McKenna’s (2008) hard-liners argue that agents in manipulation cases really are free and responsible. For hard-line responses, see Fischer (2011), McKenna (2008, 2014), and Sartorio (2016). [↑](#footnote-ref-3)
4. This response has some empirical support. See Feltz (2013), Murray & Lombrozo (2017), and Phillips & Shaw (2015). However, Björnsson (in prep) found that non-agential manipulation (by infection) undermined attributions of free will and responsibility to the same degree agential manipulation did. For empirical work that explores other effects on free will and responsibility intuitions, see, for example, Björnsson (2014), Nahmias, Mossis, Nadelhoofer, & Turner (2005; 2006), Nichols & Knobe (2007), Rose & Nichols (2013), and Roskies & Nichols (2008). [↑](#footnote-ref-4)
5. McKenna has also recently noted the existential nature of Pereboom’s manipulation cases: “We are not invited to suppose that all agents in the world inhabited by Plum (in Case 1 or Case 2) are so manipulated, nor are we to make any further assumptions that at Plum’s world (in Case 1 or Case 2) determinism is true” (2017: 583). [↑](#footnote-ref-5)
6. We also tested a closely related hypothesis regarding existential and universal determinism. We predicted that participants would find an agent who is the only individual in the universe whose behaviour is causally determined to be less free and responsible than an agent who exists in a universe in which everyone’s behaviour is causally determined. [↑](#footnote-ref-6)
7. The manipulation vignettes are modelled on Pereboom’s (2001, 2014) Case 3 and Feltz’s (2013) culture vignette, though we describe manipulation in terms of agents’ upbringing, instead of community training, to make the scenarios more accessible. One might argue that the manipulator’s presence is not robust enough in our scenarios to test the manipulator hypothesis. However, we think describing Katie as being “raised since birth to make decisions that almost always benefit her” is relevantly similar to describing her as being “extensively trained by [her] community to make decisions that almost always benefit [her]” (Feltz 2013: 56). Furthermore, even if these scenarios do not sufficiently highlight the intentional actions of other agents, our research still counts against the manipulator hypothesis, which predicts *no* existential/universal effect. [↑](#footnote-ref-7)
8. Strictly speaking existential determinism may not be nomologically possible, but you can grasp this idea by imagining a backwards light-cone behind each agent, such that the specific facts in that backward light-cone in conjunction with the laws of nature causally determine some agents’ actions but not others (see Ismael 2016). [↑](#footnote-ref-8)
9. Rerunning our analyses, our reported results are not impacted by including statement order as a factor. [↑](#footnote-ref-9)
10. One might worry that the descriptions of manipulation and determinism in the vignettes are compatible with these factors influencing (or failing to influence) agents’ actions as opposed to determining (or failing to determine) them. However, our comprehension checks asked whether Katie/most people’s actions are *completely determined* by their upbringing/past facts and laws of nature, so we were able to rule out participants who formed mere-influence judgments. Still, it would be good for future studies to test different wordings to confirm the present results. [↑](#footnote-ref-10)
11. We also found a significant main effect of moral responsibility/free will *F*(1,269) = 30.212, *p* < .001, and significant two-way interaction between moral responsibility/free will and existential/universal *F*(1, 269) = 11.307, *p* = .001. We discuss these effects in the concluding section. [↑](#footnote-ref-11)
12. Not all defenders of the manipulator hypothesis would accept this prediction. Some defenders of this hypothesis argue that manipulation mitigates free will and moral responsibility when a manipulator *intends* that an agent perform a particular action and then intervenes to ensure that they do so (e.g., Deery & Nahmias 2017; Waller 2014). Since our manipulation vignettes, like Pereboom’s Case 3 and Feltz’s culture case, do not state that those who raised Katie intended to ensure that she would kill Plum, these theorists would likely not defend the claim that Katie is less free and responsible in our manipulation conditions, just as they resist the claim that Plum is less free and responsible in Pereboom’s Case 3 (Deery & Nahmias 2017: 1268, footnote 12). Thus, the fact that there was no difference between participants’ judgments in the manipulation and determinism conditions does not threaten these approaches to the manipulation hypothesis. However, the fact that there was a significant difference between participants’ judgments in the existential and universal conditions indicates that these views are incomplete, for these views make no mention of the role existential and universal forms of manipulation play in affecting our judgments of free will and moral responsibility. We hope to more directly explore the ways in which intention and scope of manipulation affect judgements of free will and moral responsibility in future research. Thanks to an anonymous reviewer for encouraging us to explore these approaches to the manipulation hypothesis. [↑](#footnote-ref-12)
13. Björnsson & Pereboom (2016) levy this criticism against Feltz (2013) and Murray & Lombrozo (2017). [↑](#footnote-ref-13)
14. Simple effects tests with Bonferroni correction were conducted on the two-way interaction between moral responsibility/free will judgment and existential/universal. For existential vignettes, moral responsibility judgments (*M* = 5.19, *SD* = 1.38) were significantly higher than free will judgments (*M* = 4.47, *SD* = 1.51; *p* < .001). However, for universal vignettes, we observed no significant difference between moral responsibility (*M* = 5.76, *SD* = 1.38) and free will judgments (*M* = 5.58, *SD* = 1.51; *p* = .124). Crucially, both moral responsibility (*p* = .001) and free will judgments (p < .001) were significantly higher in universal vignettes than existential vignettes. [↑](#footnote-ref-14)
15. But this is not to say that there is no principled difference between existential and universal cases. In [redacted], we explore how our responsibility practices are impacted in very different ways by universal and existential phenomena. We then argue that this is a principled difference, especially on Strawsonian approaches to moral responsibility, which take facts about our responsibility practices to be deeply connected to the nature of responsibility itself. This research can also be utilised to support accounts that take free will to be a natural kind. Anthony Flew (1955) first suggested that the meaning of the term ‘free will’ was fixed by ordinary paradigm cases, and several philosophers have recently argued that the meaning of free will depends on what paradigm cases of free will have in common (Heller 1996, Deery 2019, Latham 2019). But as Peter Van Inwagen (1983) points out, these views are consistent with it turning out that we are free even when we are all being manipulated by Martians, which he takes to be absurd. However, our research indicates that this is not an absurd implication. Participants typically take ‘free will’ to successfully refer in cases where manipulation and/or determinism is the norm, and they are less likely to take ‘free will’ to refer in cases where manipulation and/or determinism were not features of the paradigm. [↑](#footnote-ref-15)