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Citation:

St Quinton, T (2024) The Life of a Free Will Skeptic Is Still Meaningful and Satisfactory. *Journal of Humanistic Psychology*. pp. 1-20. ISSN 0022-1678 DOI: <https://doi.org/10.1177/00221678241305425>

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Document Version:

Article (Published Version)

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The Life of a Free Will Skeptic Is Still Meaningful and Satisfactory

Journal of Humanistic Psychology

1–20

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DOI: 10.1177/00221678241305425

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Abstract

Belief in free will has been shown to positively associate with socially desirable behaviors and outcomes, such as meaning and satisfaction. However, studies have not focused exclusively on the beliefs of incompatibilist free will skeptics. Such skeptics may have different interpretations about what it means to disbelieve in free will than participants typically classified as free will disbelievers. Across three studies including a manipulation (total $N = 620$), the research examined the relationship between belief in free will and meaning and satisfaction in incompatibilist free will skeptics. Studies 1 and 2 found no differences in meaning and satisfaction between incompatibilist free will skeptics and participants believing more strongly in free will. Study 3 found that participants manipulated to disbelieve in free will perceived life to be significantly less meaningful and satisfactory than incompatibilist free will skeptics. Moreover, incompatibilist free will skeptics did not perceive life to be less meaningful and satisfactory than a control condition possessing significantly stronger belief in free will. Therefore, the negative outcomes associated with weaker belief in free will may not be applicable to all free will disbelievers. Although a life full of meaning and satisfaction is important for well-being, believing in free will is not, at least not for some, an important contributor.

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Keywords

belief in free will, skeptics, meaning, satisfaction

Background

Whether people have free will has been philosophically contested for centuries. Libertarians take the position that people have free will and (some) choices are not determined. Determinism, which is often contrasted with free will, assumes behavior is caused by physical laws and environmental factors. This universal governance also operates over thoughts, deliberation, and rational processes, rendering free will merely an illusion (Wegner, 2004). Compatibilists believe free will is compatible with a causally deterministic universe. Incompatibilists believe determinism and free will cannot coexist in the same universe. Representing a family of views, incompatibilist skeptics of free will disbelieve in free will and instead believe that actions, choices, and thoughts are a consequence of factors beyond a person's control (Caruso, 2012, 2019; Pereboom, 2001; Sapolsky, 2023). The focus of the present research is on such incompatibilist free will skeptics.

Implications

The moral and ethical implications about the presence or absence of free will have been recently debated (e.g., Cave, 2016; Chivers, 2010; Griffin, 2016). A major concern is that an absence of free will could lead to people abandoning responsibility and acting as one wishes (Cave, 2016; Shariff & Vohs, 2014). People may become less motivated to exert self-control and regulate thoughts and behaviors (Baumeister et al., 2009; Rigoni et al., 2012). Furthermore, moral responsibility and the legal system depend on the presence of free will. Given these gloomy consequences, it may be better for people to believe in free will (Vohs & Schooler, 2008). Others have argued against such implications. In fact, disbelief in free will could result in greater empathy being shown toward underprivileged minorities (Miles, 2013) and reduced punitiveness (Carey, 2009).

To put this to the test, researchers in social psychology and experimental philosophy have recently examined the consequences of believing in free will. Correlational and experimental work has demonstrated belief in free will to be positively associated with achievement (Feldman et al., 2016), job performance (Stillman et al., 2010), autonomy (Alquist et al., 2013), perseverance (J. Li et al., 2018), gratitude (MacKenzie et al., 2014), helpfulness (Baumeister et al., 2009), conformity (Moynihan et al., 2019), and less risky

behaviors (St Quinton et al., 2022; Vonasch et al., 2017). Although this suggests that positive outcomes are always associated with belief in free will, there is also evidence indicating that weaker free will beliefs are associated with greater humility (Earp et al., 2018) and empathy toward offenders (Shariff et al., 2014), and reduced immoral behavior (Caspar et al., 2017) and punishment (Clark et al., 2014; Krueger et al., 2014).

Free Will, Meaning, and Satisfaction

Two important contributors to well-being are meaning in life and life satisfaction (Martela & Sheldon, 2019; Tov & Lee, 2016). Meaning in life comprises two dimensions: the presence of meaning and the search for meaning (Steger et al., 2009). The presence of meaning reflects the significance and purpose a person perceives to have in their life. The search for meaning reflects the extent to which a person is trying to develop the significance and purpose of their life. Life satisfaction reflects the extent to which an individual is satisfied with their life on the whole (Diener et al., 1999).

Research has shown belief in free will to relate to both meaning in life and life satisfaction. Bergner and Ramon (2013) and Moynihan et al. (2017) found a positive correlation between belief in free will and the presence of meaning. Crescioni et al. (2016) found that reducing participants' belief in free will led to a reduction in meaning in life. Similarly, Moynihan et al. (2019) found participants reading anti-free will text perceived life to be significantly less meaningful than participants reading text advocating free will. Although focus has been given more to the presence of meaning, there is evidence indicating belief in free will is also associated with the search for meaning. Zhao et al. (2024) found not only that free will belief positively predicted the presence of meaning after controlling for the search for meaning, but that the reverse was also true; belief in free will positively predicted the search for meaning when controlling for the presence of meaning. Similarly, P. J. Li and Wong (2020) found belief in determinism was positively associated with depressive symptoms through its positive association with the search for meaning.

Similar to meaning in life, a number of studies have found a positive relationship between belief in free will and life satisfaction (e.g., Bergner & Ramon, 2013; Crescioni et al., 2016; C. Li et al., 2017; Zhao & Huo, 2022). For example, when examining the association between free will beliefs and a number of self-constructs, such as self-control, self-efficacy, and life satisfaction, Crescioni et al. (2016) found participants believing more strongly in free will were also more satisfied with their life. Belief in free will therefore appears to be positively associated with meaning in life and life satisfaction.

These relations can be explained in a number of ways. People believing that life is under volitional control could be more likely to perceive it as meaningful and satisfying (MacKenzie & Baumeister, 2014). In contrast, believing causes outside of the individual drive behavior could threaten these perceptions (Zhao et al., 2024). Belief in free will may facilitate perceptions of autonomy (Alquist et al., 2013; Ryan & Deci, 2000), goal setting (Crescioni et al., 2016), conscious thought (Stillman et al., 2011), and belongingness (Moynihan et al., 2017), which could also lead to a more meaningful and satisfactory life. These outcomes may also be strengthened by the relationship between free will and perceptions of choice (Feldman et al., 2014). That is, a life with greater choices can become more meaningful and satisfactory (Camus, 1942/1965; Sartre, 1943/1956).

Disregarding the Views of Skeptics?

Given disbelief in free will appears to negatively influence life's meaning and satisfaction, one should be in favor of believing in free will. Therefore, despite the fact free will could be illusory (Wegner, 2004), it would make sense to withhold this information from the public and, instead, promote the idea of free will (Vohs & Schooler, 2008). However, it can be questioned whether research associated with belief in free will has actually considered the views of incompatibilist free will skeptics (Tegtmeier, 2024). There are a number of reasons why such skeptics may have been neglected. First, laypersons' interpretation of free will concerns the presence of conscious deliberation and choice (Feldman et al., 2014; Monroe & Malle, 2010). This definition is, of course, different to that of a free will skeptic who requires freedom from prior causal processes (Caruso, 2012, 2019). This has implications for the findings purportedly representative of those harboring doubts about free will. That is, participants categorized as free will disbelievers would be questioning the role of choice and deliberation. Since this is not contested by free will skeptics, findings cannot be attributed to them. Second, people generally assume that they have free will or, at the very least, take a compatibilist position in favor of free will (Baumeister & Brewer, 2012; Nahmias et al., 2005). Therefore, participants in correlational or manipulation studies need not represent the views of free will skeptics. Third, the extent to which participants' belief in free will is weakened in manipulation studies can be questioned (Blackmore & Troscianko, 2018). Despite successful manipulation checks, it is doubtful that participants fully appreciate the consequences of disbelieving in free will (Tegtmeier, 2024). If this is the case, participants demonstrating weaker belief in free will could have different interpretations about what a

lack of free will entails than individuals with a conceptually different understanding of free will. Finally, some manipulation studies have tended to confound free will skepticism with distinct philosophical categories, such as scientific reductionism (Caruso, 2019) and dualism (Nadelhoffer & Wright, 2018). Manipulations may therefore not accord with free will skeptic ideas.

If research has neglected the views of incompatibilist free will skeptics and their views differ to participants typically classified as free will disbelievers, this would have important consequences for studies purportedly representative of those disbelieving in free will. For example, the negative outcomes associated with a disbelief in free will may not be applicable to incompatibilist free will skeptics. Indeed, some have queried why belief in free will is necessary for a meaningful and purposeful life (e.g., Caruso, 2019; Harris, 2012; Pereboom, 2014). Pereboom (2014) argues that a person's meaning would be unaffected by taking a skeptical position. Similarly, using a qualitative approach and focusing exclusively on free will skeptics, Tegtmeier (2024) found participants did not believe their views about the absence of free will affected life's meaning.

Research Aim

Belief in free will has been shown to be positively associated with outcomes including meaning in life and satisfaction. However, these studies may have neglected the views of incompatibilist free will skeptics who could have different views about the consequences of disbelief in free will to participants typically classified as free will disbelievers. The aim of the present research was to test the relationship between meaning and satisfaction in incompatibilist free will skeptics.

Study 1

The purpose of Study 1 was to understand whether any differences exist in perceptions of meaning in life and satisfaction between incompatibilist free will skeptics and laypeople. Because laypeople generally believe in free will (Baumeister & Brewer, 2012; Nahmias et al., 2005) and belief in free will should be positively associated with greater meaning and satisfaction, it follows that laypeople would score significantly higher on these outcomes than incompatibilist free will skeptics. However, if the views of skeptics have been ignored and their perceptions differ to that of participants typically categorized as free will disbelievers, it would instead be expected that no differences between skeptics and laypeople would be found.

Method

Participants and Procedure. Participants were recruited using social media advertisements and announcements on free will forums. After clicking the link in the advert, participants were directed to the study hosted on Qualtrics. The first page had detailed information about the study and those happy to participate provided informed consent. Participants were then provided with a definition of an incompatibilist free will skeptic and asked whether they agreed with the assertions (Yes/No). Participants then completed measures of demographics (age, gender, and nationality), belief in free will, presence of meaning, search for meaning, and life satisfaction. Upon completion, participants were debriefed and thanked for their time. The study required participants to be at least 18 years of age. A total of 220 participants completed study measures (males = 129, females = 91; $M_{\text{age}} = 25.29$, $SD = 6.62$; British = 116, U.S. American = 93, other = 11). All studies presented in this article received full ethical approval.

Measures. Participants completed demographic measures of age, gender, and nationality. The five-item Free Will subscale from the Free Will Inventory (Nadelhoffer et al., 2014) was used to measure belief in free will (e.g., "People always have free will"; 1 = *strongly agree* to 7 = *strongly disagree*; $\alpha = .81$). Taken from the Meaning in Life Questionnaire (Steger et al., 2006), five items assessed the presence of meaning (e.g., "My life has a clear sense of purpose"; 1 = *absolutely untrue* to 7 = *absolutely true*; $\alpha = .78$) and five items assessed the search for meaning (e.g., "I am looking for something that makes my life feel meaningful"; 1 = *absolutely untrue* to 7 = *absolutely true*; $\alpha = .76$). The five-item Satisfaction With Life Scale (Diener et al., 1985) was used to measure satisfaction (e.g., "In most ways my life is close to my ideal"; 1 = *strongly disagree* to 7 = *strongly agree*; $\alpha = .77$). Responses were separately averaged across the belief in free will, search for meaning, presence of meaning, and satisfaction items to produce composite belief in free will, search for meaning, presence of meaning, and satisfaction scores, respectively.

Analyses. First, based on responses to the incompatibilist free will skeptic item, participants were first categorized as an incompatibilist free will skeptic (those responding "Yes") or a layperson (those responding "No"). Descriptive statistics were then conducted on the demographic items of age, gender, and nationality. Following this, differences in demographics between the groups were checked using an independent *t* test and chi-square tests. Finally, a multivariate analysis of variance (MANOVA) was conducted with belief in free will, satisfaction, presence of meaning, and search for meaning as the

Table 1. Study 1 and Study 2 Means and Standard Deviations.

Variable	Study 1 (<i>N</i> = 220)		Study 2 (<i>N</i> = 186)	
	Incompatibilist free will skeptic group (<i>n</i> = 105)	Layperson group (<i>n</i> = 115)	Incompatibilist free will skeptic group (<i>n</i> = 87)	Layperson group (<i>n</i> = 99)
Free will belief	1.17 (0.25)	4.74 (1.99)	1.42 (0.52)	4.65 (1.94)
Presence of meaning	3.95 (1.68)	4.34 (1.94)	3.80 (1.64)	4.06 (1.93)
Satisfaction	3.98 (1.77)	4.37 (1.81)	3.68 (1.66)	3.93 (1.81)
Search for meaning	4.34 (1.81)	4.75 (1.98)	4.19 (1.80)	4.26 (1.95)

dependent variables and the group (incompatibilist free will skeptic vs. layperson) as the independent variable. All data presented in this article were analyzed using SPSS v29.

Results

The incompatibilist free will skeptic group comprised 105 participants (males = 67, females = 38; $M_{\text{age}} = 25.70$, $SD = 6.28$; British = 53, U.S. American = 44, other = 8) and the layperson group 115 (males = 62, females = 53; $M_{\text{age}} = 24.92$, $SD = 6.92$; British = 63, U.S. American = 49, other = 3). No differences in age, $t(218) = .87$, $p = .38$, gender, $\chi^2(1, N = 120) = 2.21$, $p = .13$, and nationality, $\chi^2(2, N = 120) = 2.95$, $p = .22$, were observed between the two groups.

MANOVA revealed a significant main effect of group, $F(4, 215) = 69.83$; Wilks' $\Lambda = .43$, $p < .001$; $\eta_p^2 = .56$. Specifically, the incompatibilist free will skeptic group had significantly weaker belief in free will ($M = 1.17$, $SD = 0.25$) than the layperson group ($M = 4.74$, $SD = 1.99$), $F(1, 218) = 277.36$, $p < .001$, $\eta_p^2 = .56$. Crucially, there were no significant differences between the groups in relation to the presence of meaning, $F(1, 218) = 2.41$, $p = .12$, $\eta_p^2 = .01$, the search for meaning, $F(1, 218) = 2.47$, $p = .11$, $\eta_p^2 = .01$, and satisfaction, $F(1, 218) = 2.52$, $p = .11$, $\eta_p^2 = .01$. Descriptive means and standard deviations can be seen in Table 1.

Discussion

The study found that, despite having significantly weaker belief in free will, incompatibilist free will skeptics had similar perceptions of meaning and sat-

isfaction as the layperson sample. This provides some evidence that disbelieving in free will need not make life less meaningful and satisfactory.

A limitation of Study 1 was that participants were recruited through free will forums. Such participants may have unique perceptions about free will and therefore might not represent the broader views of the layperson or incompatibilist free will skeptic. Therefore, the purpose of Study 2 was to replicate these effects using an alternative recruitment strategy.

Study 2

Participants and Procedure

Participants were invited to participate online using Amazon's Mechanical Turk, a popular participant recruitment platform. After registering for the study, participants clicked a link to a Qualtrics survey where they read participant information and provided consent to participate. Following this, participants completed study measures and were then debriefed and thanked for their time. Participants were compensated with a payment of U.S.\$0.50. A total of 186 participants took part in the study (males = 112, females = 74; $M_{\text{age}} = 26.66$, $SD = 6.32$; British = 99, U.S. American = 78, other = 9).

Measures

The same measures were adopted as used in Study 1.

Analyses

The same analyses were conducted as that undertaken in Study 1.

Results

The incompatibilist free will skeptic group comprised 87 participants (males = 57, females = 30; $M_{\text{age}} = 27.37$, $SD = 5.94$; British = 44, U.S. American = 36, other = 7) and the layperson group 99 (males = 55, females = 44; $M_{\text{age}} = 26.03$, $SD = 6.61$; British = 55, U.S. American = 42, other = 2). No differences in age ($t [184] = 1.45$, $p = .14$), gender ($\chi^2 [1, N = 186] = 1.91$, $p = .16$), and nationality ($\chi^2 [2, N = 186] = 3.70$, $p = .15$) were observed between the two groups.

MANOVA revealed a significant main effect of group, $F(4, 181) = 56.77$; Wilks' $\Lambda = .44$, $p < .001$; $\eta_p^2 = .55$. Specifically, the incompatibilist free will skeptic group had significantly weaker belief in free will ($M = 1.42$, SD

= 0.52) than the layperson group ($M = 4.65$, $SD = 1.94$), $F(1, 184) = 224.83$, $p < .001$, $\eta_p^2 = .55$. Crucially, there were no significant differences between the groups in relation to the presence of meaning ($F[1, 184] = 1.02$, $p = .31$, $\eta_p^2 = .00$), the search for meaning ($F[1, 184] = .06$, $p = .80$, $\eta_p^2 = .00$), and satisfaction ($F[1, 184] = .96$, $p = .32$, $\eta_p^2 = .00$). Descriptive means and standard deviations are shown in Table 1.

Discussion

Study 2 replicated Study 1 findings using a different recruitment strategy. Therefore, the results provide additional evidence that despite having weaker belief in free will, incompatibilist free will skeptics nevertheless possess similar perceptions of meaningfulness and satisfaction as do laypeople.

The studies so far have compared the views of incompatibilist free will skeptics with those not holding these views. An important question is whether perceptions about meaning in life and life satisfaction differ specifically between incompatibilist free will skeptics and participants typically classified as free will disbelievers. If they do, then participants typically responding negatively to items about their belief in free will could have different interpretations about what it means to lack free will than incompatibilist free will skeptics. Furthermore, the studies have been cross-sectional in nature. What has yet to be tested is whether these patterns are observed in a manipulation study.

Study 3

The purpose of Study 3 was to test whether beliefs about meaning and satisfaction differ when comparing incompatibilist free will skeptics with participants typically recruited to a free will belief manipulation experiment. Specifically, the study examined the differences between (a) incompatibilist free will skeptics, (b) a condition manipulated to disbelieve in free will, and (c) a control condition. In line with previous research, it was expected that participants in the anti-free will condition would perceive life to be less meaningful and satisfactory than the control condition. Moreover, consistent with findings in Studies 1 and 2, it was expected that incompatibilist free will skeptics would have similar perceptions of meaning and satisfaction to the control condition. Crucially, following the pattern that skeptics still believe life to be meaningful and satisfactory, it was predicted that the incompatibilist free will skeptics would have significantly greater meaning and satisfactoriness than the anti-free will condition.

Method

Participants and Procedure. To enable comparisons between conditions in a typical manipulation experiment and the beliefs of incompatibilist free will skeptics, recruitment and data collection were undertaken separately.¹ This led to 214 participants recruited (males = 130, females = 84; $M_{\text{age}} = 26.40$, $SD = 6.26$; British = 120, U.S. American = 88, other = 6).

The Manipulation. Participants were recruited to the manipulation using a similar recruitment strategy to that described in Study 2. The manipulation was similar to that introduced by Vohs and Schooler (2008). Participants were randomized to either an anti-free will or control condition. Both conditions required participants to read a passage of text from Francis Crick's (1994) "The Astonishing Hypothesis." Participants in the anti-free-will group read a passage of text dismissing the idea of free will. The text included sentences such as "although we appear to have free will, in fact, our choices have already been predetermined for us and we cannot change that." The control condition read a passage from the book about the nature of consciousness (e.g., "Psychologists have shown that common sense ideas about the working of the mind can be misleading"). Previous studies have successfully modified belief in free will using this manipulation (e.g., Genschow et al., 2017, 2022; Shariff et al., 2014; Vohs & Schooler, 2008).

Incompatibilist Free Will Skeptics. The same recruitment strategy and procedure described in Study 2 was used to recruit incompatibilist free will skeptics. However, when responding to the item assessing agreement with the skeptical position, only participants responding "Yes" were recruited and subsequently able to complete the survey. All other participants were thanked for their interest and excluded from participation.

Measures. The same measures used in Studies 1 and 2 were used to assess belief in free will ($\alpha = .76$), satisfaction ($\alpha = .80$), presence of meaning ($\alpha = .74$), and search for meaning ($\alpha = .77$). All participants completed the same measures. For participants in the anti-free will and control conditions, measures were taken after the manipulation.

Analyses. First, differences in age, gender, and nationality between the three conditions were checked using a one-way analysis of variance (ANOVA) and chi-square tests. Next, an independent *t* test checked to confirm that the manipulation successfully weakened belief in free will in the anti-free will condition compared with the control condition. Finally, to

examine differences between the main variables of interest, a MANOVA was conducted with belief in free will, satisfaction, presence of meaning, and search for meaning as the dependent variables and condition (anti-free will, control, and incompatibilist free will skeptics) as the independent variable.

Results

The anti-free will condition included 69 participants (males = 46, females = 23; $M_{\text{age}} = 26.26$, $SD = 5.71$; British = 37, U.S. American = 31, other = 1), the control condition 67 (males = 34, females = 33; $M_{\text{age}} = 25.86$, $SD = 6.04$; British = 42, U.S. American = 23, other = 2), and the incompatibilist free will skeptic condition 78 (males = 50, females = 28; $M_{\text{age}} = 26.98$, $SD = 6.91$; British = 41, U.S. American = 34, other = 3). No differences in age ($F [2, 211] = .602$, $p = .54$), gender ($\chi^2 [2, N = 214] = 4.19$, $p = .16$), and nationality ($\chi^2 [4, N = 214] = 2.64$, $p = .62$) were observed between the three conditions.

The t test demonstrated that participants reading the anti-free will text had significantly weaker beliefs in free will ($M = 4.39$, $SD = 1.90$) than the control group ($M = 5.11$, $SD = 1.96$), $t(134) = 2.15$, $p = .01$. The manipulation was therefore successful.

MANOVA showed a significant effect for condition, $F (8, 416) = 31.97$; Wilks' $\Lambda = .38$, $p < .001$; $\eta_p^2 = .38$. Specifically, condition had a main effect on belief in free will ($F [2, 211] = 118.46$, $p < .001$, $\eta_p^2 = .52$), presence of meaning ($F [2, 211] = 8.58$, $p < .001$, $\eta_p^2 = .07$), satisfaction with life ($F [2, 211] = 10.42$, $p < .001$, $\eta_p^2 = .09$), and search for meaning ($F [2, 211] = 8.15$, $p < .001$, $\eta_p^2 = .07$). Post hoc comparisons revealed that participants in the control condition had significantly greater belief in free will ($M = 5.11$, $SD = 1.96$) than participants in both the anti-free will condition ($M = 4.39$, $SD = 1.90$; $p = .02$) and the incompatibilist free will skeptic condition ($M = 1.09$, $SD = 0.41$; $p < .001$). The difference in free will beliefs was also significant between the anti-free will and incompatibilist free will skeptic conditions ($p < .001$). Participants in the incompatibilist free will skeptic condition showed significantly greater presence of meaning ($M = 4.23$, $SD = 1.73$; $p < .001$), satisfaction with life ($M = 4.02$, $SD = 1.52$; $p = .01$), and search for meaning (skeptical: $M = 4.38$, $SD = 1.66$; $p = .02$) than the anti-free will condition (presence of meaning: $M = 3.33$, $SD = 1.52$; satisfaction with life: $M = 3.24$, $SD = 1.52$; search for meaning: $M = 3.51$, $SD = 2.01$). The control condition also showed significantly greater presence of meaning ($M = 4.51$, $SD = 1.93$; $p < .001$), satisfaction with life ($M = 4.52$, $SD = 1.62$; $p < .001$), and search for meaning ($M = 4.82$, $SD = 2.02$; $p < .001$) than the

Table 2. Study 3 Means and Standard Deviations of Main Outcomes by Condition ($N = 214$).

Variable	Incompatibilist free will skeptic ($n = 78$)	Anti-free will ($n = 69$)	Control ($n = 67$)
Free will belief	1.09 (0.41)	4.39 (1.90)	5.11 (1.96)
Presence of meaning	4.23 (1.73)	3.33 (1.52)	4.51 (1.93)
Satisfaction	4.02 (1.52)	3.24 (1.52)	4.52 (1.62)
Search for meaning	4.38 (1.66)	3.51 (2.01)	4.82 (2.02)

anti-free will condition. There were no significant differences between the control and the incompatibilist free will skeptic conditions in relation to the presence of meaning, satisfaction, and search for meaning (all $ps > .05$). Table 2 shows the descriptive means and standard deviations related to the three conditions.

Discussion

Consistent with previous work (e.g., Crescioni et al., 2016; Moynihan et al., 2019), the results showed that manipulating belief in free will can lead to changes in perceived meaning and satisfaction. Specifically, participants manipulated to disbelieve in free will perceived life to be significantly less meaningful and satisfactory than a control condition. Crucially, however, participants in the anti-free will condition perceived life to be less meaningful and satisfactory than incompatibilist free will skeptics despite having significantly more positive beliefs about the presence of free will. Moreover, following the pattern of Studies 1 and 2, incompatibilist free will skeptics did not perceive life to be less meaningful and satisfactory than the control group. Therefore, incompatibilist free will skeptics do not have different perceptions about life's meaning compared with participants believing more strongly in free will, and they are not less satisfied with their life. They do, however, perceive life to be more meaningful and satisfactory than participants undertaking a manipulation weakening this belief.

General Discussion

Recent research has indicated that believing in free will is more beneficial for a meaningful and satisfactory life. However, across three separate analyses the findings presented here suggest that a disbelief in free will is not associated with meaning and satisfaction in incompatibilist free will skeptics.

Moreover, incompatibilist free will skeptics do not perceive themselves to have a less satisfying and meaningful life than those believing more strongly in free will.

The finding that belief in free will has consequences for laypeople is consistent with previous work. Specifically, free will believers perceive life to be more meaningful and satisfactory than those disbelieving in free will (e.g., Bergner & Ramon, 2013; Crescioni et al., 2016; C. Li et al., 2017; Moynihan et al., 2017, 2019; Zhao et al., 2024; Zhao & Huo, 2022). Therefore, among laypeople, it appears that believing in free will has positive consequences. However, the finding that meaning and satisfaction are not associated with the beliefs held by incompatibilist free will skeptics is not consistent with previous research. Indeed, one would expect those with especially weaker belief in free will to demonstrate particularly low perceptions of meaning and satisfaction. These discrepancies could be explained by examining the difference between incompatibilist free will skeptics and participants typically classified as doubting free will. That is, the behavioral consequences of participants typically categorized as having a weaker belief in free will may be fundamentally different to those of incompatibilist free will skeptics. Studies usually afford participants limited time to process the consequences of a world without free will. In addition, informing participants that they do not have free will, especially when they believe they do, may lead to negative emotive responses (Nadelhoffer, 2011). In contrast, incompatibilist free will skeptics have likely carefully considered their views about the implications of disbelieving in free will and do not see this as a threat to their meaning and purpose. While a brief confrontation arguing against free will could make people believe life is less meaningful and satisfying, a more considered approach may not draw the same conclusion.

Why, then, are incompatibilist free will skeptics unaffected by a disbelief in free will? Despite the impossibility of breaking away from prior causes, skeptics still hold that choices, deliberation, and reasoning influence actions (Caruso, 2019). And such actions have behavioral consequences, whether or not a person has free will over such actions or the preceding decision. Although such processes are not freely willed, this does not make the consequences less real. For example, disbelief in free will does not limit the achievement of personally salient goals realized through intensive effort (Pereboom, 2014). In the present tense, these illusions do not prevent a meaningful and satisfactory life. This finding may be unsurprising given Tegmeier (2024) previously found skeptics did not believe a lack of free will negatively affected their meaning and purpose. It further supports previous criticisms about the necessity of believing in free will (e.g., Caruso, 2019; Harris, 2012; Pereboom, 2014).

Implications

Incompatibilist free will skeptics appear able to live a meaningful and satisfactory life despite disbelieving in free will. Therefore, research purportedly showing negative outcomes associated with weaker belief in free will should carefully consider the general applicability of study findings. As was demonstrated here, researchers should bear in mind the sample recruited to such studies and the beliefs they hold. Doing so could give a more nuanced understanding about the consequences of disbelieving in free will. This does not suggest, however, that researchers should be unconcerned by the consequences of disbelieving in free will. Weakening free will beliefs in laypeople does seem to have immediate negative implications (e.g., Crescioni et al., 2016; Moynihan et al., 2019), as was supported here in Study 3. Instead, the findings suggest that, at least for some, it is possible to live a life that is both meaningful and purposeful without free will.

Similarly, the findings do not suggest that disbelief in free will should be promoted, at least not yet. Skeptics have likely carefully considered their position about the existence of free will and the implications that disbelief has (Tegtmeier, 2024). In contrast, a default position appears to be that free will exists, perhaps due to its subjective appeal (Wegner, 2002). Removing such a foundational belief in laypeople could be difficult to comprehend. This lack of comprehension could, as has been shown, lead to immediate negative outcomes. Educating laypeople about these consequences could be an important first step (Nadelhoffer, 2011). And once laypeople come to terms with what a lack of free will actually entails, there may be no good reason to expect negative consequences (Caruso, 2018), especially when it comes to life's meaning and purpose (Pereboom, 2014). It should be noted that modifying free will beliefs tend to exert only small behavioral effects (Genschow et al., 2022), and such effects may not persist outside of the laboratory setting (St Quinton et al., 2023). Therefore, concerns about the lasting negative consequences associated with disbelieving in free will may also be premature.

Future research should explore whether other negative outcomes previously found to be associated with weaker belief in free will are also applicable to skeptics. For example, are incompatibilist free will skeptics less helpful and gracious? Do they achieve less and give up more easily? The findings presented here would suggest not. Future research should also investigate whether disbelieving in free will is unproblematic in other samples. There appear to be individual differences when it comes to the influence of free will beliefs, meaning the negative consequences associated with disbelieving in free will might not only be irrelevant to incompatibilist free will skeptics.

There are limitations attached to the research worth noting. The research involved a sample of participants holding particularly exclusive beliefs (Nichols & Knobe, 2007). Thus, the limited number of incompatibilist free will skeptics may limit the generalizability of study findings. Nevertheless, such exclusivity was important to demonstrate that believing in free will may not be important for everyone. The issue of generalizability may also extend to culture given participants were from Western countries. Previous research has found differences in free will beliefs between Western and non-Western nations (e.g., Berniūnas et al., 2021). Research should examine the beliefs of free will skeptics from a wider range of countries. Finally, although a manipulation was introduced in Study 3, all analyses associated with free will skeptics were correlational. However, despite not being able to provide causal explanations, the exploratory nature of the study at least provides preliminary evidence associated with the views of free will skeptics.

Conclusion

The research presented here demonstrated that incompatibilist free will skeptics' weak belief in free will is not associated with meaning and satisfaction. Skeptics did not perceive life to be less meaningful and satisfactory than non-skeptics and, when compared with participants manipulated to disbelieve in free will, incompatibilist free will skeptics perceived life to be significantly more meaningful and satisfactory. This suggests that the negative outcomes previously associated with weaker belief in free will may not be applicable to all disbelievers. Coupled with evidence that weaker belief in free will can have prosocial benefits (e.g., Caspar et al., 2017; Earp et al., 2018; Shariff et al., 2014), the research presented here further supports the idea that disbelieving in free will may not be all that bad.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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Data Availability

The data are available upon reasonable request.

Note

1. Because manipulation studies typically do not exclude participants based on their belief about free will, it was important that people with weak free will beliefs (such as incompatibilist free will skeptics) could also be included in the manipulation experiment.

References

- Alquist, J. L., Ainsworth, S. E., & Baumeister, R. F. (2013). Determined to conform: Disbelief in free will increases conformity. *Journal of Experimental Social Psychology, 49*, 80–86. <https://doi.org/10.1016/j.jesp.2012.08.015>
- Baumeister, R. F., & Brewer, L. E. (2012). Believing versus disbelieving in free will: Correlates and consequences. *Social and Personality Psychology Compass, 6*, 736–745. <https://doi.org/10.1111/j.1751-9004.2012.00458.x>
- Baumeister, R. F., Masicampo, E. J., & DeWall, C. N. (2009). Prosocial benefits of feeling free: Disbelief in free will increases aggression and reduces helpfulness. *Personality and Social Psychology Bulletin, 35*, 260–268. <https://doi.org/10.1177/0146167208327217>
- Bergner, R. M., & Ramon, A. (2013). Some implications of beliefs in altruism, free will, and nonreductionism. *Journal of Social Psychology, 153*, 598–618. <https://doi.org/10.1080/00224545.2013.798249>
- Berniūnas, R., Beinorius, A., Dranseika, V., Silius, V., & Rimkevičius, P. (2021). The weirdness of belief in free will. *Consciousness and Cognition, 87*, 103054. <https://doi.org/10.1016/j.concog.2020.103054>
- Blackmore, S., & Troscianko, E. T. (2018). *Consciousness: An introduction*. Routledge.
- Camus, A. (1965). *The myth of Sisyphus, and other essays*. Hamilton. (Original work published 1942)
- Carey, J. M. (2009). *Development and validation of a measure of free will belief and its alternatives* [Master thesis, The University of British Columbia]. <https://circle.ubc.ca/handle/2429/12588>
- Caruso, G. D. (2012). The folk psychology of free will: An argument against compatibilism. *KRITERION—Journal of Philosophy, 26*, 56–89. <https://doi.org/10.1515/krt-2012-012606>
- Caruso, G. B. (2018). Consciousness, free will, and moral responsibility. In R. J. Gennaro (Ed.), *The Routledge handbook of consciousness* (pp. 78–91). Routledge.
- Caruso, G. D. (2019). Free will skepticism and its implications: An argument for optimism. In E. Shaw, D. Pereboom & G. Caruso (Eds.), *Free will skepticism in law and society: Challenging retributive justice* (pp. 43–72). Cambridge University Press. <https://doi.org/10.1017/9781108655583.003>

- Caspar, E. A., Vuillaume, L., Magalhães De Saldanha da Gama, P. A., & Cleeremans, A. (2017). The influence of (dis)belief in free will on immoral behavior. *Frontiers in Psychology, 8*, Article 20. <https://doi.org/10.3389/fpsyg.2017.00020>
- Cave, S. (2016, June 15). There's no such thing as free will, but we're better off believing it anyway. *The Atlantic*. <http://www.theatlantic.com/magazine/archive/2016/06/theres-no-such-thing-as-free-will/480750>
- Chivers, T. (2010, October 12). Neuroscience, free will and determinism: "I'm just a machine." *The Telegraph*. <https://www.telegraph.co.uk/news/science/8058541/Neuroscience-free-will-and-determinism-Im-just-a-machine.html>
- Clark, C. J., Luguri, J. B., Ditto, P. H., Knobe, J., Shariff, A. F., & Baumeister, R. F. (2014). Free to punish: A motivated account of free will belief. *Journal of Personality and Social Psychology, 106*, 501–513. <https://doi.org/10.1037/a0035880>
- Crescioni, A. W., Baumeister, R. F., Ainsworth, S. E., Ent, M., & Lambert, N. M. (2016). Subjective correlates and consequences of belief in free will. *Philosophical Psychology, 29*, 41–63. <https://doi.org/10.1080/09515089.2014.996285>
- Crick, F. (1994). *The astonishing hypothesis: The science search for the soul*. Touchstone.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*, 71–75. https://doi.org/10.1207/s15327752jpa4901_13
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin, 125*, 276–302. <https://doi.org/10.1037/0033-2909.125.2.276>
- Earp, B. D., Everett, J. A., Nadelhoffer, T., Caruso, G. D., Shariff, A., & Sinnott-Armstrong, W. (2018). *Determined to be humble? Exploring the relationship between belief in free will and humility*. PsyArXiv. <https://psyarxiv.com/3bxra/>
- Feldman, G., Baumeister, R. F., & Wong, K. F. E. (2014). Free will is about choosing: The link between choice and the belief in free will. *Journal of Experimental Social Psychology, 55*, 239–245.
- Feldman, G., Chandrashekar, S. P., & Wong, K. F. E. (2016). The freedom to excel: Belief in free will predicts better academic performance. *Personality and Individual Differences, 90*, 377–383. <https://doi.org/10.1016/j.paid.2015.11.043>
- Genschow, O., Cracco, E., Schneider, J., Protzko, J., Wisniewski, D., Brass, M., & Schooler, J. W. (2022). Manipulating belief in free will and its downstream consequences: A meta-analysis. *Personality and Social Psychology Review, 27*, 52–82. <https://doi.org/10.1177/10888683221087527>
- Genschow, O., Rigoni, D., & Brass, M. (2017). Belief in free will affects causal attributions when judging others' behavior. *Proceedings of the National Academy of Sciences, 114*, 10071–10076.
- Griffin, A. (2016, April 30). Free will could all be an illusion, scientists suggest after study shows choice may just be brain tricking itself. *Independent*. <http://www.independent.co.uk/news/science/free-will-could-all-be-an-illusion-scientists-suggest-after-study-that-shows-choice-could-just-be-a7008181.html>
- Harris, S. (2012). *Free will*. Free Press.

- Krueger, F., Hoffman, M., Walter, H., & Grafman, J. (2014). An fMRI investigation of the effects of belief in free will on third-party punishment. *Social Cognitive and Affective Neuroscience*, *9*, 1143–1149. <https://doi.org/10.1093/scan/nst092>
- Li, C., Wang, S., Zhao, Y., Kong, F., & Li, J. (2017). The freedom to pursue happiness: Belief in free will predicts life satisfaction and positive affect among Chinese adolescents. *Frontiers in Psychology*, *7*, Article 2027. <https://doi.org/10.3389/fpsyg.2016.02027>
- Li, J., Zhao, Y., Lin, L., Chen, J., & Wang, S. (2018). The freedom to persist: Belief in free will predicts perseverance for long-term goals among Chinese adolescents. *Personality and Individual Differences*, *121*, 7–10. <https://doi.org/10.1016/j.paid.2017.09.011>
- Li, P. J., & Wong, Y. J. (2020). Beliefs in free will versus determinism: Search for meaning mediates the life scheme–depressive symptom link. *Journal of Humanistic Psychology*, *64*, 940–953. <https://doi.org/10.1177/0022167820933719>
- MacKenzie, M. J., & Baumeister, R. F. (2014). Meaning in life: Nature, needs, and myths. In A. Batthyany & P. Russo-Netzer (Eds.), *Meaning in positive and existential psychology* (pp. 25–37). Springer. https://doi.org/10.1007/978-1-4939-0308-5_2
- MacKenzie, M. J., Vohs, K. D., & Baumeister, R. F. (2014). You didn't have to do that: Belief in free will promotes gratitude. *Personality and Social Psychology Bulletin*, *40*, 1423–1434. <https://doi.org/10.1177/0146167214549322>
- Martela, F., & Sheldon, K. M. (2019). Clarifying the concept of well-being: Psychological need satisfaction as the common core connecting eudaimonic and subjective well-being. *Review of General Psychology*, *23*, 458–474. <https://doi.org/10.1177/1089268019880886>
- Miles, J. B. (2013). “Irresponsible and a disservice”: The integrity of social psychology turns on the free will dilemma. *British Journal of Social Psychology*, *52*, 205–218. <https://doi.org/10.1111/j.2044-8309.2011.02077.x>
- Monroe, A. E., & Malle, B. F. (2010). From uncaused will to conscious choice: The need to study, not speculate about people's folk concept of free will. *Review of Philosophy and Psychology*, *1*, 211–224.
- Moynihan, A. B., Igou, E. R., & Van Tilburg, W. A. P. (2017). Free, connected, and meaningful: Free will belief promotes meaningfulness through belongingness. *Personality and Individual Differences*, *107*, 54–65. <https://doi.org/10.1016/j.paid.2016.11.006>
- Moynihan, A. B., Igou, E. R., & Van Tilburg, W. A. P. (2019). Lost in the crowd: Conformity as escape following disbelief in free will. *European Journal of Social Psychology*, *49*, 503–520. <https://doi.org/10.1002/ejsp.2499>
- Nadelhoffer, T. (2011). The threat of shrinking agency and free will disillusionism. In L. Nadel & W. Sinnott-Armstrong (Eds.), *Conscious will and responsibility: A tribute to Benjamin Libet* (pp. 173–188). Oxford University Press.
- Nadelhoffer, T., Shepard, J., Nahmias, E., Sripada, C., & Ross, L. T. (2014). The free will inventory: Measuring beliefs about agency and responsibility. *Consciousness and Cognition*, *25*, 27–41. <https://doi.org/10.1016/j.concog.2014.01.006>

- Nadelhoffer, T., & Wright, J. C. (2018). Humility, free will beliefs, and existential angst: How we got from a preliminary investigation to a cautionary tale. In G. D. Caruso & O. Flanagan (Eds.), *Neuroexistentialism: Meaning, morals, and purpose in the age of neuroscience* (pp. 269–297). Oxford University Press.
- Nahmias, E., Morris, S., Nadelhoffer, T., & Turner, J. (2005). Surveying freedom: Folk intuitions about free will and moral responsibility. *Philosophical Psychology, 18*, 561–584.
- Nichols, S., & Knobe, J. (2007). Moral responsibility and determinism: The cognitive science of folk intuitions. *Noûs, 41*, 663–685. <https://doi.org/10.1111/j.1468-0068.2007.00666.x>
- Pereboom, D. (2001). *Living without free will*. Cambridge University Press.
- Pereboom, D. (2014). *Free will, agency, and meaning in life*. Cambridge University Press.
- Rigoni, D., Kühn, S., Gaudino, G., Sartori, G., & Brass, M. (2012). Reducing self-control by weakening belief in free will. *Consciousness and Cognition, 21*, 1482–1490.
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*, 54–67. <https://doi.org/10.1006/ceps.1999.1020>
- Sapolsky, R. M. (2023). *Determined: A science of life without free will*. Penguin Press.
- Sartre, J. P. (1956). *Being and nothingness: An essay on phenomenological ontology* (H. Barnes, Trans.). Washington Square. (Original work published 1943)
- Shariff, A. F., Greene, J. D., Karremans, J. C., Luguri, J. B., Clark, C. J., Schooler, J. W., Baumeister, R. F., & Vohs, K. D. (2014). Free will and punishment: A mechanistic view of human nature reduces retribution. *Psychological Science, 25*, 1563–1570. <https://doi.org/10.1177/0956797614534693>
- Shariff, A. F., & Vohs, K. D. (2014). The world without free will. *Scientific American, 310*, 76–79. <https://doi.org/10.1038/scientificamerican0614-76>
- Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The Meaning in Life Questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology, 53*, 80–93. <https://doi.org/10.1037/0022-0167.53.1.80>
- Steger, M. F., Oishi, S., & Kashdan, T. B. (2009). Meaning in life across the life span: Levels and correlates of meaning in life from emerging adulthood to older adulthood. *The Journal of Positive Psychology, 4*, 43–52. <https://doi.org/10.1080/17439760802303127>
- Stillman, T. F., Baumeister, R. F., & Mele, A. R. (2011). Free will in everyday life: Autobiographical accounts of free and unfree actions. *Philosophical Psychology, 24*, 381–394.
- Stillman, T. F., Baumeister, R. F., Vohs, K. D., Lambert, N. M., Fincham, F. D., & Brewer, L. E. (2010). Personal philosophy and personnel achievement: Belief in free will predicts better job performance. *Social Psychological and Personality Science, 1*, 43–50. <https://doi.org/10.1177/1948550609351600>
- St Quinton, T., Morris, B., & Crescioni, A. W. (2022). Beliefs in free will and determinism: Associations with social cognition and gambling behavior.

- Addiction Research & Theory*, 30, 414–421. <https://doi.org/10.1080/16066359.2022.2062330>
- St Quinton, T., Trafimow, D., & Genschow, O. (2023). The role of free will beliefs in social behavior: Priority areas for future research. *Consciousness and Cognition*, 115, 103586. <https://doi.org/10.1016/j.concog.2023.103586>
- Tegtmeier, S. (2024). Fully caused and flourishing? Incompatibilist free will skepticism and its implications for personal well-being. *Review of Philosophy and Psychology*, 15, 149–166. <https://doi.org/10.1007/s13164-022-00667-5>
- Tov, W., & Lee, H. W. (2016). A closer look at the hedonics of everyday meaning and satisfaction. *Journal of Personality and Social Psychology*, 111, 585–609. <https://doi.org/10.1037/pspp0000081>
- Vohs, K. D., & Schooler, J. W. (2008). The value of believing in free will: Encouraging a belief in determinism increases cheating. *Psychological Science*, 19, 49–54. <https://doi.org/10.1111/j.1467-9280.2008.02045.x>
- Vonasch, A. J., Clark, C. J., Lau, S., Vohs, K. D., & Baumeister, R. F. (2017). Ordinary people associate addiction with loss of free will. *Addictive Behaviors Reports*, 5, 56–66. <https://doi.org/10.1016/j.abrep.2017.01.002>
- Wegner, D. M. (2002). *The illusion of conscious will*. MIT Press.
- Wegner, D. M. (2004). Précis of the illusion of conscious will. *Behavioral and Brain Sciences*, 27, 649–659. <https://doi.org/10.1017/S0140525X04000159>
- Zhao, M., & Huo, Y. (2022). Is free will belief a positive predictor of well-being? The evidence of the cross-lagged examination. *Personality and Individual Differences*, 193, 111617. <https://doi.org/10.1016/j.paid.2022.111617>
- Zhao, M., Liu, J., & Huo, Y. (2024). The value of believing in free will: A prediction on seeking and experiencing meaning in life. *Applied Psychology: Health and Well-Being*, 16, 537–552. <https://doi.org/10.1111/aphw.12503>

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