



ELSEVIER

Contents lists available at ScienceDirect

Consciousness and Cognition

journal homepage: www.elsevier.com/locate/concog

Commentary

Temperament and intuition: A commentary on Feltz and Cokely[☆]Thomas Nadelhoffer^{a,*}, Trevor Kvaran^b, Eddy Nahmias^c^a Dickinson College, Department of Philosophy, 101A East College, Carlisle, USA^b University of Arizona, Department of Psychology, 503 E. University Blvd., Tucson, AZ 85721, USA^c Georgia State University, Department of Philosophy, P.O. Box 4089, Atlanta, GA 30302-4089, USA

ARTICLE INFO

Available online xxxx

Keywords:

Free will
Moral responsibility
Personality
Extraversion
Folk intuitions

ABSTRACT

In this paper, we examine Adam Feltz and Edward Cokely's recent claim that "the personality trait extraversion predicts people's intuitions about the relationship of determinism to free will and moral responsibility" (INSERT REFERENCE). We will first present some criticisms of their work before briefly examining the results of a recent study of our own. We argue that while Feltz and Cokely have their finger on the pulse of an interesting and important issue, they have not established a robust and stable connection between extraversion and compatibilist-friendly intuitions.

© 2008 Elsevier Inc. All rights reserved.

The history of philosophy is to a great extent that of a certain clash of human temperaments. Undignified as such a treatment may seem to some of my colleagues, I shall have to take account of this clash and explain a good many of the divergencies of philosophers by it. Of whatever temperament a professional philosopher is, he tries when philosophizing to sink the fact of his temperament. Temperament is no conventionally recognized reason, so he urges impersonal reasons only for his conclusions. Yet his temperament really gives him a stronger bias than any of his more strictly objective premises. It loads the evidence for him one way or the other.

–William James, *Pragmatism* (1907)

It seems as if, if you are very strongly impressed by the responsibility which a human being had for his actions, you are inclined to say that these actions and choices cannot follow natural laws. Conversely, if you are very strongly inclined to say that they do follow natural laws, then you are inclined to say I can't be made responsible for my choice. That you are inclined in this way, I should say, is a fact of psychology.

–Ludwig Wittgenstein, *Lectures on Freedom of the Will* (1939)

The suggestion that temperament rather than dispassionate reason may ultimately be driving our philosophical intuitions is not new. Philosophers ranging from Friedrich Nietzsche and Ludwig Wittgenstein to William James and John Dewey have taken the claim seriously in the past. What is novel, however, is the recent attempt on the part of psychologists and experimental philosophers to put these kinds of claims to the test.¹ The paper by Adam Feltz and Edward Cokely falls within this

[☆] Feltz, A., & Cokely, E. (forthcoming). Do judgments about free will and responsibility depend on who you are? Personality differences in intuitions about compatibilism and incompatibilism. *Consciousness and Cognition*, xx, xxx–xxx.

* Corresponding author.

E-mail address: tnadelhoffer@gmail.com (T. Nadelhoffer).

¹ For an overview of the recent trends in experimental philosophy, see Nadelhoffer and Nahmias (2007).

tradition. As such, their attempt to explore the relationship between temperament and philosophical intuitions in a controlled and systematic way is timely and welcomed. At the end of the day, we nevertheless think they still have a lot of empirical spade-work to do if they want to support the broad conclusions they have drawn thus far.

For brevity's sake, we limit our attention in this commentary to Feltz and Cokely's central claim that "the personality trait extraversion predicts people's intuitions about the relationship of determinism to free will and moral responsibility" (Feltz & Cokely, 2008). The first thing worth pointing out is that we agree that if there were robust correlations between individual personality traits and specific sets of intuitions about things such as intentionality, free will, and moral responsibility, this could shed considerable light on folk psychology and perhaps even the psychology of philosophy. But, while we think that Feltz and Cokely have their finger on the pulse of an interesting and important issue, we remain unconvinced that they have established a robust and stable connection between extraversion and compatibilist-friendly intuitions. To see why, consider the following limitations of their study:

- (1) there were only 58 participants;
- (2) participants received only one vignette, which was (a) real world (b) non-reductionist (c) deterministic (d) concrete, and (e) very high affect;
- (3) a truncated version of the Big-Five Personality Inventory was used that has a very limited two prompt extraversion sub-scale; and
- (4) only non-philosophers were used as participants.

On our view (2) is the most problematic feature of Feltz and Cokely's study. As they are quick to point out, previous research suggests that the more concrete and affect-laden a vignette is, the more likely participants will be to have compatibilist-friendly intuitions—i.e., intuitions whereby agents in a deterministic world are nevertheless deemed to be free and morally responsible (Nichols & Knobe, 2007). Moreover, gathering evidence suggests that non-reductionist and real-world scenarios elicit more compatibilist-friendly intuitions than reductionist and fictitious counterparts (Nahmias, 2006; Nahmias, Coates, & Kvaran, 2007). Given that Feltz and Cokely explicitly state that the intuitions of extraverts may be "proportionally less influenced by the deterministic features of the universe... and more influenced by affective or social factors" (Feltz & Cokely, 2008), we find it curious that they stack the deck in favor of compatibilism by using such a heavily affect-laden scenario. In doing so, Feltz and Cokely may have increased the likelihood that participants, regardless of their personality traits, would fail to appreciate the presence of determinism in the vignette.

At this point, it is also worth pointing out that Feltz and Cokely's results may not reveal anything about *compatibilism* specifically. Rather, extraversion could simply correlate with higher ratings of agreement in general to questions about control and responsibility, or to questions about (or questions that suggest) agents' deserving blame for their actions—the most likely indication of participants' "moral outrage" about an agent's immoral behavior. To test this interpretation, it would first be helpful to use a control scenario that did not involve determinism. For instance, if high extraverts tend to judge people to be more free and responsible in general or perhaps in a scenario that involves other potentially mitigating conditions (such as psychological disorders), this would suggest that Feltz and Cokely have found data to support an extraversion—"judgmental" correlation rather than an extraversion–compatibilism correlation. Another way to test for this potential confound would be to see whether extraversion correlates with people's responses to explicit questions about whether they self-identify as compatibilists or incompatibilists. If there is no such correlation, then Feltz and Cokely's results would be better explained by the hypothesis that they simply rate responsibility higher in *general* rather than the hypothesis that extraverts have more compatibilist-friendly intuitions than people lower on the extraversion scale.

On our view, if you are trying to adjudicate between intuitions that are compatibilist-friendly and those that are not it is very important to make sure that you are tracking the right kind of intuitions. If a compatibilist-friendly intuition is a judgment that an individual in a deterministic world is free and morally responsible, researchers must be sure that their participants appreciate the determinism that is in play in the thought experiments. This is precisely why the experimental design used by Nahmias, Morris, Nadelhoffer, and Turner (2005), Nahmias, Morris, Nadelhoffer, and Turner (2006), Nahmias et al. (2007) included manipulation checks and used multiple vignettes of varying degrees of concreteness and moral valence. Feltz and Cokely's failure to use manipulation checks or to track intuitions across various thought experiments weakens their ability to draw the general conclusion that extraversion predicts specifically compatibilist-friendly intuitions.

In order to further indicate why Feltz and Cokely's conclusion is premature, we are now going to examine some results from a recent large-scale survey we conducted. For present purposes, some important features of our study—which we ran on-line with software and services by Question Pro—include:

1. Over 800 participants have completed the on-line survey.
2. Participants were prompted to state their prior exposure to philosophy. This enables us to divide participants into the following groups: (a) non-philosophers (b) undergraduate philosophy majors (c) graduate students in philosophy, and (d) professional philosophers.
3. Participants were prompted to state their familiarity with the free will debate and say whether they already had a settled belief as far as the compatibilism/incompatibilism debate is concerned. This enables us to examine the relationship between participants' stated positions on the free will debate and their intuitions about particular cases.

4. Participants were presented with two well-known vignettes from the existing literature—namely, the Jeremy case from Nahmias et al. (2005, 2006), and the non-reductive abstract Erta case from Nahmias et al. (2007).
5. Participants were then asked questions concerning free will, deliberation/decision, deterrence-based moral responsibility, and desert-based moral responsibility.
6. Participants received a full version of the Big Five inventory (John & Srivastava, 1999).

In addition to the aforementioned features of the survey, we collected a wide spectrum of demographic information including age, gender, race, religious affiliation, political orientation, education level, etc. Finally, participants also received (a) a 24-item free will scale that has recently been developed by Thomas Nadelhoffer and Lauren Brewer, and (b) personality inventories and scales such as the Beck Depression Inventory, PANAS, and Lind's Moral Judgment Test. While the inclusion of these additional scales yielded some interesting and surprising results, discussing them is beyond the scope of this commentary.

Although we gathered data from more than 800 participants, many were either professional philosophers or graduate students in philosophy. While we think it is important to examine the effect that formal philosophical training has on intuitions about free will, for the current analyses we limit our focus to those individuals who have not had graduate training in philosophy. It is nevertheless worth mentioning that the results of our study suggest that philosophical training may minimize whatever effect temperament has on intuition. If this turns out to be the case, it would put serious pressure on Feltz and Cokely's claim that individual differences in philosophers' personalities may explain the intractability of some philosophical debates. But that is yet another story for another day.

Here, we limit our attention to the relationship between how the non-philosophers responded to the two vignettes and their extraversion scores from the Big Five inventory. To shed light on Feltz and Cokely's results, we followed their own plan of analysis. In doing so, we first examined correlational data between our participants' extraversion scores and their responses to two vignettes designed to probe their intuitions about free will and responsibility. All participants answered four questions in response to each vignette on a five-point scale ranging from strongly disagree to strongly agree.² In accord with Feltz and Cokely's study, we also created three additional "composite" variables based on each participant's responses to the vignettes. For each vignette we averaged their responses to all four questions to generate a composite compatibilism score for both the Erta vignette and the Jeremy vignette. Additionally, we created a third composite score by averaging their responses to all eight questions.

Our correlational analyses suggest a more complicated picture than the one developed by Feltz and Cokely.³ When we examined the correlation between extraversion and the eight individual questions and three composite scores, we found small but significant correlations between extraversion and responses to only our desert-based moral responsibility questions in both our Erta scenario and our Jeremy case. We also found a correlation between extraversion and the Jeremy "decide not to" question and the Jeremy composite compatibilism score. We did not, however, find the widespread correlation between extraversion and compatibilism that Feltz and Cokely found. In particular, we think it is problematic that extraversion (a) failed to correlate with the "free will" question in either of the two vignettes, and (b) failed to correlate with the combined composite compatibilism score. This suggests to us that while extraversion may help predict how compatibilist-friendly an individual's intuitions about desert-based responsibility will be in response to affectively-charged moral cases, it is unlikely that it is crucially tied to intuitions about free will and responsibility more generally.

To further test Feltz and Cokely's "extraversion predicts compatibilism" claim, we once again followed their lead in using an extreme group analysis whereby participants were divided into quartiles according to their extraversion scores on the full Big Five inventory we used. We then compared mean responses of the top and bottom quartiles to each of the variables that correlated significantly with extraversion.⁴ Of the four variables that correlated significantly with extraversion, only the two questions regarding desert-based moral responsibility showed a significant mean difference when the top and bottom quartile were compared. In short, the results of this analysis suggest an even weaker link between extraversion and compatibilist-friendly intuitions than the one suggested by Feltz and Cokely. While extraversion may correlate with participants' intuitions about retribution and desert, we did not find any connection between extraversion and participants' responses to questions about free will, decision-making, or deterrence-based judgments concerning moral responsibility.

The results of our study suggest that the role personality traits play with respect to folk intuitions about freedom and responsibility is more complicated than Feltz and Cokely suggest. Minimally, it seems unlikely that any one personality trait is going to serve as the lone predictor of how compatibilist-friendly an individual's intuitions are likely to be. As we saw earlier, there is evidence that affect may play a large role in determining whether a person will have compatibilist or incompatibilist intuitions about a particular scenario. We suggest that perhaps personality traits will not turn out to be so much

² See appendix for the exact wording of each vignette.

³ Correlations were run between extraversion and all 8 vignette questions, plus three composite compatibilism scores. Only significant correlations are reported. Extraversion and Jeremy Decided: $r(231) = .144, p = .029$; extraversion and Jeremy suffer: $r(231) = .185, p = .005$; extraversion and Erta suffer: $r(231) = .168, p = .01$; extraversion and Jeremy composite: $r(231) = .133, p = .043$.

⁴ Jeremy Decide: High: $M = 3.67, SD = 1.33$; Low: $M = 3.29, SD = 1.46, t(133) = 1.57, p = .12$; Jeremy Suffer: High: $M = 3.08, SD = 1.305$; Low: $M = 2.52, SD = 1.24, t(133) = 2.53, p = .01$; Erta Suffer: High: $M = 3.02, SD = 1.31, t(133) = 2.59, p = .01$; Jeremy Composite: High: $M = 3.52, SD = 0.94$, Low: $M = 3.23, SD = 0.98, t(133) = 1.73, p = .09$.

predictive of how compatibilist-friendly an individual's intuitions are, but rather, how likely they are to be susceptible to particular biasing factors in judgments of free will and responsibility.

The above may help explain why Feltz and Cokely found a relationship between extraversion and compatibilism when using a highly affectively charged case. Based on the existing evidence, one shouldn't conclude that people who are extraverts have compatibilist intuitions in general. Instead, it seems like the only conclusion we are warranted in drawing at this point is that the moral valence of specific scenarios can sometimes influence the relationship between extraversion and compatibilist intuitions. Perhaps what Feltz and Cokely are tracking is not a direct relationship between extraversion and judgments of freedom and responsibility, but rather an indirect relationship between extraversion and a tendency to be susceptible to affective bias. Feltz and Cokely appear to suggest as much when they mention that one of the hallmarks of extraversion is that extraverts often have a "relatively loose emotional regulation" (Feltz & Cokely, 2008). Supporting this view is our own finding that in cases that are not highly affectively salient (such as our abstract Ertan case), extraversion ceases to have a significant effect on intuitions about free will, deliberation, and deterrence-based responsibility.⁵

In light of our preliminary results, we believe that much more research needs to be done not only to determine which personality traits might be predictive of intuitions about freedom and responsibility, but also to explore the contextual conditions in which these relationships exist and the extent to which these relationships between personality and intuitions are direct or indirect. As it stands, it is too early to accept without further argumentation or evidence Feltz and Cokely's attempt to move from their specific participants' intuitions concerning highly morally charged scenarios to a much more general claim about the relationship between extraversion and compatibilist-friendly intuitions. Since we did not find a correlation between extraversion and our participants' responses to free will questions in either of the two vignettes, we have reason to doubt that the results from Feltz and Cokely's study can be used to predict how participants will respond to other less affect-laden cases. We nevertheless believe that they have narrowed in on a set of questions that more psychologists and philosophers need to explore.

Appendix A

A.1. Jeremy case (Nahmias et al., 2006)

Imagine that in the next century, we discover all the laws of nature, and we build a supercomputer which can deduce from these laws of nature and from the current state of everything in the world exactly what will be happening in the world at any future time. It can look at everything about the way the world is and predict everything about how it will be with 100% accuracy. Suppose that such a supercomputer existed, and it looks at the state of the universe at a certain time on March 25th, 2150 A.D., 20 years before Jeremy Hall is born. The computer then deduces from this information and the laws of nature that Jeremy will definitely rob Fidelity Bank at 6:00 PM on January 26th, 2195. As always, the supercomputer's prediction is correct: Jeremy robs Fidelity Bank at 6:00 PM on January 26th, 2195.

Participants were then asked how strongly they either agreed or disagree (on a five point scale) with the following statements:

1. Jeremy robbed the bank of his own free will.
2. Jeremy could have decided not to rob the bank.
3. Jeremy should be punished to deter him and others from committing crimes.
4. Jeremy deserves to suffer for robbing the bank.

A.2. Ertan Case (Nahmias et al. 2007)

Imagine a possible world called Ertan. On Ertan, the landscape and life are very similar to Earth, and there are advanced life forms called Ertans who look, talk, and behave very much like we do. For instance, the Ertans have families, schools, various jobs, parties, arguments, etc. However, the Ertans' science has advanced far beyond ours. Specifically, Ertan psychologists have discovered exactly how Ertans' minds work. For instance, they have discovered that whenever an Ertan is trying to decide what to do, the decision the Ertan ends up making is completely caused by the specific thoughts, desires, and plans occurring in his or her mind. The psychologists have also discovered that these thoughts, desires, and plans are completely caused by the Ertan's current situation and the earlier events in his or her life. These earlier events were also completely caused by even earlier events, eventually going all the way back to events that occurred before the Ertan was born. So, once specific earlier events have occurred in an Ertan's life, these events will definitely cause specific later events to occur. For instance, once specific thoughts, desires, and plans occur in the Ertan's mind, they will definitely cause the Ertan to make the specific decision he or she makes.

⁵ Although we are unable to comment in detail in the short space allowed for this reply, early analyses of our full data set suggest that two other personality traits, agreeableness and neuroticism, seem to share a robust relationship with compatibilism in our low affect case.

Participants were once again asked to judge how strongly they agree/disagree with the following statements:

1. Ertans' decisions are up to them.
2. Ertans are able to make decisions of their own free will.
3. When Ertans do something bad (e.g., commit a crime), they should be punished in order to deter them and others from committing bad actions.
4. When Ertans do something bad (e.g., commit a crime), they deserve to suffer for it.

A.3. The Nadelhoffer/Brewer free will scale

1. People normally have the ability to do otherwise.
2. Having a difficult childhood does not excuse a person's bad behavior.
3. People's choices, decisions, beliefs, actions, and desires are a matter of fate.
4. People's futures are genuinely open—like a series of forking paths.
5. Having a serious mental illness does not excuse a person's behavior.
6. People's choices, decisions, beliefs, actions, and desires have to happen the way they do because of the laws of nature and way things were at the beginning of time.
7. People have free will.
8. People should ultimately be held responsible for their lives, decisions, and actions.
9. The future of the universe is genuinely open—like a series of forking paths.
10. Some people have more free will than others.
11. People are normally blameworthy for their bad actions.
12. If scientists knew everything about a person's desires and beliefs at a particular time, they could know in advance what that person would do next.
13. In order to have free will, a person would have to have alternative possibilities.
14. People should be punished for their bad actions in order to deter other would-be offenders.
15. If scientists knew absolutely everything about the neural and chemical events in a person's brain at a particular time, they could know in advance what that person would do next.
16. In order to have free will, a person must be able to do otherwise.
17. People should be punished for their bad actions because they deserve to suffer the consequences of their actions.
18. If scientists knew absolutely everything about a person's childhood, they could know in advance what that person would do at any given time.
19. People could make different choices even if everything leading up to their choice (e.g., the past, the situation, and their desires, beliefs, goals, etc.) was exactly the same.
20. If a person's actions were entirely determined by past events, he or she should not be punished for performing these actions.
21. If scientists knew absolutely everything about a person's social circumstances, they could know in advance what that person would do at any given time.
22. Some decisions and actions are more free than others.
23. If a person's actions were entirely determined by past events, he or she is not blameworthy for performing them.
24. If scientists knew absolutely everything about a person's genetic make-up, childhood, and social circumstances, they could know in advance what that person would do at any given time.

References

- Feltz, A., & Cokely, E. (2008). Do judgments about free will and responsibility depend on who you are? Personality differences in intuitions about compatibilism and incompatibilism. *Consciousness and Cognition*, doi:10.1016/j.concog.2008.08.001.
- John, O., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. John (Eds.), *Handbook of personality: Theory and research* (pp. 102–138). Guilford Press.
- Nadelhoffer, T., & Nahmias, E. (2007). The past and future of experimental philosophy. *Philosophical Explorations*, 10(2), 123–149.
- Nahmias, E. (2006). Folk fears about freedom and responsibility: Determinism vs reductionism. *Journal of Cognition and Culture*, 6(1–2), 215–237.
- Nahmias, E., Morris, S., Nadelhoffer, T., & Turner, J. (2006). Is incompatibilism intuitive? *Philosophy and Phenomenological Research*, 73(1), 28–53.
- Nahmias, E., Coates, D. J., & Kvaran, T. (2007). Free will, moral responsibility, and mechanism: Experiments on folk intuitions. *Midwest Studies in Philosophy*, 31(1), 214–242.
- Nahmias, E., Morris, S., Nadelhoffer, T., & Turner, J. (2005). Surveying free will: Folk intuitions about free will and moral responsibility. *Philosophical Psychology*, 18(5), 561–584.
- Knobe, Nichols & (2007). Moral responsibility and determinism: The cognitive science of folk intuitions. *Nous*, 41, 663–685.