



Are Free Will and Determinism Incompatible?



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Introduction

Some philosophers and psychologists have argued for *Incompatibilism*, that is, that free will and determinism are polar opposites and if one is true the other must be false. Others favor *Compatibilism*, suggesting that people can have free will even if some form of determinism is true. Instead of assuming that free will and determinism are polar opposites, we developed separate measures of these two concepts in order to test their orthogonality. Our results suggest that most people are compatibilists and their belief in the existence of free will is independent of belief in different types of determinism.

Free Will and Determinism – Plus 2

Our measure contains 4 subscales: Free Will, Determinism, Fate, and Randomness. *Free will* is defined as having control over, and responsibility for, one's own actions. *Determinism* is specifically scientific determinism: That is, environment and genetics are the cause of personality, talents, and life outcomes. *Fate* focuses on a more vague and spiritual type of determinism, and contains the idea that the future is already planned out and cannot be changed or affected. *Randomness* is the belief that random events control the universe. This subscale was included because (a) it is another important alternative to free will and (b) the existence of chance is often used as an argument against determinism.

Method

Study 1

A previous version of the FAD-Plus (FAD4; Paulhus & Margesson, 1994) was administered online to 255 students at the University of British Columbia. We also included a short measure of Right Wing Authoritarianism (RWA; Altemeyer, 1998), a measure of Just World Belief (Lerner, 1980).

Study 2

The final version -- the FAD-Plus -- was administered online to 177 students. We included one item measures of religiosity and political orientation and a measure of locus of control (Levenson, 1973).

Orthogonality

The intercorrelations among the FAD-Plus subscales are presented in Table 1. The only significant correlation is between Fate and Randomness ($r = +.19, p < .05$). The final items were chosen based on an oblique rotation of the FAD4 data from study one to ensure that we were not forcing the subscales to be orthogonal. Using new data from study two we performed a confirmatory factor analysis on the final item set (Paulhus & Carey, in submission). In our CFA we constrained all factor correlations to zero (except for Fate and Randomness due to their significant correlation). This model was not rejected by the χ^2 test ($\chi^2(292) = 326.58, p = .08$).

Results

Locus of Control

Locus of control (LOC) is an important part of discriminant validity for a measure of free will beliefs. Indeed, free will could be described as internal control, while determinism could be described as external control. If these concepts were opposites, we would expect that free will would correlate positively with internal control and negatively with external control, and vice versa for Determinism and Fate. In fact, Free Will correlated only moderately with internal LOC and was unrelated to either type of external LOC. Determinism positively correlated with control by powerful others; however it was not negatively correlated with internal LOC. Fate was positively correlated with external LOC and negatively correlated with internal LOC.

Religiosity and Conservatism

Religiosity is positively correlated with both Free Will ($r = .19, p < .05$) and Fate ($r = .37, p < .001$). Conservatism also follows the same pattern (FW, $r = .23, p < .005$; Fate, $r = .19, p < .05$). Interestingly, Determinism was also correlated with conservatism ($r = .18, p < .05$). This can be explained by the inclusion of genetic determinism in the subscale, which has been shown to correlate with conservative political beliefs (Keller, 2005).

Just World Belief and Right Wing Authoritarianism

Belief in a just world was separated into belief for others and the self. Free Will and Determinism both correlated with belief in a just world for others ($r = .28, p < .001$; and $r = .16, p < .05$). Fate was negatively correlated with just world for the self ($r = -.27, p < .001$).

RWA was positively correlated with both Free Will ($r = .30, p < .001$) and Fate ($r = .37, p < .001$).

Discussion

When measured as separate subscales, belief in free will and determinism are orthogonal. This independence suggests that non-philosophers do not see the two concepts as opposites. Unfortunately, previous scales have attempted to force free will and determinism into opposite poles on a single dimension (Viney et. al., 1982; Rakos et. al., 2008). This procedure confounds the two types of belief and makes it impossible to see their true relationships with other relevant constructs. It assumes that everyone is an incompatibilist, which is not even true of all philosophers. Therefore the FAD-Plus was able to reveal a more accurate representation of the common compatibilist perspective.

Measuring them separately, we were able to see that religious belief promotes both belief in free will and fate. Free will is associated with a greater sense on internal control. However, it also correlates with some of the more negative aspects of conservatism. Determinism is not opposed to Free Will and, in fact, also correlates with conservatism in general. Fate is an inevitable and non-scientific form of determinism. Fate is associated with the more negative aspects of determinism, such as external locus of control, but it is still not the opposite of free will.

References

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	Free Will	Determinism	Fate	Randomness
Free Will	--	.13	.13	.02
Determinism		--	.09	.01
Fate			--	.19*
Randomness				--

Table 1. Correlations among the FAD-Plus subscales, * indicates $p < .05$ all significance tests are 2-tailed

	Free Will	Determinism	Fate	Randomness
Religiosity	.19*	.07	.37^	-.03
Conservative	.23^	.18*	.19*	-.12

Table 3. FAD-Plus with Religiosity and Conservatism; * $p < .05$, ^ $p < .005$

	Free Will	Determinism	Fate	Randomness
Internal	.35^	.14	-.19**	-.13
Powerful Others	.07	.28^	.27^	.05
Chance	-.03	.16*	.49^	.20**

Table 2. FAD-Plus and Locus of control (Levenson, 1973); * $p < .05$, ** $p < .01$, ^ $p < .001$

	Free Will	Determinism	Fate	Randomness
JWB Others	.28^	.16*	.01	-.12
JWB Self	.10	.01	-.27^	-.04
RWA	.30^	-.10	.37^	.03

Table 4. FAD-Plus with Just World Belief and RWA; * $p < .05$, ^ $p < .001$