

REPLY

Free Will, Mechanism, and the Nature of Being Human: Reply to Tryon (2016)

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This article responds to comments by Tryon (2016) regarding the nature of mechanism and free will in psychological science. It is agreed that psychological science has problems with the presentation of mechanistic theories that are simplistic and based on weak data. However, it is argued that a systematic effort to study free will is a worthwhile enterprise. Current data provide evidence both for and against the existence of free will. Sophisticated analysis may provide routes to reconcile determinism with free will in newer and more ecologically valid theory.

Keywords: free will, psychological science, determinism

I thank Warren Tryon (2016) for his comments on my original article examining public perceptions of psychological science. The issue of mechanism and agency was only a part of my original article, but it is an important issue to consider. I believe that Tryon's comment advances this discussion in important ways.

I actually agree with much that Tryon points out. In particular, there are several take-away messages I thought were important:

1. Psychological “models” are often reduced to, as Tryon described, “We place variable names in boxes and draw arrows among the boxes, thereby imputing causality that is never explained” (p. 505). An excellent example of this problem can be found in my own field, in which the outdated general aggression model has been criticized for years for including personological variable boxes that are never explained and seem to serve mainly as a defense against accusations of the theory being *tabula rasa* (see Ferguson & Dyck, 2012). This vague/box/arrow concern is indeed important, particularly when such models rarely offer concrete hypotheses for potential falsification and instead begin to play scientific “whack a mole” with skeptical researchers.
2. The misuse of mediation/moderation models. I am concerned that mediation/moderation models often

inject an extra layer of potential questionable researcher practices (QRPs) into analyses, particularly for techniques such as Structural Equation Modeling (SEM), which appear particularly vulnerable to QRPs (Seaman & Weber, 2015).

3. Psychologists too often continue to infer causation from correlational data. This may include the misattributions of longitudinal data as causal, when it merely, at best, demonstrates chronological order in variable change.

Thus, I am sympathetic with much of Tryon's argument that psychology has a problem with presenting garbage as if it were clear mechanistic models. Developing and rigorously testing mechanistic models that actually work, and could potentially be falsified, is a worthy enterprise. But there is a larger ontological debate to be had about whether the entirety of human experience can be boiled down to mechanism.

The debate regarding whether humans have some degree of free will or agency (the ability to choose behaviors independent of prior learning, socialization or biological inputs) is an ancient one. Few scholars (nor, I suspect, laypersons) would argue that individuals have total free will. It is beyond discussion that both socialization and biology contribute causally to our behavior. But imagine that we might be able to conduct a perfect study in which we predict behavior based on all possible social and biological inputs. Assuming no error, would 100% of the variance in behavior be explained by all possible input variables, and, if not, would that be evidence for the existence of human free will? This appears to be the issue under debate.

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Up for discussion are competing paradigms related to mind–brain dualism versus materialism and the perception most people have of being something more than simply brain processes or learning histories (Stapp, 2010). Perceptions of dualism on the part of the public are often treated with patronizing tone by scholarly advocates of materialism or mechanism (e.g., Coyne, 2013). The result is a divide in which dualism is treated as pseudoscientific wishful thinking and mechanism/materialism is perceived as arrogant reductionism.

At root is one inherent limitation of psychological science, namely that, as with all sciences, it is basically mechanistic. Demonstrating nonmechanistic free will through mechanistic science would obviously be difficult, potentially rendering the question of free will, like that of God(s): beyond the range of scientific inquiry. That is to say, although those who make statements supporting free will are making statements of faith, not science, definitive statements against free will fall into the same trap.

Such a perspective also risks ignoring considerable innovative research evidence and theorizing from within psychological science that the concept of free will and agency may have considerable validity (see Bonn, 2013; Rychlak, 2009; Simonton, 2013). Science may be quite right to reject a “folk” understanding of free will, but patronizing dismissals of the concept may be particularly damaging. So, too, may be a passive failure to incorporate conceptions of free will into psychological theories more broadly, particularly with the widespread dissemination of mechanistic views that result from methods of scientific inquiry that naturally must rely on mechanism. Put more simply, psychologists should do more to understand how human agency can influence the outcomes of interest to them and communicate this to the general public.

These thoughts come with two caveats. The first is that herein a difference may exist between scientists who, as a group, may be more comfortable with mechanism than the policymakers and the general public. Thus, a scientific curiosity about agency must also restrain itself in respect to nonempirical speculation so as to avoid pseudoscientific language. Second, any discussions of free will that exist should be empirically based. Despite the inherent difficulties in examining nonmechanistic agency empirically, there are undoubtedly novel ways of building hypotheses to test the concept of free will empirically employing testable theoretical models. Some scholars have already taken steps

in this direction (Rychlak, 2009). Newer and more sophisticated models of consciousness may help integrate neuroscience findings with conscious decision making (Miller & Schwarz, 2014), and it may be the case that neuroscience may demonstrate both conscious and unconscious decision making under differing conditions (e.g., Vinding, Jensen, & Overgaard, 2014). Indeed, my argument is not that psychologists should universally either endorse or repudiate the concept of free will, nor return to mystical and faith-based conceptualizations of free will. Scientists may need to find ways to discuss the concept of free will carefully and without condescension, and without speaking beyond the data to other scholars and the general public.

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