Fate as a motivated (and de-motivating) belief: Evidence for a link from task importance to belief in fate to effort

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ABSTRACT

The perception of whether one has personal control over a specific task or goal has been shown to be a crucial predictor of effort and persistence. Given this, one might expect people to perceive high personal control over tasks that are very important. However, drawing on emerging theories of motivated ideological belief, we suggest that, in some circumstances, the more a task or goal is perceived as important, the more likely people may believe that the outcome is “fated” – that the outcome of an event is predetermined and meant to be. Across four studies, employing diverse samples and contexts, we provide evidence for this basic phenomenon and the negative repercussions it can hold for effort expenditure. Implications and avenues for future research are discussed.

1. Introduction

There is a special providence in the fall of a sparrow. If it be now, ’tis not to come; if it be not to come, it will be now; if it be not now, yet it will come. The readiness is all. Since no man of aught he leaves knows, what is’t to leave betimes? Let be.

Shakespeare (1603/2000)

In this passage from Hamlet, the titular character is on the verge of one of the most important tasks in the play’s narrative: a dangerous duel with Laertes. How does he prepare? He reminds himself of – or resigns himself to – the power of fate.

Though duels are (fortunately) not very common nowadays, everyday life is full of tasks judged as especially important, defined here as how consequential the actor (e.g., worker at an organization or participant in a study) perceives the outcome of the task to be, whether for the self or others (e.g., Baumeister, 2002; Davis, Bagozzi, & Warshaw, 1992; Dutton & Ashford, 1993; Grant, 2008; Sanchez & Levine, 1989; Shepperd & Arkin, 1989). Thus, whether it is a personal project that someone perceives has consequential outcomes, a task that a boss tells her employee is important for the firm, or a student petitioning his university administration to change a policy he cares about, the outcomes of some tasks are simply felt to be more important than others.

On one hand, the degree to which people are willing to commit time and effort to a task is influenced by perceptions of controllability – higher perceived task control predicts more effort, investment, persistence and better performance (Ajzen & Madden, 1986; Bandura, 1982; Deci & Ryan, 2000; Hollenbeck, Williams, & Klein, 1989; Schunk, 1991). One might imagine, then, that people would be inclined to adopt stronger beliefs of personal control when confronted with especially important tasks. That is, because one of the ways to ensure a positive outcome is through personal control over the outcome (Stevens & Gist, 1997), when people face a task that they perceive as important, they should be more inclined to believe that they have personal control over the task’s outcome. By believing that they can personally bring about a desired outcome, they can then subsequently perform better or persist longer on the task. However, recent research on motivated belief and psychological outsourcing suggests another possibility. When faced with sufficiently stressful circumstances, people do not merely engage in beliefs or cognitions that give them the best chance of improving their objective situation. Rather, to cope with the stress associated with these situations, they also draw upon culturally available beliefs and ideologies – including those that might limit their own personal responsibility for the outcome (Kay, Gaucher, Napier, Callan, & Laurin, 2008).

Understanding the content of these beliefs, as well as the conditions that might bring them about, is important. Not only because doing so can advance our understanding of the psychological processes...
underlying specific types of ideologies or prevalent socio-cultural belief systems, but also for the consequences that processes like these might hold for individual effort in meaningful contexts. Although drawing on culturally available worldviews has been theorized to exert anxiolytic properties (Laurin, Kay, & Moscovitch, 2008; Tullett, Kay, & Inzlicht, 2015) that can sometimes free people up to engage in active goal pursuit (Proulx, Inzlicht, & Harmon-Jones, 2012), if the worldview in question holds content that demotivates, the benefits may quickly disappear or even reverse. We would not contend that Hamlet would actually prepare less for a deadly duel than that one was merely for sport. However, to the extent that the gravity of Hamlet’s task might compel him to draw upon beliefs that, while soothing and comforting, are also in some ways antithetical to effort and persistence (for example, by increasingly believing that fate will ultimately be the true decider of his outcome), it is possible that his preparation and work ethic might suffer to some degree.

In the context of much less murderous affairs, we seek to examine whether this can happen. To do so, we examine two inter-related hypotheses: (i) whether tasks that are judged (or framed) as more important will lead those engaging in the task to increase their belief in how “fated” its outcomes are; and (ii) if so, whether these emergent beliefs in fate will be associated with effort on the task. We now turn to a more elaborate discussion of these predictions.

1.1. What is fate?

Although fate is a widely held belief (Burrus & Roese, 2006), it has seen little scientific attention. Fate has been defined by psychologists as the belief that outcomes of an event are predetermined and that whatever happens was meant to be (Norenzayan & Lee, 2010). At its extreme, this implies that once an event begins, regardless of an individual’s actions or inaction, agency or passivity, the final outcome will be the same. If someone is fated to be late for work, they will arrive late, regardless of whether they wake up early or not, or which route they take in their morning commute. Importantly, believing in fate is not the same as believing in luck or chance, in which outcomes are attributed to randomness. Outcomes that are fated are destined, not subject to randomness and happenstance (Norenzayan & Lee, 2010; Pepitone & Saffiotti, 1997; Raphals, 2001, 2003).

1.2. Will important tasks increase belief in fate?

The importance of a task or issue – how consequential the agent perceives the outcome of the task to be, whether for the self or others – has been shown to increase feelings of threat, anxiety, and other forms of psychological discomfort (Lazarus, 1966; Lazarus & Folkman, 1984; Paterson & Neufeld, 1987). And although a task’s importance is often associated with its direct relevance to the self, it need not always be. That is, someone may view the task as being consequential for others (high importance) without the outcome having a direct influence on the self (low personal relevance, e.g., overthrowing a foreign dictatorship). On the other hand, someone may view the task as having no consequence at all (low importance), but it be may be highly self-relevant (e.g., buying a pen for one’s own writing). Past research, however, has often used tasks that contain aspects of both importance and personal relevance (e.g., Baumeister, 2002; Davis et al., 1992; Dutton & Ashford, 1993; Grant, 2008; Sanchez & Levine, 1989; Shepperd & Arkin, 1989), making it unclear whether the effects of importance are at least in part driven by personal relevance. One of the goals of this research, therefore, is to test whether the effects of a task’s importance matters when it is relevant for the self versus others.

Nonetheless, empirical studies have shown that tasks perceived to be important can be psychologically or emotionally straining, increasing stress and negative affect. Compared to low-stakes testing, high-stakes testing environments are more likely to induce anxiety and stress in students (Segool, Carlson, Godforth, Von Der Embse, & Barterian, 2013). Furthermore, helping prepare students for their high stakes testing also increases anxiety and nervousness in parents and teachers (Barkdale-Ladd & Thomas, 2000). In organized sports, young male wrestlers and soccer players who attach greater importance to both performing well and winning a match feel more anxious and have more frequent worries about failure (Lewthwaite, 1990; Lewthwaite & Scanlan, 1989). At work, employees who rate performance-related goals, like the ability to prove competence, as especially important are most likely to feel stressed at work (Morris, Messal, & Meriac, 2013). Adults who attach substantial importance to life goals also report more psychological distress, pressure, and tension (Sellers & Neighbors, 2008). In a longitudinal study following graduates transitioning from school to the workplace, the importance of self-generated goals was generally positively associated with stress (Dietrich, Jokisaari, & Nurm, 2012). And finally, the more a person cares about a negative outcome of someone he or she is close to, the more stress he or she feels (Hampton, Rainie, Lu, Shin, & Purell, 2015).

One means for coping with this type of psychological strain, we suggest, is to draw upon ideologies of external control – that is, ideological beliefs that imply that the individual actor is not solely responsible for what occurs and that, regardless of what happens, there is an (often unseen) order to all outcomes (Kay et al., 2008; Landau, Kay, & Whitson, 2015). Belief in basic order has been shown to reduce anxiety (Tullett et al., 2015) and research has shown that in times of stressful and threatening situations, people are more likely to rely on ideologies that provide structure and meaning (Jost, 2006). Religious ideologies, such as a belief in God, can alleviate anxiety stemming from a lack of control (Kay, Gaucher, McGregor, & Nash, 2010; Kay et al., 2008). Likewise, non-religious ideologies of external control – ranging from scientific determinism (Rutjens, van Harreveld, van der Pligt, Kremers, & Noordewier, 2013) to trust in governments (Kay et al., 2008; Shepherd & Kay, 2012) to hierarchical means of social organization (Friesen, Kay, Elbach, & Galinsky, 2014) – can all compensate for aversions to disorder and randomness when personal control is low or when issue complexity is high.

In a similar fashion, fate, in which each event is bound for one unalterable outcome via an unseen order, may also be an attractive ideology to draw upon in the context of important tasks. Believing in fate can facilitate coping after a devastating loss (e.g. losing a child in military action; Somer, Klein-Sela, & Or-Chen, 2011), improve future well-being after a traumatic event (e.g. death of a spouse; Specht, Egloff, & Schmukle, 2011) and help people cope with existential threats (e.g. death anxiety; Hui, Bond, & Ng, 2007). Fate can also present itself as an appealing tool when considering complex or difficult decisions (Tang, Shepherd & Kay, 2014).4

For these reasons – that is, (i) the tendency for important tasks to engender psychological discomfort, (ii) recent research demonstrating the psychological utility of drawing on worldviews that suggest external control, and (iii) correlational research noting the appeal of fate as a coping mechanism – we suggest that belief in fate may increase when people are faced with tasks they deem especially important.

4To be clear, task importance is different from task complexity or task difficulty (Ordonez, Schweitzer, Galinsky, & Bazerman, 2009). Complexity refers to the number of different and connected parts in a task. An important task may also be complex (e.g., the importance and complexity of negotiating with different world leaders), but they need not always co-occur (e.g., the importance but relatively low complexity of voting for the student government, the complexity of building a model train but the relative low importance of doing so). Task difficulty refers to how hard it is to achieve an outcome. Again, although an important task may be difficult (e.g., getting permits to open a restaurant), they need not always co-occur (e.g., the importance but relative ease of voting for the student government, the difficulty of finishing a hiking trail on a leisurely Sunday afternoon but relative low importance of doing so). We thus build upon the Tang et al. (2014) paper in two ways. In addition to studying task importance, as compared to decision complexity, which is the focus of the Tang et al. (2014), paper, our research examines effort as a downstream consequence of belief in fate, while the Tang et al. (2014) paper focused only on belief in fate.
1.3. Downstream implications for effort and persistence

To the extent that important tasks do in fact evoke a belief in fate, the implications may be substantial. While fate is unlikely to be the only worldview people draw upon when tackling important tasks, it may be an especially consequential one. This is because belief in fate can be antithetical to the behaviors that one would hope would be maximized—like effort and persistence—when completing important tasks. All else equal, the more we prioritize and care about the results of a given task, the harder we should work to complete it successfully. Ironically, though, to the extent task importance also increases the belief in (domain specific) fate, extra effort may be muted. This is not to say that important tasks will lead to lower absolute levels of effort and persistence than less important tasks; rather, that increasingly drawing on this specific ideology when tasks are more important may chip away or lessen the observed boost in effort. Put another way, when important tasks increase belief in fate, the overall positive effect of importance on effort may be reduced or minimized.

There is good reason to believe that increased belief in fate can influence effort. Although ideologies that afford predictability may buttress anxiety and facilitate goal pursuit (Kay, Laurin, Fitzsimons, & Landau, 2014; Tullett et al., 2015), a belief that an outcome is in large part controlled by external forces that the actor cannot understand can suppress effort and active participation. A belief in fate implies relinquishing control over outcomes, and ceding power to an external force that has already decided an event’s outcome. This lack of control and influence over an event’s outcome should limit effort in goal-directed behaviors.

Many different findings converge to support this prediction. For example, reduced social power—i.e., acknowledging the influence others have over one’s own outcomes—is associated with less action-oriented and goal-directed behavior (Guinote, 2007; Keltner, Gruenfeld, & Anderson, 2003; Steidle, Werth, & Gockel, 2013). More directly, belief in fate itself positively correlates with passive behaviors, such as justifying the status quo (Harrell, 1987), and passive but dangerous behaviors such as driving without a seatbelt (Cólon, 1992), failing to prepare for earthquakes (McClure, Allen, & Walkley, 2001), and missing regular health check-ups (Gullatte, Brawley, Kinney, Powe, & Mooney, 2010). Likewise, belief in very controlling gods reduces long-term goal commitment (Laurin, Kay, & Fitzsimons, 2012) and confidence in public institutions to address social issues undermines individual level involvement in those issues (Shepherd & Kay, 2012, 2014). This body of work is also generally consistent with the theory of planned behavior (Ajzen, 1985; Ajzen & Madden, 1986), which suggests that a perceived lack of control over actions produces weaker goal intentions, which consequently reduces goal-directed behaviors.

Therefore, in the studies presented here, we not only test (i) whether more important tasks (compared to less important tasks) will elicit a stronger belief that the relevant outcomes are fated, but also (ii) whether any observed increased belief in fate will lead to downstream consequences for the amount of effort and persistence exhibited. To test these hypotheses, we present three main studies plus one pilot study.

1.4. Overview of studies

First, a pilot study tests the proposed link from perceived task importance to belief in fate (Hypothesis 1) via a simple correlational design. We then test this relation using a more elaborate design and also test for the presence of effects on subsequent effort in three different contexts (Studies 1–3). Study 1 tests the impact of task importance on belief in fate and its subsequent effect on effort. Study 2 directly manipulates perceived importance and again assesses its effects on fate beliefs and subsequent effort in an organizational setting. In Study 3, to generalize our findings to yet another context and to examine whether important tasks also need to be personally relevant for the actor to influence fate beliefs, we tested this question in the context of social change.

The sample size in each study was determined using the effect size from previous research (Tang et al., 2014) of r = 0.23 or d = 0.47 to achieve a minimum power of β = 0.80. In all studies, we report all relevant manipulated and measured variables, and analyzed data only after our target sample size was achieved.

2. Pilot study

In a pilot study, we tested the first of our hypotheses—that important tasks yield an increased belief in fate—by employing a straightforward correlational design to see if these two constructs are related in the predicted direction (see Online Supplementary Materials for full details). We asked 201 participants to first self-generate a task that they were currently undertaking (example responses included, “Making a garden,” “Cataloguing my video game collection,” and “To own a dog daycare center.”) Next, participants rated the specific task’s perceived importance using three items (“It is important to me,” “I am taking it seriously,” and “It is critical to me”; α = 0.80), and then responded to four items (“Whatever the outcome of the project, it will have been what it should be,” “Fate will make sure that the outcome of the project is the right one,” “Whatever the outcome of the project, it will have meant to happen,” “Everything happens for a reason, and the outcome of the project will, too”; adapted from Tang et al., 2014; α = 0.90) designed to gauge the degree to which they believed the outcome of their tasks to be fated on a scale from 1 (not at all) to 7 (extremely). We predicted that the more participants perceived their tasks to be important, the more likely they would be to believe that fate would determine its outcome. Although a correlational design of this sort is vulnerable to third variables and cannot offer any firm conclusions regarding causality, we thought it prudent to first look for preliminary evidence using this simple and straightforward correlational design before proceeding to more sophisticated and involved studies.

The results of this pilot study were consistent with our hypothesis. The more important a task was judged to be, the more its outcome was believed to be fated, r(201) = 0.21, p = 0.003.

3. Study 1

Study 1 was designed to meet three goals. The first goal was to again test the relation between importance and fate. A second goal was to rule out the possibility that the positive correlation in the pilot study was due to something about the idiosyncratic tasks that people self-generated. To this end, we assigned everyone the same task in this study. And third, we sought to test our behavioral hypothesis: namely, that the more people draw upon beliefs in fate when undertaking an important task, the less effort they will exert.

To accomplish these three objectives in one study, participants were all assigned a task to donate as much rice as possible to hungry communities via successfully answering SAT-like vocabulary trivia questions. After our target sample size was achieved.

To capture importance, before participants began the trivia questions but after a brief preamble by the experimenter about who the donation recipients were, they were asked for their perceptions of how important they deemed the task to be. To capture fate, midway through the task, they were asked the extent to which they believed the amount of rice ultimately donated is fated. Capturing the behavioral consequences of belief in fate and task importance was a bit trickier. Because the free-rice.com trivia questions have definite correct answers (ones that participants likely either know or do not know, a priori) and because we required all participants to complete the same total number of these trivia questions, we believed that performance on the free-rice.com trivia question was likely not going to be a useful measure of effort investment.

Thus, another behavioral task—one designed specifically to capture variance in effort investment using a modified version of a typical
paradigm—was also included. This was an opportunity for participants to engage in a supplemental task that, if they exerted effort on, would make their primary task (i.e., answering the freerice.com trivia questions to donate rice) more successful. Specifically, after the participants completed the first set of freerice.com trivia questions, they were given the opportunity to spend time solving anagrams (a classic measure of effort investment; Shah & Kruglanski, 2002) to increase their chances of getting the next set of very difficult freerice.com trivia questions correct. To this end, after participants completed their 15th (out of 30) freerice.com question, they were told that before completing the remaining trivia questions, they would be given the opportunity to solve anagrams. It was explained to the participants that for each anagram they unscrambled correctly during this “supplementary” task, two of the three distracter multiple choice options for one question in the freerice.com trivia task would be removed, thereby increasing their chances of answering the trivia questions correctly (and donating more rice) by 50% per question. These anagrams in the supplemental task were all very solvable (unlike the SAT-like freerice.com questions, which were very difficult, a fact that was known to participants as they were given fifteen of them before being offered the supplemental task) and thus, the longer they opted to do these supplemental anagrams, the more it would aid their performance in the crucial rice donation task to which they would ostensibly return. Previous research has demonstrated that anagram solving is a good measure of goal pursuit, since effort and persistence lead to more anagrams solved (Shah & Kruglanski, 2002).

3.1. Method

3.1.1. Participants

Two hundred and two participants were recruited from Amazon Mechanical Turk. Seven participants reported being distracted during the study (four by their children, three by conversation), leaving 195 participants.

3.1.2. Procedure

Participants first read a short description about the need for food to relieve world hunger. They were informed that there has been a huge shortage of accessible food in developing countries, and that 842 million people in the world do not have enough to eat and poor nutrition causes nearly half (45%) of deaths in children under five (3.1 million children each year). This information was taken directly from the World Food Programme (WFP) website.

Next, participants read that they would be completing questions from freerice.com (see Fig. 1 for a diagrammatic representation of the complete study flow), a WFP website which donates rice grains to hunger victims. To donate rice, people log onto the website and answer SAT-like multiple-choice questions (e.g., vocabulary, literature). Each correct answer, they were told, generates 10 grains of rice. To assess importance, participants were then asked three questions regarding how important they personally deem feeding the hungry: “How important is it to you to help the recipients?” “How dire or seriously urgent do you feel it is to get the rice grains to the recipients?” and “How critical do you feel it is for you to help the recipients?” (α = 0.94) on a scale from 1 (not at all) to 7 (extremely).

Next, participants were told that they would answer 30 trivia questions from freerice.com. We took the questions from freerice.com (retrieved from the vocabulary section levels 55 to 60, the most difficult levels) and programmed the questions into Qualtrics ourselves. The freerice.com banner was pasted above each question. This was done to achieve several goals: to accurately track how many questions participants correctly answered (something we could not do if we used the actual freerice.com website), to make sure all participants saw the same questions, and to avoid participants going directly into the freerice.com website and seeing potentially distracting advertisements, and thus possibly losing focus on our study. In these questions, participants saw a word and selected its correct meaning out of four options. To ensure participants would be interested in the later opportunity of unscrambling anagrams to make the freerice.com trivia questions easier, the questions were taken from the most difficult levels on freerice.com. For example, they were asked, “What does oneiric mean?” and were given the options, “marvelous,” “fertile,” “corroborative” and “dreamy”. They were asked not to consult resources (e.g., Google) for answers.

After completing 15 of these very difficult trivia questions—that is, at the purported halfway mark—participants were then told that they wanted to ask them a few questions before they returned to the task. This gave us the opportunity to measure their fate beliefs. We adapted and modified the questions about fate from Tang et al. (2014) to be about this specific task. They were: “Whatever the outcome of the donation, it will have been what it should be,” “Fate will make sure that the right amount of rice be donated,” “However many grains of rice I accumulate will have meant to be the amount donated,” and “Everything happens for a reason, and the results of my performance will, too” (α = 0.94).

Next, participants were told that, if interested, they now had an opportunity to eliminate wrong answer choices from the remaining 15 freerice.com multiple choice questions by partaking in a supplemental task that involved solving simple word puzzles (adapted from Shah, Higgins, & Friedman, 1998). Completing this supplemental task would make the freerice.com trivia questions easier: participants were told that for each word they unscrambled correctly in this extra task, the computer would eliminate two wrong answers from one of their subsequent freerice.com trivia questions, thus increasing their chances of a correct response by 50%. They were subsequently provided the opportunity to solve up to 15 anagrams in this supplemental task. All anagrams were much easier than the trivia questions, as they were all solvable with some effort and some had multiple solutions. Examples of these anagrams include “scent,” “ocean” and “select” (Shah et al., 1998). They were presented one at a time, so that participants could opt to stop solving anagrams at any point and simply return to the remaining freerice.com trivia questions. Because these anagrams were all solvable and much easier than the trivia questions, the way we measured effort was the total number of anagrams that participants correctly solved. However, we also report the results for the number of anagrams attempted. The results remain substantively the same when these participants are included.

*There was a programming error, in which one of the anagrams, “Mantel” was repeated. Thirty-eight percent of participants proceeded far enough to see the anagram twice. However, it has multiple solutions (e.g., Mantel, Mantle, Mental, Lament) and 24% of those participants wrote down a different solution for the second iteration. The results remain substantively the same even if we exclude the repeated item, for the total number of correct items solved, number of anagrams attempted and with or without controlling for participants’ scores for the main task (freerice.com trivia questions). We report the conservative results of including the repeated item, since there were participants who supplied a different solution.

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5 The results remain substantively the same when these participants are included.
anagrams attempted even if the attempt was obviously wrong (e.g., one participant answered, “LECAST” for “SELECT”).

Once the participants opted to stop solving anagrams, they were directed to the demographics section and debrief statement. They thus never actually completed the remaining freerice.com trivia questions, since the supplemental anagram task was our main dependent variable. Given how difficult the freerice.com questions were designed to be, the rational strategy for raising as much rice as possible was to put effort into the optional, and much easier, anagram task in order to eliminate wrong answer choices from the remaining difficult freerice.com questions.

3.2. Results and discussion

3.2.1. Preliminary analyses of trivia questions

On average, participants answered 5.12 out of 15 (34%) freerice.com trivia questions correctly (SD = 2.89), indicating that the freerice.com questions were in fact quite difficult. Including all participants who finished the study resulted in 10,350 grains of rice donated (we did, in fact, donate all the rice on the participants’ behalf). There was a direct effect of perceived importance on the trivia score. The more important participants deemed the task to be, the more freerice.com trivia questions they answered correctly, \( r = 0.14, p = 0.048 \).

3.3. Main analyses: The relation between importance, fate, and effort on the supplemental anagram task

3.3.1. Belief in fate

As predicted, and conceptually replicating the pilot study, there was a main effect of importance on belief in fate. The more important participants felt it was to help the hunger victims, the more they believed that fate would influence the outcome, \( B = 0.21, \ SE = 0.10, t = 2.07, p = 0.040 \). Our first hypothesis, therefore, was again supported.

3.3.2. Effort

To test the second link in the chain, we examined the association between fate beliefs and effort on the anagram task. There was a marginal effect of belief in fate on effort, such that belief in fate negatively predicted effort expended, whether it was for the number of anagrams that participants correctly answered, \( B = -0.39, \ SE = 0.20, t = -1.93, p = 0.055 \), or for the number of anagrams that participants attempted, \( B = -0.43, \ SE = 0.34, t = -1.85, p = 0.065 \). There was no main effect of importance on effort for both number of anagrams correctly solved (\( r = 0.05, p = 0.456 \)) or number of anagrams attempted (\( r = 0.06, p = 0.423 \)). The absence of a main effect may have been due to suppressive effects, which we will discuss more in the General Discussion.

3.3.3. Mediation

Next, we tested whether importance, via its effects on fate beliefs, influenced effort on the anagram task. To test for the hypothesized indirect path of perceived importance to belief in fate to effort on the anagram task, we employed the PROCESS macro for SPSS (Hayes, 2013; Model 4). The indirect pathway was significant for both number of anagrams solved, \( B = -0.09, \ SE = 0.06, 95\% \ CI = [-0.2568, -0.0073] \), and the number of anagrams attempted, \( B = -0.10, \ SE = 0.07, 95\% \ CI = [-0.3006, -0.0062] \), indicating that as perceived importance increased, belief in fate also increased, which then led to suppressed effort. However, because increased importance predicted more correct answers on the freerice.com questions prior to the anagram task (which meant participants who perceived the task as more important could conceivably try less hard on the anagrams, simply because they had already donated more rice before reaching the anagram task), we reran the same analyses but controlled for the amount of rice already donated. The mediation pathway remained significant for both number of anagrams solved, \( 95\% \ CI = [-0.2628, -0.0063] \), and the number of anagrams attempted, \( B = -0.09, \ SE = 0.07, 95\% \ CI = [-0.2803, -0.0038] \). Perceived importance of the task positively predicted belief in fate, and belief in fate subsequently negatively predicted the anagrams solved (Figs. 2 and 3). Thus, to the extent that perceived importance led to the endorsement of fate, effort suffered.

4. Study 2

Study 1 demonstrated that task importance is associated with increased belief in fate. It also provided initial evidence for the deleterious consequences of increased belief in fate on the exertion of extra effort. By holding the task constant across participants, we eliminated alternative explanations tied to the self-generation of tasks. However, since importance was measured but not manipulated in Study 1, causality cannot yet be inferred. In Study 2, therefore, we again held the task constant across participants (namely, student participants were tasked with writing an essay to potential donors on their university’s behalf) and this time we experimentally manipulated its importance. We did so by telling the students this was to offset an immediate but miniscule increase in tuition versus an immediate and substantial increase in tuition. Afterwards, we measured how much effort the students spent on writing the essay, as indexed by time and word count. In addition to measuring time and length, we wanted to allow for the possibility that, similar to Study 1, the relation between fate and effort in important tasks might only surface when measuring whether people are willing to put in extra effort, rather than just doing the bare minimum. We thus included a behavioral measure that corresponded to this type of effort. Specifically, after participants had finished their essays and assumed the experiment was over, we offered them an opportunity to revisit their essay, in order to double-check, revise, or edit it in some way. Doing so afforded two behavioral dependent measures: a dichotomous measure that tracked simply whether they said yes or no to the opportunity to revisit their essay, and a continuous measure of...
total time spent on the second round. These measures have been used in past research to measure effort (e.g., Darnon, Harackiewicz, Butera, Mugny, & Quiamzade, 2007). We predicted that increased importance would increase the students’ belief in fate and, to the extent this occurs, effort on the main draft and revision would be suppressed.

4.1. Method

4.1.1. Participants

One hundred and eighty-five students from an east coast university in the United States participated. The students were enrolled in psychology classes whereby part of the requirement was to participate in studies for learning purposes. They received credit in exchange for their participation. All students were juniors (third year) or below. Eleven participants were excluded (one saw both conditions due to experimenter error, one wrote “nope” as his or her entire essay, and the rest either reported a different amount of tuition increase than their condition in a manipulation check or demonstrated that they did not understand instructions), leaving 174 participants. The participants who reported a different amount of tuition increase and those who showed that they did not understand instructions were excluded through two processes—the first was during the study, when participants had to type out why they were asked to write an essay after reading the instructions and rationale for the task (and before actually writing the essay). The second was after the study during the debrief, when the experimenter verbally asked them if they understood why they had to write the essay and if they understood the amount of tuition increase.7

4.2. Procedure

4.2.1. Manipulation of importance

All students completed this study on a computer and instructions were administered through the computer screen. They first read a passage detailing tuition fee increases and the need to prevent such increases. Specifically, they read that in the forthcoming school year, tuition fees were forecasted to increase. To prevent the increase, their university was aiming to raise more money through external funding, such as federal grants and private donors. Participants were then randomly assigned to see a high or low tuition increase; this was our manipulation of task importance. In the high importance condition, participants read that tuition fees were forecasted to rise by a minimum of 12% in the coming year, which was about $650.33 more per month for the typical student at this university. In the low importance condition, tuition fees were forecasted to only rise by a maximum of 0.02% in the coming year, which was about $1.01 more per month.

As a manipulation check, we then asked participants how important it is to secure funding to prevent the tuition increase of 12% (0.02%).8 We then informed participants that to try and curb these increases, the university approaches donors. It was then explained that although the success of these campaigns ultimately rests upon how good the dean’s office is at raising money, the experimenters were trying to understand the effectiveness of providing personal student appeals to donors, and so they would be asked to write one of these personal appeals. Participants were also informed that some of the essays written would be given to the fundraising team in order to track which types of appeals were more effective. In order to be certain that participants read the instructions and to help comprehension, the next page instructed participants to briefly type out why they were asked to write. Participants could go back a page on the screen to read the rationale for the necessity of fundraising. Next, students were instructed to write as much or as little as they wished for their appeal.

4.2.2. Measurement of belief in fate

After writing the essay, students answered four items measuring how much they believed the outcome of the campaign would hinge on fate. These items were the same as those used in the previous study (and in Tang et al., 2014), but once again adapted to match the specifics of this task. The four items were: “However much money raised, it will have been what it should be,” “Fate will ensure that the right amount of money will be raised,” “However much money generated will have meant to be the amount received by [university name],” and “Everything happens for a reason, and the outcome of the fundraising campaign will, too” (α = 0.87).

4.2.3. Measurement of effort

After rating the statements, the students were told on the next page that “sometimes people find looking at what they have written after a little time away from it helpful.” They were then asked if they had any interest in looking at their essay again (the essays were no longer visible after they advanced to the next page). If participants answered “no,” then they went on to answer demographic questions. If they answered “yes,” then what they wrote was piped back onto the computer screen on the next page, and they were told that they could copy and paste the original text and edit it (e.g., check for spelling, grammar, add more information, delete words) in the space provided below. The computer program automatically recorded the amount of time spent on the revision. Students who chose not to revisit their essay were recorded as having spent 0 s, because they effectively spent no time on a revision.

To capture effort dedicated towards the revision, we used two dependent variables. First, whether participants opted to see their original draft again or not, and second, the time spent on the revision. We did not use word count as a measure of effort, because editing may involve removing words, adding words or just changing words, and thus word count would not be a suitable metric for effort on the revision.

4.3. Results and discussion

4.3.1. Preliminary analyses

4.3.1.1. Manipulation check. Replicating the pretest study data (reported in Footnote 7), participants in the high tuition increase (12%) condition indeed thought that it was more important to generate funding (M = 5.85, SD = 1.21) than those in the low tuition increase (0.02%) condition (M = 4.35, SD = 1.82), t(172) = 6.42, p < 0.001, d = 0.98.

4.3.1.2. Effects of task importance on effort dedicated towards the original essay draft. There were two ways for us to measure effort on the original draft of the essay: how long participants spent working on it and the total number of words they wrote, original draft count would not be a suitable metric for effort on the revision.

4.3.2. Main analyses on the effects of task importance on fate and subsequent effect on effort dedicated to revision

4.3.2.1. The effect of task importance on belief in fate. Students who read about a high potential tuition increase (M = 3.25, SD = 1.31) more strongly endorsed the belief that the outcome of the funding campaign is fated than those who read about a low potential tuition increase.

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7 The results remain substantively the same or statistically trending in the same direction across analyses when these two groups of participants are included.

8 A pretest conducted with a separate group of 46 students demonstrated that, on a scale from 1 (not at all important) to 7 (extremely important), students deemed it more important to secure funding to reduce a potential 12% tuition increase (M = 6.50, SD = 1.09) than a 0.02% increase (M = 4.50, SD = 1.68), t(45) = 7.53, p < 0.001.
(M = 2.80, SD = 1.29), t(172) = 2.29, p = 0.025, d = 0.35. Our first hypothesis was again supported, this time experimentally.

4.3.2.2. The effect of task importance on effort dedicated towards the revision. To reiterate, we captured effort using two dependent variables: (1) whether participants opted to see their original draft again or not, and (2) the time spent on the revision. We found that 41% of students opted to revisit their essay. There was neither a main effect of importance on opting to see the essay again, $B = 0.26, SE = 0.31$, $\text{Exp}(B) = 1.29$, $p = 0.408$, nor on the time spent on the revision (high importance $M = 25.89$ s, $SD = 55.37$, low importance $M = 27.84$ s, $SD = 57.04$), $B = -1.95$, $SE = 8.52$, $t = -0.23$, $p = 0.819$. Like Study 1, there may likely have been no main effect because of a suppression effect. We discuss this in more detail in the General Discussion.

4.3.2.3. Effects of task importance on effort dedicated towards the revision, via fate. To capture effort dedicated towards the revision, we used two dependent variables. First, whether participants opted to see their original draft again or not, and second, the time spent on the revision. We did not use word count as a measure of effort, because editing may involve removing words, adding words or just changing words, and thus word count would not be a suitable metric for effort on the revision. We tested whether the importance manipulation affected each of these measures, via belief in fate. To test for mediation, we again used the PROCESS macro for SPSS (Hayes, 2013; Model 4) to test the indirect pathway from condition to belief in fate to effort (for both the dichotomous measure of revision decision and total time in seconds spent on revision). Our hypotheses were supported. Perceived importance increased belief in fate (above), and belief in fate reduced the likelihood of revisiting the essay, $B = -0.26$, $SE = 0.13$, $\text{Exp}(B) = 0.77$, $p = 0.045$, and the amount of time spent revising the essay, $B = -5.83$, $SE = 3.28$, $t = -1.78$, $p = 0.077$. Overall, in the full model, increased perceived importance, through belief in fate, reduced the likelihood of revisiting the essay, $B = -0.11$, $SE = 0.08$, 95% CI = [−0.3478, −0.0024], and reduced the time spent editing the essay, $B = -2.60$, $SE = 1.99$, 95% CI = [−8.6046, −0.0439].

However, our indirect effort could have emerged because people who viewed the tuition increase as more important at Time 1 put in less effort into the revision because they already put in more effort for the first draft. Thus, we also analyzed our results while controlling for time spent on the original essay. For both of our effort outcomes, mediation remained significant (Figs. 4 and 5). That is, manipulated importance, via its effects on belief in fate, led to fewer people opting to see their essay a second time, $B = -0.12$, $SE = 0.09$, 95% CI = [−0.3698, −0.0035], and less total time spent on the revision, $B = -2.71$, $SE = 2.06$, 95% CI = [−8.4897, −0.0399].

So far, we have shown that a task’s importance can increase people’s belief that its outcome is fated. Much of past research on task importance, however, has often examined tasks that are both important and personally relevant to the individual. The degree to which an issue is personally relevant – the extent to which the outcome has a direct influence on the self, would likely increase its perceived importance – how consequential the perceivers judged the outcome of the task to be, and the relation between the two is likely complex. As we have previously discussed in the introduction, even though the two frequently occur together, they need not always move together. Someone may view the task as being consequential for others (high importance) without the outcome having a direct influence on the self, while someone else may view the task as having no consequence at all but which has an outcome that directly influences the self.

Therefore, our goals in this study were twofold: in addition to continue documenting the impact of importance on fate beliefs, we aimed to test whether this effect requires tasks that are simply important, insofar as they have large consequences for anyone, or whether the tasks need to be experienced as personally relevant.

Our findings so far and past research do not provide a clear prediction. Our results of Study 1, in which people were working to help donate grains of rice for others, and past research on important tasks that affect others (e.g., Grant, 2008) suggest that perceived importance may be the main driver of our findings. However, because actions of a moral nature (such as acting altruistically) are a core part of the self (Aquino & Reed, 2002), participants may have felt that a task which helps others also felt personally relevant. In Study 2, the task of reducing tuition is an issue that is both personally relevant (students can limit their own tuition increases), but limiting university tuition increases is also important because the outcome is also perceived to be consequential for students. Therefore, we do not offer strong predictions as to whether perceived importance, or personal relevance, or their combination drives the effect on fate beliefs. Instead, we seek to simply test whether participants distinguish between them and whether one matters more than the other (or if they interact).

In Study 3, we examined our hypotheses in the context of an issue that has garnered much attention and discussion recently: passengers on commercial airlines being forced off planes because of overbooking. We measured how important participants perceived the issue to be and also how relevant the issue was to them. We asked participants to self-report importance and personal relevance. We believe that, because the two factors should be correlated and because they are, in the end, subjective states, directly measuring (vs. artificially manipulating) them would offer a more valid test of how the two factors may influence belief in fate. Next, we measured the degree to which participants believed that the outcome of a decision by the Federal Aviation Association (FAA) to ban involuntary bumping would be fated, and assessed the amount of effort participants put into a task purported to
help them influence this decision. Consistent with Studies 1 and 2, we predicted that to the extent that perceived importance of the issue increases participants’ belief that the outcome of an FAA decision on a ban is fated, the less effort they would put into tasks that would help implement this ban.

5.1. Method

5.1.1. Participants

Two hundred and forty-nine Amazon Mechanical Turk workers (33% female, 1.2% other/non-binary, age M = 33.63, SD = 10.36) participated. One participant reported that they were interrupted by a pop-up window multiple times during the survey and was excluded.9

5.1.2. Procedure

5.1.2.1. Background information on involuntary bumping of flyers. All participants first read an introduction spread over three pages about the issue of involuntary bumping (see Supplementary Online Materials). In the introduction, they read about the airlines’ legal right to bump passengers involuntarily, the circumstances under which this could occur, and what the airline does to compensate the passengers. They then read some brief information about why this occurs and why airlines advocate for this policy. Next, we told them about how this practice came to a head in April 2017, when enforcing the policy led to a severely injured United Airlines passenger. They read about the real ways in which government representatives and the FAA have subsequently attempted to address this issue.

5.1.2.2. Perceived importance and relevance of issue. Next, we asked participants to report the extent to which the issue was important and the extent to which the issue was relevant to them. We measured importance using the following items from Study 1: “Personally, to what extent do you think that the practice of involuntarily bumping passengers is an important problem, a serious problem” (r = 0.83, p < 0.001) on a scale from 1 (not at all) to 7 (extremely). We measured relevance using the following items: “Personally, to what extent do you think that the practice of involuntarily bumping passengers is an issue that is [relevant to you, affects you]” (r = 0.91, p < 0.001) on a scale from 1 (not at all) to 7 (extremely). Importance was correlated with personal relevance as expected (r = 0.42, p < 0.001); however, the correlation was modest, and an exploratory factor analysis with principal factor analysis with direct oblimin rotation revealed that the importance items and the relevance items loaded onto two separate factors (see Supplementary Online Materials for table of factor loadings).

5.1.2.3. Intermediate task. Next, participants were asked to list 10 reasons for why the FAA should ban the practice of involuntary bumping (see Online Supplementary Materials for full instructions). The aim of this halfway task was twofold. First, it was to begin engaging participants with the issue. Second, because we had given participants some reasons in the introduction on why airlines advocate for the practice, we wanted participants to start thinking about counterarguments for the policy, so that they would have an incentive to read the materials we provide in the dependent variable measuring effort (see below). We encouraged participants to fill out all 10 reasons, but they did not have to (e.g., some put N/A).

5.1.2.4. Belief in fate. We then told participants that, as mentioned earlier, government representatives have introduced bills to stop the practice of overbooking and bumping passengers, and that we were interested in their thoughts about what the FAA will ultimately decide to do. Participants then answered four questions gauging fate. The items were taken from Studies 1 and 2, but adapted to fit the context. They were: “Whatever the outcome of the decision, it will have been what it should be,” “Ultimately, the outcome of the decision would be the right one,” “The outcome of the decision is what will have meant to be” and “Everything happens for a reason, and the result of the decision will, too” (α = 0.91) measured on a scale from 1 (not at all) to 7 (extremely).

5.1.2.5. Effort. Next, participants were told that they have a chance to change the policy of involuntary bumping by letting government representatives know, through letters, why they support the change. We informed participants that in order to write the most effective letter, “it may be helpful to educate yourself on the issue itself and reasons both for and against this practice” before penning the letter. We also told participants that on the following page, they would see three sections: “(1) The issue of involuntary bumping, (2) Reasons FOR banning this practice, and (3) Reasons AGAINST banning this practice.” We told them that they could spend as much or as little time as they wished reading the information that would help them craft the best letter.

We then timed how long participants spent on the page. Each section was placed in an expandable box, so that participants could expand and contract the information by clicking on the relevant box (see Online Supplementary Materials). Because of how much information was provided, and because participants have different reading speeds, we also timed how long participants took in total to complete the whole study, and used the overall time spent completing the whole study as a covariate in order to control for idiosyncratic differences in reading speed.

In order to maintain the cover story, after participants finished reading and clicked onto the next page, we instructed them to write a brief sentence or two to the FAA. We instructed participants to only write one or two sentences (rather than a letter as they were originally told) because this was not our main outcome of interest. We included this section for two reasons: to maintain the cover story, so that participants would feel a sense of completion, and to minimize any negative feelings they may feel if they did not get a chance to express their opinions as we originally promised.

5.1.2.6. Other control variables. As some participants may believe that involuntary bumping is not a bad idea (e.g., because they work in the airline industry or because they believe that airlines have a right to do so as stipulated in the airline carrier rules when passengers buy tickets), at the end of the study participants reported the extent to which they believed that involuntary bumping was wrong (“wrongness”) using the item, “To what extent do you believe that involuntarily bumping passengers is:” on a scale from 1 (an extremely bad idea) to 7 (an extremely good idea). Wrongness was associated with importance (r = −0.46, p < 0.001) and relevance (r = −0.14, p = 0.026), in which the more important or relevant participants perceived the issue to be, the more wrong they thought involuntary bumping was.

Participants also reported whether they worked in the airline industry (“industry work experience”) using “yes” coded as 1 or “no” coded as 0, and indicated if they knew anyone who worked in the airline industry (“acquaintances in industry”) using three options: “yes, people I am close to” coded as 1, “yes, but people I am not close to” coded as 2 and “no” coded as 3. Neither industry work experience nor acquaintances in industry was associated with importance (industry experience p = 0.885, acquaintances p = 0.790) or relevance (industry experience p = 0.667, acquaintances p = 0.100).

5.2. Results

5.2.1. Belief in fate

We submitted our data to a linear regression analysis. In the first step, we entered importance and relevance. In the second step, we
entered the interaction term for importance \(x\) relevance. In the third step, we entered control variables of wrongness, industry work experience and acquaintances in industry. There was a main effect of importance on belief in fate, \(B = 0.32\), SE = 0.06, \(t = 5.09\), \(p < 0.001\). There was no main effect of relevance, \(B = -0.05\), SE = 0.05, \(t = -1.00\), \(p = 0.320\), even without controlling for importance in the regression, \(B = 0.06\), SE = 0.05, \(t = 1.15\), \(p = 0.250\). There was also no interaction between importance and relevance, \(B = -0.04\), SE = 0.03, \(t = -1.22\), \(p = 0.225\). These results remained the same when controlling for wrongness, industry work experience and acquaintances in industry (importance: \(B = 0.30\), SE = 0.07, \(t = 4.15\), \(p < 0.001\), relevance: \(B = -0.05\), SE = 0.06, \(t = -0.86\), \(p = 0.391\), interaction: \(B = -0.04\), SE = 0.03, \(t = -1.26\), \(p = 0.209\)). The control variables did not exert an effect on belief in fate (all \(ps > 0.390\)).

5.2.2. Time spent on preparation and reading

Similar to Studies 1 and 2, there was no main effect of importance on time spent reading, \(B = -8.28\), SE = 5.76, \(t = -1.44\), \(p = 0.151\), or main effect of relevance on time spent, \(B = 5.34\), SE = 4.94, \(t = 1.08\), \(p = 0.280\). There was also no interaction, \(B = -4.93\), SE = 3.03, \(t = -1.63\), \(p = 0.104\). These results remained the same controlling for wrongness, industry work experience and acquaintances in industry (importance: \(B = -3.27\), SE = 6.46, \(t = -0.51\), \(p = 0.613\), relevance: \(B = 4.57\), SE = 4.99, \(t = 0.92\), \(p = 0.360\), interaction: \(b = -4.79\), SE = 3.03, \(t = -1.58\), \(p = 0.116\)). Wrongness exerted a marginal positive effect on time spent reading, \(B = 12.10\), SE = 7.16, \(t = 1.69\), \(p = 0.092\), but the other two control variables did not (both \(ps > 0.440\)). The absence of a main effect of importance is likely due to countervailing mediators, which we will discuss further in the General Discussion.

5.2.3. Mediation

To test the full mediation model, we used the PROCESS macro for SPSS (Hayes, 2013; Model 4) with 5000 samples. We entered importance as the independent variable, belief in fate as the mediator and time spent reading as the dependent variable. In order to control for participants’ different reading speeds, we entered the total time that participants took to complete the whole study as a covariate. Perceived importance increased belief in fate (above), and belief in fate reduced the time spent reading, \(B = -9.99\), SE = 4.55, \(t = -2.20\), \(p = 0.029\). Overall, we found an indirect effect, \(B = -2.24\), SE = 1.29, CI 95% = \([-5.47, -0.253]\). This was true even when we added personal relevance as a covariate, \(B = -2.36\), SE = 1.45, CI 95% = \([-6.08, -0.1147]\). That is, to the degree importance increases fate beliefs, people spent less time reading to prepare for writing the most effective letter (Fig. 6). We also tested the indirect effect of personal relevance to fate to effort, and the effect was not significant, \(B = -0.52\), SE = 0.72, 95% CI = \([-2.7171, 0.4386]\).

5.3. Discussion

We once again observed, this time in the context of passenger flying rights, that the more participants viewed the issue as important, the more likely they were to perceive the outcome as fated. Personal relevance to participants did not impact belief in fate, and it did not interact with importance, suggesting that it is the perceived importance of an issue that influences belief in fate, and not necessarily a personal connection that participants have with an issue or task. Importance and personal relevance were correlated, and the personal relevance of an issue may often be a central aspect of the issue’s importance. However, when we measure them separately in this study, we find that importance, rather than personal relevance, was driving belief in fate.

6. General discussion

Belief in fate is an important but understudied ideology that can impact behaviors related to productivity, action, and well-being. Despite the ubiquity of belief in fate (Burris & Rose, 2006), much of the research on this subject has focused on its sociocultural antecedents, such as religious and cultural experiences (Leung & Bond, 2004; Norenzayan & Lee, 2010; Young, Morris, Burrus, Krishnan, & Regmi, 2011). Especially little is known about the situational forces that give rise to the belief. Here, we show that the importance of a task can increase beliefs in fate, and this can yield notable effects on subsequent effort.

Using correlational and experimental paradigms, three studies and a pilot study provided consistent and convergent evidence that important tasks motivate a belief in fate. This link was observed in four different settings: personal goals (Pilot Study), prosocial, helping tasks (Study 1), organizational appeals (Study 2), and social change (Study 3). Our studies also demonstrated that these changes in fate beliefs can exert downstream consequences on effort. Finally, by asking participants to complete the same tasks across conditions (Studies 1–3), we were able to remove potential alternative explanations related to the type of tasks people consider, and by manipulating importance (Study 2), we were able to home in on causal direction.

Interestingly, perceived importance did not exert a direct negative effect on effort in any of the studies reported. Rather, the effect of importance on effort was indirect, such that intervening fate beliefs dampened the impact importance had on effort. Additionally, we observed the indirect effect for supplementary tasks that were helpful in maximizing success but not mandatory, which we discuss further below. Indirect effects (without direct effects) tend to surface when a given phenomenon has multiple mediators operating in opposing directions (Mackinnon, Fairchild, & Fritz, 2007), and there is good reason to presume that the full psychological story here may involve other mediators operating in the opposite direction that we did not focus on in our studies. Thus, while we think that task importance can increase belief in fate, and that the degree to which this occurs can reduce subsequent effort, the extremity of this effect will certainly vary, and the effect should be best considered as one of many factors influencing effort.

Our findings also contribute to our understanding of task importance and its effects on our worldviews. Past research on importance have often utilized tasks that participants perceive to have a significant impact and which are personally relevant to them. However, when measured separately (Study 3), our results suggest that increases in fatalistic ideologies may be driven mainly by how important the participant perceived the issue to be, rather than strong personal relevance (though the latter can certainly be a cause of the former).

Diagrams...
process. In particular, if the content of the relevant worldview or ideology evoked, such as belief in fate, is antithetical to the properties of successful goal pursuit, the self-regulatory benefits of worldview defense may dissipate.

Across different situations, there are multiple worldviews or ideologies one might draw on in the context of a stressful or difficult task, and so examining how external sources of control – like fate, that necessarily limit feelings of personal control – can interact with ones that promote effort and efficacy – like faith in supportive colleagues or high levels of perceived procedural justice – may be very fruitful avenues for future research. Additionally, our research focused on North American participants. Because levels of belief in fate can differ cross-culturally (Norenzayan & Lee, 2010), another fruitful avenue for future research may be to investigate how the effect of belief in fate can impact task effort across cultures. For example, it is possible that a chronic belief in fate (in which fate is embedded in the sociocultural fabric) may adversely impact task effort across all situations, and not necessarily when the importance of a task is made salient.

A few particulars of our data are worth noting, insofar as they suggest nuances to this general phenomenon as well as opportunities for future research. First, in our studies, the link from importance to belief in fate to effort was generally observed for tasks that could be considered helpful in ensuring maximum success, but that were not technically necessary. That is, fate seemed to play a role in contexts of work supplementary to what participants thought was their primary task. In Study 1, participants spent less effort on a task designed to help them donate more grains of rice than they already have. In Study 2, participants spent less effort on essay revision. In Study 3, participants spent less effort on preparation that would help them maximize their success. This is noteworthy not only because it suggests that there may be considerable nuance to how a belief in fate impacts goal-directed behaviors, but also because it helps inform a more sophisticated understanding of when these beliefs may matter. Perhaps, for example, tasks in which what is absolutely required for successful completion is open to interpretation will be more susceptible to our observed effect, since people in these circumstances may be able to deem a wider range of behaviors or actions as secondary or supplementary to their main task.

Second, we used tasks that, while not requiring a group effort or any type of interdependence, were in the service of an ultimate goal that could not be achieved by one person. That is, participants were tasked with doing their part to contribute to a larger effort in both cases: contributing to a massive food donation effort in Study 1, contributing to a larger fundraising effort in Study 2 and contributing to a concerted effort to bring about a policy change in Study 3. At the workplace, nearly all individual tasks are part of a broader, collective effort. Of course, some particular types of occupations may lend themselves to very individual construals of the relevance of their work. For example, a salesperson, especially one that primarily earns commission, may view their sales totals as only relevant to them and their personal income (even though their output is inherently tied to the bigger picture of the organization). Thus, the degree to which this effect may be muted for tasks that feel entirely autonomous or completely lack interdependence remains an open question.

Additionally, although the evidence here suggests an indirect link from task importance to belief in fate to reduced effort, further research may be helpful in determining what may strengthen or weaken these effects. As with many complex phenomena, other variables such as individual differences or situational constraints are likely to have an influence. For example, one could imagine that if one feels self-reliant, the effect of fate on effort may be weakened. Conversely, if any impact of one’s effort on the outcome takes a long time to produce any results, then the effect of fate on effort may be strengthened.

Finally, these findings have notable implications for daily work life. At work, managers may impress upon employees the importance of a particular assignment. This is understandable and intuitively logical – to motivate employees, the manager should let employees know to prioritize particularly important assignments and strive for the best results. Our results suggest the provocative possibility that – depending on the content of the ideologies or worldview a given worker might turn to when stressed – this strategy may sometimes be less than ideal. One example is negotiations. The need to negotiate in organizations is ever present, and maximizing joint gains (i.e., Pareto optimality) requires effort and persistence (e.g., Galinsky, Maddux, Gilin, & White, 2008). Interestingly, research has documented reduced effort or withdrawal in negotiating important items or issues in social contexts (Cohen et al., 2007; Shulman, Mayes, Cohen, Swain, & Leckman, 2008; Ward, Berger, & Kahn, 2003). Our research can lend itself to the work setting, and perhaps the link from importance to belief in fate, can help explain the circumstances under which someone may withdraw from negotiating important issues and spend less effort in maximizing joint outcome (Hyde, Prietula, & Weingart, 2000; Thompson & Hastie, 1990).

Here, we have offered initial evidence that fate can be a motivated belief, and one that can impact subsequent behavior and behavioral intentions. The studies we reported covered a range of contexts and paradigms, and we observed consistent evidence across them. That said, as we have just outlined immediately above, many questions remain. It is our hope that future research continues to explore the nuance, depth, and limitations of the ideas and evidence presented here.

Appendix A. Supplementary material

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.jobhdp.2017.08.003.

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