

## Grit

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*'1973,' thought Affenlight. In the public imagination, it was as fraught a year as you could name: Watergate, Roe v. Wade, withdrawal from Vietnam. Gravity's Rainbow. Was it also the year that Prufrockian paralysis went mainstream—the year it entered baseball? It made sense that a psychic condition sensed by the artists of one generation—the Modernists of the First World War—would take awhile to reveal itself throughout the population. And if that psychic condition happened to be a profound failure of confidence in the significance of individual human action, then the condition became an epidemic when it entered the realm of utmost confidence in same—the world of professional sport. In fact, that might make for a workable definition of the postmodernist era: an era where even the athletes were anguished Modernists. In which case, the American postmodern period began in spring 1973, when a pitcher named Steve Blass lost his aim.*

– Chad Harbach, *The Art of Fielding*

For better or worse, we are agents for whom getting what we want often takes a great deal of time. Many of our goals are difficult to achieve, requiring months, years, or a lifetime of effort. And of course, sometimes we never achieve them at all. This is in part due to our imperfect mastery of the world, including the world of other people. But the pursuit of long-term goals also requires a kind of mastery over ourselves. Holding fixed other explanatory factors like talent, opportunity, and luck, some people are more successful at achieving their long-term goals than others. What is it that explains the difference?

A familiar answer appeals to the capacity for *willpower* or *continence*, understood as the capacity to resist the action-controlling influence of appetite, desire and emotion.<sup>1</sup> The standard story of self-control focuses on an agent whose continued pursuit of a goal is threatened by temptation in the form of a desire to do something that conflicts with her goal, and which she must overcome through exercising strength of will. This well-known cast of characters includes the child who must resist the lure of a marshmallow as well as the dieter who struggles to abstain from the cookie; the drinker who resolves to be moderate and so declines the second glass of wine; the runner who overcomes the temptation to stay curled up in bed rather than going for her morning run; the mother who restrains herself in the face of an angry impulse to slap her child. Some have found it helpful to think about the capacity to resist the force of passions that are contrary to one's goal as akin to a muscle that can be stronger or weaker and can be depleted from overuse.<sup>2</sup>

Resisting the temporary corrupting influence of appetite and emotion is certainly important for successful long-term agency. There are aspects to self-control over time that are not well captured by this narrow model of willpower, however. Consider the graduate student who receives yet another journal rejection, but forges ahead with her pursuit of an academic career. The athlete who overcomes a serious injury through months of painful rehabilitation. Or the novelist who continues to write decade after decade despite never finding an audience for his work. These are also cases in which a kind of strength of will or 'grit' is displayed, in that many people in similar circumstances would have given up on their goal

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\* Many thanks to the participants in the 2016 workshop on Agency in Time at the CSMN/University of Oslo and an audience at The Ohio State University.

<sup>1</sup> Sripada (2010) defines willpower in this way, for instance.

<sup>2</sup> Holton (2009); Baumeister et. al. (2007).

rather than persevering. Yet it is misleading at best to characterize the counterparts who do not persevere as succumbing to appetitive or desiderative temptation. Any given instance of failing to get some writing done or neglecting a day of physical therapy might best be explained by the desire to avoid the painfulness of these activities, or to pursue the greater pleasure of some alternative. But giving up on the goal altogether is often not best explained by appeal to a temporary appetite or desire.

Some instances of abandoning a long-term goal are explained by the fact that the agent undergoes a stable change in view about the relative value of the goal. The Ph.D. student might come to believe after more experience in the field that a career in academia would be less personally fulfilling and of service to society than she had originally thought, and so permanently change her mind about whether it is a worthy pursuit. While this phenomenon is interesting in its own right, we will set aside cases in which the lack of perseverance is directly attributable to a stable change in the agent's evaluative outlook. Our focus is on the phenomenon of abandoning a pursuit while continuing to take that pursuit to be more-or-less as valuable as ever. Those who do so are often characterized as lacking grit, those who stick with the pursuit under similar circumstances as having it. The question is what precisely we mean by this.

The full answer is no doubt complex, but the hypothesis of this paper is that it is in large part an epistemic matter, rather than a purely volitional capacity that is helpfully compared to a muscle. The suggestion is that in many cases, a lack of perseverance is attributable to a significant decrease in the agent's confidence that she is likely to succeed if she continues to try. The obstacles these agents encounter – getting rejected from yet another journal, failing a physical, and so forth – are taken to be strong evidence that they lack the ability to achieve the long-term goal in the circumstances they are in. In contrast, those who persevere tend to respond to the evidential significance of these obstacles differently, in a way that is conducive to maintaining confidence that the desired outcome is achievable for them. Grit is not simply the ability to withstand the pain of effort and setbacks, or to resist the siren song of easier rewards; it consists partly in a kind of epistemic resilience.

This is a point that has not gone unnoticed by psychologists who study perseverance. Angela Duckworth emphasizes the relevance of hope in underwriting the capacity for grit, where hope is defined as the expectation that one's efforts will pay off.<sup>3</sup> And Martin Seligman touts the importance of optimism (which he argues can be learned), which involves a distinctive style of explaining to themselves why good and bad events happen.<sup>4</sup> But the epistemic dimension of grit raises a number of philosophical puzzles that psychological work on this topic simply does not aspire to address. Is there anything irrational or otherwise criticizable about an agent's giving up on a goal that she has no obligation to pursue, if she comes to believe that she will likely fail? Is it rational to maintain hope and optimism in the face of genuine evidence that the risk of failure is high? Does adopting a goal change how we ought to relate to evidence of potential failure? This paper aims to make progress on addressing these questions.

## I. *Considering the evidence*

To begin, the hypothesis that grit consists in part of epistemic resilience must be fleshed out in more detail. We hope that most will find the hypothesis intuitively compelling, and so aspire simply to motivate it further rather than to convince a thoroughgoing skeptic. Let us first say a bit more about why failures of grit often cannot be assimilated into the model of giving in to a strong desire, appetite, or emotion. Why not suppose that when people abandon their goals rather than persevering, it is generally

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<sup>3</sup> Duckworth (2016).

<sup>4</sup> Seligman (2011).

because continued effort is too painful and frustrating, and that they give in to a strong desire for relief from this pain? We certainly do not mean to deny that such desires and emotions are central to the phenomenology of grit, or that they can play a role in causing an agent to throw in the towel. However, pains, frustrations, and temptations to pursue more pleasurable activities are normally transitory phenomena. They may well cause the agent temporarily to decide to quit pursuing her goal, or to act in akratic ways that impede progress on that goal. But most long-term pursuits can survive this kind of temporary interruption, and after the pain or contrary desire subsides, the agent can recommit to her goal.<sup>5</sup> Something more is generally required to explain why people give up on their goals permanently while continuing to see value in them.

On the standard decision-theoretic model, if the agent continues to assign high utility to the outcome in which she  $\phi$ 's, the other place to look for the explanation is in her expectation of success. This expectation in turn can be factored into her beliefs (or credences) about her circumstances, her skills or abilities, and her own capacity for resoluteness. It is only reasonable for the agent to decide to  $\phi$  if she assigns a fairly high probability to the proposition that her circumstances, skills, and resoluteness are such that she will  $\phi$  if she decides to. If these non-normative beliefs on which her plans are predicated are later undermined, this could easily explain a lasting decision not to continue trying. This thought is lent credibility by the fact that many of the experiences typical of pursuing a difficult goal are in fact evidentially relevant to whether success is attainable, or at least can seem to be. For example, while it is true that most successful novelists receive many rejections before finally achieving recognition, vastly more who receive those rejections never achieve recognition. They are not conclusive evidence that one will fail, but they do point in that direction. Similarly, while having a history of being weak-willed and repeatedly giving in to temptation does not dictate that one cannot exhibit more resolve going forward (as Sartre's gambler illustrates), it is certainly relevant to predictions about what will happen in the future. Any account of perseverance in the face of difficulty will need to explain how the agent views the evidential significance of such events.

Other challenging experiences arguably have no significant evidential value, but can be processed by the agent as if they do. Take the phenomenon of stereotype threat. It has been shown that individuals tend to perform less well on certain tasks when a relevant stereotype or stigmatized social identity is made salient to them in that situation. In Steele and Aronson's seminal research, for instance, African-Americans underperformed on an SAT-type test when they were told that the test was diagnostic of their verbal abilities and negative stereotypes concerning African-Americans were activated.<sup>6</sup> Although the mechanisms of stereotype threat are complicated and still under investigation, one component appears to be the experience of self-doubt.<sup>7</sup> Further, there is some evidence that confidence levels can mediate performance by way of influencing how easily the subject gives up. Estes and Felker (2011) report that they were able to effectively erase the robust result that men perform better than women on spatial reasoning tests simply by requiring that participants respond to every question on the test, rendering confidence irrelevant. And in general, there do appear to be differences in attrition rates that fall along gender, race, and socioeconomic lines in areas like STEM field jobs. Rather than concluding that women and minorities run out of willpower at higher rates, or that they are systematically revising their normative commitments concerning the value of STEM pursuits, we should explore the idea that they are (or feel as

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<sup>5</sup> Barring some rash act such as barging into one's workplace and telling off the boss.

<sup>6</sup> Steele and Aronson (1995).

<sup>7</sup> Schmader et. al. (2008).

though they are) getting different information about the likelihood of their being able to succeed in this area.

A complication here is what we might call the “sour grapes” phenomenon: an agent might undergo a shift in her judgment about whether her goal is a good or worthy one as a result of losing confidence that she will be able to succeed. The Ph.D. student who comes to believe that scholarly pursuits are not as valuable as she had thought might be caused to change her view by the negative feedback she receives on the competence of her work, rather than by learning new information that genuinely bears on the value of a life of scholarship. The sour grapes phenomenon forces us to be more specific about the target of our discussion. It is not enough simply to set aside cases in which the agent undergoes a decisive change in her relevant evaluative judgments; we must also be sensitive to the explanation of that shift. Our hypothesis is that in addition to the role of pains, pleasures, appetites, fluctuating desires, and emotional pressures, the explanation in many cases is a shift in the agent’s relevant non-normative beliefs. Moreover, these shifts are often not merely the brute effect of some epistemically unintelligible process, but are rather based on genuine evidence constituted by experiences of difficulty.

If this is right, then we cannot fully understand the capacity for grit if we liken it to a muscle or take its object to be limited to rogue passions. The successful exercise of grit in the face of adversity sometimes requires that one’s confidence in the possibility of success remain stable in situations where others would come to believe that there is no hope. The question for the remainder of this paper is whether and in what sense this kind of epistemic resilience is rational.

## ***II. Commitment and belief***

The first puzzle for understanding the rationality of grit is to locate what kind of failing, if any, is involved in abandoning a goal one has adopted. Of course, there may be goals that are obligatory for an agent to have independently of her desires and other commitments, and if there are such goals, the explanation of why we are obligated to have them will presumably also reveal the mistake in abandoning them. What is puzzling is that many of the pursuits available to us are valuable and permissible but not obligatory. A talented undergraduate who has good reason to pursue a Ph.D. in English may also have good reason to aim for a career as an actor, a lawyer, or numerous other professions or lifestyles. In situations like this, where the choice of what to do is normatively underdetermined, we can simply pick. But it is implausible to think that by picking, say, the goal of getting a Ph.D., the other valuable options are suddenly rendered impermissible. Why, then, should there be anything wrong with giving up on a goal one is not required to have? The rationality of grit is harder to understand in this respect than that of willpower, since when willpower is required there is an internal conflict between some current action (eating a cookie) and the long-term goal the agent is still committed to (losing weight).

Much of the fascinating work on the question of how adopting a goal changes one’s normative situation has searched for a reason that bears on the relative *value* or utility of moving forward. Some have argued that as long as  $\phi$ -ing is otherwise permissible, intending that goal is itself a reason in favor of  $\phi$ -ing.<sup>8</sup> Others who reject this proposal as constituting an unacceptable form of “bootstrapping” reasons into existence argue instead that factors like the costs of reconsideration and the creation of expectations in others provide a new reason of economy, thereby reducing the costs of moving forward.<sup>9</sup> A third suggestion is that under certain conditions, the agent would be more diachronically self-governing if she

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<sup>8</sup> Korsgaard (1997); Velleman (1997).

<sup>9</sup> Scanlon (2004).

continued to pursue her goal than if she abandoned it.<sup>10</sup> But whether or not these proposals succeed, they do not adequately address what is normatively distinctive about perseverance in the cases we have in mind. In these cases, if the agent is criticizable for giving up on her goal, it is not because she mistakenly revises her belief that her  $\phi$ -ing would be the best outcome. Rather, even while she continues to prefer that she succeed in her original goal, she comes to see the risk of failure as too high to justify persistence.

Viewed this way, there appears to be nothing amiss with such a decision. If the expected utility of continuing to pursue a career as a novelist falls below that of her other options, decision theory tells us that she is perfectly rational to switch goals. She might well be *epistemically* irrational in assigning a low subjective probability to the outcome in which she becomes a successful writer if she continues to try, given her evidence. The standard assumption, however, is that she exhibits no defect of agency or practical rationality if she makes the decision to give up writing in light of her low expectations. She is not guilty of quitting against her own best judgment, exhibiting insensitivity to the value of a writing career, or allowing incoherence between her intentions and beliefs. Yet it is unsatisfactory simply to conclude that grit is nothing over and above responding in the ordinary way to one's evidence, and that it is rational only to the extent that the evidence clearly continues to favor confidence in success. If we accept that grit is in at least some cases a virtue of the will, and that grit partly involves a particular way of being oriented toward the evidence, we must consider the idea that adopting a goal *changes how we should respond* to evidence of difficulty. Perhaps we should reason differently about the likelihood of success when we are considering whether to adopt a goal than we should when considering whether to persist in pursuing that goal.

To investigate this thought, let us first consider a very strong version of such a proposal recently defended by Berislav Marušić.<sup>11</sup> Marušić points out that even before an agent decides upon a course of action, she will often have substantial evidence that she may not succeed. This can take the form of statistical evidence, as when a person considering making a vow of marriage reflects on the fairly high divorce rate with no good reason to think himself an exception to the rule. Or it can take the form of evidence derived from one's own history in following through with one's resolutions or promises (one is reminded here of W.C. Fields: "Now don't say you can't swear off drinking; it's easy. I've done it a thousand times."). The question is how this evidence should be factored into the agent's beliefs about whether she will do as she resolved or promised.

Marušić argues that in resolving to  $\phi$ , we must believe that we will  $\phi$ , on pain of being insincere in the resolution. If this is right, then it would seem to be impossible to sincerely resolve or promise to  $\phi$  if one has substantial evidence that one might not  $\phi$  even if one resolved to. Marušić rejects this conclusion, arguing instead that as long as  $\phi$ -ing is up to us, we can and should believe against the evidence that we will  $\phi$  if we have resolved to, basing our belief on the practical reasons that favor  $\phi$ -ing rather than the theoretical reasons concerning the likelihood of success. That is, if it is up to me whether or not to uphold my marriage vow, then I can and should settle for myself whether I will uphold them by settling for myself via practical reason whether to uphold them. Marušić acknowledges that evidence of the difficulty of staying true to one's vows should not be ignored, but argues that it should be taken into account not as a basis for prediction about what will happen if one tries, but as a practical consideration bearing on how one should go about it – a reason not to put oneself in especially tempting circumstances, for example.

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<sup>10</sup> Bratman (2012).

<sup>11</sup> Marušić (2015).

Evidence bears on the choice of means, but it does not bear on the question of whether to give up on the end.

This is of course a highly compressed sketch of the view, which deserves a much more extensive discussion than we can give it here. For our purposes, though, we can reject the idea that sincerely committing to a goal requires believing one will succeed without taking a position on many of Marušić's claims. The key point is that his conclusions are restricted to those cases in which the action is "up to us." He does not give an extensive treatment of what it is for an action to be up to us, but he elaborates that  $\phi$ -ing is up to you if it is a purely volitional matter rather than one in which "the world might not cooperate."<sup>12</sup> Elsewhere, he remarks that "... when something is entirely up to us, there is no gap between  $\phi$ -ing and continuing to try to  $\phi$ ."<sup>13</sup> Marušić does not mean to deny that in almost every case, there is the possibility that one's body, or implements, or physical and social circumstances could impede success; rather, the claim is that these are unexpected and implicit release conditions on which our resolutions are conditional. The basic claim is that setting these unexpected eventualities aside, some actions are such that success or failure depends only on our own effort, perseverance, and willpower, and in such cases we should believe against the evidence that we shall succeed.

We are skeptical that sincerity in resolving upon a goal ever requires believing that one will succeed in spite of countervailing evidence.<sup>14</sup> But even if there are some such cases, nearly all the circumstances in which grit is required will be cases in which the agent is not in a position to *know* whether the action in question is entirely up to her. As we see it, the central question for an agent considering whether to persevere is "will continued effort be enough?" This is not a question that is salient only at the outset, when reasoning about whether to adopt an end in the first place. True, we have good reason not to continually revisit that question after deciding to proceed, but it is sensible to reconsider periodically as we gain more experience about what it will take to succeed and about the results of our initial efforts. And in situations that require the exercise of grit, those experiences will contain obstacles, setbacks, injuries, hostile and skeptical reactions of others, and so forth. These events are often good (if not sufficient) evidence that what one is trying to do is not fully up to one's own sustained effort.

Take the student who is deciding whether to commit to the goal of getting a Ph.D. Is getting a Ph.D. an action that is up to her? For most people, it is not, but let us stipulate that she was a very strong undergraduate student and has been accepted to a good graduate program with full funding. She has reason to think that she has the needed talent, but she has never attempted anything this demanding before. She knows that many people who drop out of graduate school do so because they failed to put in the effort required to complete the coursework and write a dissertation, but others leave because they discover that they do not have the required ability. The rational response to this evidential situation, we suggest, is to be uncertain whether success in getting a Ph.D. depends only on the amount of effort she puts in. Therefore, even if Marušić is right that we are entitled to believe against the evidence that we will succeed in difficult actions that are entirely up to us, our student's doubt as to whether getting a Ph.D. is entirely up to her should translate into doubt about whether she will succeed even if she continues to try.

We suggest that most difficult long-term actions are like this: we can rarely be confident that success depends only on our own effort (even bracketing the unlikely ways in which we might be interfered with). It does not follow that we cannot sincerely commit to such goals; indeed, we frequently structure

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<sup>12</sup> p. 14.

<sup>13</sup> p. 19.

<sup>14</sup> Though for some extremely difficult actions, it might require being more optimistic than is epistemically rational. This is compatible with grit, but it would be an exercise of grit that exceeds the bounds of what is rational.

much of our lives around them and endure significant sacrifice in order to pursue them. It would be irrational to pursue a Ph.D. while outright believing that you will not succeed, or while believing that success is so unlikely that the opportunity costs of pursuing that option are simply too high. But beyond this, while some may want to reserve the terms ‘resolution’ or even ‘intention’ for cases in which the agent does believe she will succeed, sincerity in one’s commitment is compatible with entertaining substantial doubt in one’s success. When the student turns down a lucrative job offer and moves alone across the country to enroll in a Ph.D. program, there is nothing lacking in her commitment, even if she remains uncertain about whether she will succeed. Thus, we see no reason to deny that an agent can commit herself to the goal of  $\phi$ -ing while having only that degree of belief in her eventual success that she takes to be supported by her evidence.

The question is how her confidence should continue to adjust in light of new evidence after she has decided on pursuing the degree. Imagine now that when she arrives at graduate school, all of the most respected senior faculty and most of the other students are male and white, giving her some (perhaps misleading) evidence that she is not the kind of person who usually succeeds at this kind of activity. She gets a poor grade on a term paper that she had worked very hard on. She becomes depressed and finds it difficult to write as much as she needs to, ultimately missing a series of deadlines that she had resolved upon and promised others she would meet. Her advisers take longer to get back to her with feedback than she had anticipated at the outset. These are not just painful events and experiences that induce a strong desire to be relieved from that pain; they also constitute some evidence that she lacks the ability, the resolve, and/or the supportive circumstances needed for success. What should she believe in light of these experiences?

The initial puzzle was to explain what kind of failing, if any, is involved in abandoning a goal that one continues to believe is valuable. Our initial hypothesis was that in many such cases, the lack of perseverance is explained by a significant decrease in the agent’s confidence that she will succeed in her aims even if she continues to try, leading her to conclude that she should give up and pursue some lesser but more attainable goal. The standard way of assessing this decision would deem it rational as long as the decrease in confidence is a justified response to the evidence that she may fail, otherwise not. According to Marušić’s view, to the extent that the particular case is one in which success is in fact up to the agent, her belief that she will succeed should be impervious to evidence that she may fail. Our proposal aims to locate a middle ground between these two poles. We suggest that in many (but not all) contexts, agents ought to adopt a norm of reasoning according to which committing to a goal raises the threshold of evidence needed in order to decrease one’s confidence in the likelihood of success. It is sometimes rational to be more resistant to evidence of possible failure after one has embarked on a project than one should be when deliberating about which projects to pursue, or than an outside observer should be. We will attempt to spell these claims out in more detail in the next section.

### III. *The evidential threshold account*

Thus far, we have been noncommittal as to whether the agent’s epistemic commitments should be modeled in terms of credences or in all-out beliefs about the probability of success conditional on remaining committed to her goal. We will continue in this vein, since we believe our case can be made either way. What is essential to our view is the denial of the Uniqueness Thesis: that “given one’s total evidence, there is a unique rational attitude one can take to any proposition.”<sup>15</sup> Various arguments have

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<sup>15</sup> Feldman (2007); White (2005).

been offered for and against the Uniqueness thesis, and we cannot hope to prosecute this debate in detail here. We will simply take as a premise that there are cases in which a body of evidence is such that there is more than one rationally permissible doxastic response. This Permissivist claim has the powerful advantage of being logically much weaker than Uniqueness, and is motivated by (among other things) the Jamesian thought that there are multiple permissible ways for a thinker to balance different epistemic desiderata (such as avoiding error while believing significant truths).<sup>16</sup>

If there are cases in which Uniqueness fails, the evidential situation of an agent who has resolved on a difficult long-term goal is a good candidate, for the evidence about what will happen is often significant but not overwhelming. Predictions about the future are notoriously never ironclad. Statistical evidence concerning the success rate of others is relevant, but does not license a straightforward inference about what will happen in one's own case. And a lack of ability or conducive circumstances now does not necessarily indicate that these things will not improve with hard work. It is immodest to believe that you will be the exception to the rule, or even that you will succeed where no one – or no one like you – has before. On the other hand, it happens. The point is that it will often be the case that the available evidence does not compel a single conclusion for any rational thinker. This is not to say that an agent who has rationally resolved to  $\phi$  never subsequently receives compelling evidence of her inability to  $\phi$ ; this is an all-too-common occurrence as well. Much of the popular writing on grit has problematically ignored this fact, implying that the usefulness of hope suffices to justify it no matter how delusive. Our claim is merely that in many cases, the relevant evidence will be such as to license a somewhat narrow range of rational responses.

In such cases, it will be to some extent up to the agent to determine how much evidence she requires before she forms or revises a doxastic attitude in response. Call this the “evidential threshold” that she employs in a given situation. It will be useful to think of an agent's implicit attitudes toward the relationship between acquiring new evidence and updating her doxastic commitments as “evidential policies,” while remaining neutral about the specific nature of these attitudes or dispositions.<sup>17</sup> What is important from a psychological perspective is that these policies will generally be implicit, operating habitually in the background of epistemic reasoning. It is not impossible to make our evidential policies explicit for ourselves and reflectively alter them, but this is relatively unusual and cognitively costly. Moreover, since these policies govern the way in which we respond to evidence in a given situation, they cannot themselves be called into question while first-order reasoning is in progress.<sup>18</sup>

The question now arises: what kinds of considerations bear on the evidential policies that a given agent ought to have? Our view on this question has a tiered structure. On a first pass, a given evidential policy should be evaluated only with respect to purely epistemic concerns like accuracy or conduciveness to acquiring knowledge. In this sense, the view is not pragmatic at its foundation. Notice, however, that the best policy even from a purely epistemic perspective might not recommend updating on every new piece of information. Given the limitations we face on cognitive resources like working memory, we may do better to prioritize updating on information we expect to have a relatively large impact on our current attitudes.<sup>19</sup> Further, given the need for such policies to operate habitually in the background rather than foreground of reasoning, they will be better to the extent that they are more general, allowing the thinker to cope reflexively with a variety of situations without the need for explicit reconsideration.

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<sup>16</sup> Kelly (2013).

<sup>17</sup> Helm (2007); Lawlor (2014).

<sup>18</sup> This argument echoes Morton's discussion of the norms of practical reasoning in Morton (forthcoming).

<sup>19</sup> See Dallman (manuscript).

Insofar as epistemic concerns do not uniquely pick out the policy one ought to have, however, we suggest that pragmatic concerns can play a legitimate role on the second pass. Among those policies that are epistemically permissible, the agent ought to adopt the policy that is most conducive to promoting her other goals, in the context(s) that she reliably finds or expects to find herself in.<sup>20</sup> For instance, the best evidential policy will lead her to require more evidence to form or update a belief concerning matters where it is very important to get it right, less when it is less important. Further, it will be sensitive to limitations on time, striking a balance between the value of gathering as much evidence as possible and the need to make a decision about what to do.

The relevance of these claims for our purposes is that there is a mounting body of scientific work indicating that the capacity for perseverance is in fact a significant predictor of success in a variety of domains.<sup>21</sup> Those who score highly on measures of grit are more likely to make it through “Beast Barracks” at West Point, get good grades at Ivy League schools, and perform better in the National Spelling Bee. We have suggested that many failures of grit are due to a loss of confidence in one’s ability to succeed. If this is right, and if grit is generally advantageous for achieving one’s goals, it follows that (other things equal, and within the set of what has already been deemed epistemically permissible) we ought to have evidential policies that protect to some extent against the loss of confidence in success. Emphatically, the claim is not that any particular belief or credence should be arrived at via pragmatic considerations bearing on the usefulness of that belief; to believe that P is to take P to be true, and evidence is the only kind of consideration that bears on whether P is true. Rather, it is at the level of the agent’s policy governing how much evidence she requires before she updates her doxastic commitments that conduciveness to grit can play a role.

One possibility for modeling this kind of evidential resistance takes its cue from Richard Holton’s suggestion that beliefs should in general be resistant to reconsideration, even in some situations where it would be rational for the thinker to revise her belief if she did reconsider.<sup>22</sup> Holton argues that beliefs play a functional role for cognitively limited thinkers like us that demands a certain level of stability, and that it is therefore rational for us to be disposed to resist reconsidering our beliefs whenever we acquire new evidence. Of course, we should not be dogmatically insensitive to new evidence either; the correct disposition to have will strike a balance between stability and dogmatism. The crucial point for Holton’s model, however, is that resistance to new evidence is a matter of ignoring it, even in situations where it would be rational to revise one’s belief if one took that evidence into account.

We find much to like in Holton’s account, but we think the “rational non-reconsideration” model does not go far enough in accounting for the normative significance of committing to a goal. Our view is that agents who will be advantaged by having the capacity for grit should adopt an evidential policy according to which committing to a goal actually changes the evidential threshold that she should use to revise her belief about whether she will  $\phi$  if she continues to try to  $\phi$ . Prior to resolving to  $\phi$ , when she is deliberating between various options that are all permissible but not obligatory, she does not need much evidence to be justified in concluding that she does not have the ability, self-discipline, or conducive circumstances needed to invest in  $\phi$ -ing. If English, Physics, and Political Science are all perfectly good subjects to major in, and she hasn’t yet committed herself to any of them, a disastrous grade on one English paper could be sufficient to conclude that she is not good enough at English (relative to the other

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<sup>20</sup> Or conducive enough – optimizing may not be required.

<sup>21</sup> There are ongoing questions about how significant this effect is; see Credé, et. al. (forthcoming) for a meta-analysis offering reasons for skepticism.

<sup>22</sup> Holton (2014).

subjects) and rule it out as a major. But upon deciding to study Physics, it becomes rationally permissible to require much more than a single bad exam performance to conclude that she does not have the requisite ability. It is not that the evidence provided by the bad performance is simply ignored, but rather that the threshold for coming to believe that one does not have what it takes, or adjusting one's credence sharply downward, is now significantly higher.

Again, the epistemic leeway here is limited. The evidential policies that are permissible will not license the refusal to update one's doxastic commitments in the face of compelling evidence of inability. Delusive optimism will be ruled out by any policy that is within the set of what is epistemically permissible, even if it is occasionally advantageous from a practical point of view. Further, though it would require more argument and empirical study, we doubt that the practical advantage of grit will much favor an epistemic policy that leads the agent to lower her threshold for *increasing* her expectation of success. This may seem like an ad hoc asymmetry: if optimism subserves grit, why should it not go both ways? But first, while confidence can directly contribute to success in some activities, it can also be a hindrance. The most direct causes of success are things like effort and practice, and these will be better served by self-awareness about the possible sources of failure than by robust optimism. Second, the asymmetry here is in part a reflection of an asymmetry in the stakes. The cost of despair is abandoning one's goal, while the cost of underconfidence is much less dire. Grit therefore requires much more protection from the one than the other.

The question also arises of whether there should be a similar resistance to instability in the agent's normative beliefs about the value of the goal she is pursuing. After all, as noted earlier, many cases of giving up on a goal are explained by the fact that the agent ceases to take that goal to be sufficiently worthy. It is not in general a failure of grit to abandon a goal as a result of a change in normative view. However, an agent whose relevant non-normative beliefs are appropriately resistant to evidence of inability might still be vulnerable to the sour grapes phenomenon, insofar as these frustrating experiences act directly on her normative beliefs. Not all instances of this phenomenon are best thought of as failures of grit, since we should leave room for the possibility that having "adaptive preferences" in response to oppressive circumstances is rationally defensible. But while grit does sometimes require that we avoid sour grapes, this will not generally be a matter of how we respond to genuine evidence. Rather, what the agent must manage to do is retain her original belief in the value of her goal in the face of emotion and other non-evidential influences that threaten to corrupt her judgment. Paul has argued that this kind of "doxastic self-control" can be exercised by replacing one's current perspective on the matter with one's past perspective, thereby recommitting to one's original belief even if it no longer seems true. Holton's model of rational non-reconsideration may also be of service in enabling long-term grit. The general point, however, is that while the stability of the agent's normative beliefs is relevant for exercising grit, the evidential-threshold account we have been offering is not meant to apply straightforwardly to normative beliefs.

Finally, one might object that what grit makes rational is employing the attitude of "acceptance," rather than a difference in the dynamics of belief change. The suggestion would be that perseverance requires only that the agent accept for the purposes of practical reasoning that she is likely enough to succeed, even if she does not in fact believe it. The most convincing cases of this phenomenon involve asymmetries in the cost of error, as when an agent in fact believes that a two-story ladder is in good working order but accepts in the context of practical reasoning that it may not be, since the cost of error is so high.<sup>23</sup> The problem is that in most cases where grit is needed, the asymmetry in cost runs in the

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<sup>23</sup> Bratman (1992).

reverse direction. The cost of devoting months or years to a goal that one never achieves, enduring frustration and perhaps even ridicule while forgoing other opportunities, is often very high. It would usually be unreasonable to accept in the context of practical reasoning that one is likely to become a celebrated novelist if one tries, and thus forge ahead with this plan, while believing at the same time that the likelihood of success is actually almost non-existent (rather like accepting that the ladder is sound while believing that it isn't).<sup>24</sup> Thus, we think that it is the belief itself that must rationalize perseverance, rather than some other attitude.<sup>25</sup>

Though we disagree with Marušić's view that an agent cannot sincerely resolve to  $\phi$  without believing that she will  $\phi$ , our model does aim to vindicate one compelling aspect of his view, inspired by Sartre. This is that there is, and ought to be, a difference between the way an agent views her own future actions and the perspective of an outside observer. Unlike Marušić's view, we hold that the agent's beliefs about success should be based on evidence rather than on the practical reasons that favor  $\phi$ -ing, and we take this to be appealingly conservative. But we have argued that resolving to  $\phi$  changes the way the agent's beliefs should be updated in light of new evidence, whereas there will be no such change in the outside observer. The bookie who is keeping track of the odds of success should update those odds in response to any change in the evidence, while the agent herself should not. This goes some distance toward capturing the Sartrean insight that our own actions should not be viewed from a purely theoretical perspective.

#### IV. *Context matters*

If the Physics major continues to employ a low evidential threshold for a change in belief about her abilities after she has committed herself, is she thereby *irrational*? Thus far, we have defended the rationality of employing a grit-friendly evidential policy without qualification, as if reasoning in a way that subserves perseverance is required of all rational agents (or all human agents). However, on our view, this is the wrong way to think about the rationality of grit. We suggest that whether or not an agent should reason with a grit-friendly evidential policy is contingent upon the environmental context that agent normally finds herself (or reasonably expects to find herself) in.

This view of grit builds on the ecological conception of rational norms defended by Morton (2011; ms.). On this view, the deliberative norms a person should accept and employ are not universal and necessary requirements, but rather a contingent function of factors such as her cognitive capacities, her environmental context, and her ends. For example, many agents living in poverty appear to deliberate in a way that is highly sensitive to short-term efficiency at the expense of making decisions that are effective in achieving their long-term goals.<sup>26</sup> Where many have concluded that this is simply irrational, or that it

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<sup>24</sup> It might be reasonable if becoming a celebrated novelist is the only thing in the world that the agent cares about, such that there are no alternatives available that would be acceptable to her. But very few actual cases have this structure.

<sup>25</sup> A further argument in favor of the acceptance account might be that the gritty agent in pursuit of her goal should refrain from asserting to others that she believes she is reasonably likely to succeed, and that this shows that the attitude is not really belief at all. But we deny that the agent should refrain from asserting her belief. Rather, an outside party might be wise not to accept this belief on the basis of her testimony alone. If it is a case in which multiple doxastic responses are epistemically permissible, the outside observer can reasonably assign a lower probability to the same proposition without thereby taking the agent to be irrational. Thanks to Michael Bratman for raising this question.

<sup>26</sup> Muillanathan and Shafir (2013).

falls short of ideal agency, Morton argues that agents in resource-scarce environments actually ought to employ different deliberative norms than those in resource-moderate environments.<sup>27</sup> These norms are adapted to the context in which these agents deliberate, which is not a context that generally rewards long-term decision-making. Patterns of deliberation that would constitute an irrational form of myopia or lack of self-control for an agent in a resource-moderate context might be the right deliberative habits for the agent in poverty to have.

We propose that a similar conclusion applies to the question of how an agent who has committed to a goal should reason about evidence bearing on success and failure. There is no blanket rational requirement that applies simply in virtue of having formed an intention or resolution; here, too, the context must be taken into account. For instance, in situations of extreme scarcity, it may well be the case that agents should develop reasoning habits that lead them to remain just as sensitive after they have adopted a long-term goal as before to the evidence that they are not able to succeed. Put simply, perseverance may not serve such agents well. One reason is that such environments tend to be more unpredictable, and so the agent's initial assessment of the likelihood of success might be less robustly justified. Another is that for an agent with scarce resources, events that would constitute small setbacks for someone else can be devastating. A low-income student who perseveres rather than dropping a college class and ultimately receives a failing grade could lose his funding, have no parental back-up, and be forced to leave college. Given the high stakes of failure, retaining a low evidential threshold even after commitment may be more reasonable than the alternative.

This is not simply an abstract possibility. Consider the following anecdote reported by Claude Steele:

Carol is a social psychologist who has devoted much of her career to bettering the undergraduate experience at universities like Princeton and Stanford ... Carol rather offhandedly told me about something she and others had seen while advising students about organic chemistry. This course is a national gateway to medical school; doing badly in it can derail your chances of getting in. It's also difficult, so Princeton students have developed strategies for getting through it. Some students sit through it one entire time before taking the course a second time for a grade. Others take the course during the summer at a presumably less competitive school and then try to have the credit for it transferred back to Princeton. When advisers see students having difficulty in this course, they might suggest one of these strategies so that the students don't stay in the course, get a bad grade, and undermine their chances for medical school. Carol said that when this advice is offered to white and Asian students, most of them readily take it, dropping the course for a grade and following one of the alternate strategies. To Carol's surprise, though, when the advice is offered to black students having trouble, they more often rejected it, persisting in the course past the point when one can drop it without getting a grade, and thus often getting a low grade that jeopardized their medical school chances.<sup>28</sup>

Steele refers to this phenomenon as "over-efforting" and argues that it can be a counterproductive response to stereotype threat. Furthermore, as epidemiologist and sociologist Sherman James was first to notice, goal-oriented people who have a strong commitment to hard work and a drive to succeed, but who are confronted with high levels of psychosocial stressors like financial insecurity, familial instability, and discriminatory acts, tend to exhibit significantly worse health outcomes compare to those who are gritty

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<sup>27</sup> Morton (ms.).

<sup>28</sup> Steele (2011), p. 104.

and socially advantaged or those who do not engage in gritty behavior.<sup>29</sup> Known as “John Henryism,” this phenomenon (especially prevalent in African American populations) includes elevated risk of hypertension, cardiovascular disease, obesity, and other symptoms associated with an excess of the stress hormone cortisol.<sup>30</sup> For agents who regularly operate in unsupportive or even discriminatory contexts, or for whom failure would be catastrophic, grit can lead to the investment of more effort than is effective or healthy. Consequently, it may be that agents in contexts of severe material and emotional scarcity ought not to have an evidential policy that enables grit at the expense of caution and self-protectiveness. This is not to claim that they should give up on pursuing difficult long-term goals altogether, but merely to say that they should at the same time remain highly responsive to evidence that pure effort will not be enough.

It follows from this context-dependence that two agents who have the very same evidence bearing on what will happen if they persist in some activity could be rationally required to respond in different ways. Consider an example that is trivial compared to the most central examples of long-term perseverance we have in mind, but that is worth discussing in light of its similarity to Walter Mischel’s famous marshmallow experiment: waiting for the bus. On the standard way of thinking about delayed-gratification cases, it is *ipso facto* an irrational failure of self-control if an agent initially sets out to wait for the outcome he prefers most (the cheap bus), only to give up on waiting after some time and opt for a less preferred but more immediate option (an expensive cab). On our view, however, the rationality of this choice depends on the agent and the context he usually finds himself in. The length of the delay can have evidential significance, if the agent enters into the situation with a subjective probability distribution on which the delay will either be reasonably short or very long, perhaps even interminable.<sup>31</sup> After a small amount of time has passed, this is some evidence that the delay will be very long. We have argued that agents who regularly operate in a resource-moderate, relatively stable environment should be such as to require compelling evidence that success is very unlikely before they update their beliefs accordingly (more compelling than the delay, let’s say), and so would be making a mistake in reasoning if they give up on waiting for this reason. In contrast, an agent normally in resource-scarce environments may be perfectly rational in updating on this evidence to conclude that the bus will be massively delayed and thus opting for the taxi. This is an important point to emphasize because decision-making like this can have the effect of perpetuating poverty, leading people to spend time or money they cannot afford when, perhaps, the bus would have come eventually. Viewing all cases that have this structure as irrational inability to delay gratification adds to the pernicious perception that, as Margaret Thatcher once said, poverty is the result of a “personality defect.”

## V. Conclusion

There is much more to be said about these issues, but we hope to have made the outlines of our view clear. We began with two intertwined puzzles, one descriptive and one normative: what is the relationship between grit and evidence, and how does adopting a goal change one’s normative situation in favor of proceeding? Our answer has been that grit requires maintaining a certain level of confidence that one will succeed if one continues to try, and that this confidence can be threatened by experiences of failure, hostile features of one’s circumstances (like stereotype threat), or lapses of short-term self-control

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<sup>29</sup> James (1994).

<sup>30</sup> Bennett et. al. (2004).

<sup>31</sup> McGuire and Kable (2013).

that can constitute genuine evidence that one lacks the ability to succeed. Because this evidence is usually inconclusive, and because grit is generally an aid to achieving one's goals (in resource-moderate contexts, at least), we are rationally permitted to have the disposition to raise the evidential threshold we need in order to give up the belief that success is reasonably likely, relative to the threshold we would use to answer the same question before adopting the goal. This is at least one way in which adopting a goal changes one's normative situation. The rationally permissible dispositions will not raise the threshold so high that it amounts to quixotically stubborn self-confidence, and since the agent need not refuse to consider the evidence altogether on our model, there should be no special difficulty in monitoring that border.

In closing, let us return to the question of how grit is related to the more traditional notion of self-control or continence. According to the conception that traces back at least to Aristotle, on which continence is the capacity to withstand the temptation of excessive or bad appetites, only an imperfectly virtuous person would have need of it. To bring a child up well, the focus would instead be on inculcating temperance in her appetites, so that she would face no internal resistance to doing what she knows to be best. In contrast, we have argued that grit is at least partly concerned with managing resistance that does not stem from within. The obstacles one confronts in pursuing a difficult long-term goal are often genuine if inconclusive evidence that one may not succeed, and so no amount of temperance will eliminate this problem. Thus, there are contexts in which even the most temperate agent would have need of the capacity for grit.

However, not all contexts are ones in which grit is all-things-considered advantageous to the agent, and some evidence that your efforts will not be rewarded is rationally compelling no matter your threshold for belief change. This is a cause for wariness about the recent focus on promoting the development of grit in educational settings, especially as a strategy for combatting the disadvantages of socioeconomic inequality. Inspired by the evidence on the importance of grit for life outcomes, several charter schools, such as the Knowledge is Power Program (KIPP), have made grit a centerpiece of their character-education curriculum. Whereas much of the research demonstrating the advantages of grit for life outcomes was done on middle- and upper-middle-class students,<sup>32</sup> these programs specifically cater to low-income and Black students. If we are right, this kind of intervention is at best insufficiently supported by the state of the research on grit and at worst potentially harmful. For one thing, the severely disadvantaged students might in fact be getting different evidence about whether even herculean efforts to, say, get a college degree will pay off. If so, quitting school might be a rational response to that evidence rather than a failure of grit-based optimism. For another, these students might live and work in such unsupportive contexts that the exercise of grit might come at the cost of their own mental and physical health.

To reach any definitive conclusion on these claims, much more empirical research must be done. What we have attempted to highlight here is the importance for this research of moving away from a model on which the capacity to persevere over the long term is primarily volitional, analogous to a kind of muscular power, and something that benefits all human agents in the same way. Disentangling the epistemic component of grit from its more obvious volitional and emotional aspects is essential for doing the kind of nuanced investigation that will allow us to arrive at conclusions for education and public policy.

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<sup>32</sup> Mischel's marshmallow experiment was conducted in Palo Alto on the children of Stanford faculty and graduate students, while Duckworth's foundational experiments focused on Ivy League undergraduates, cadets at West Point, and children who competed in the National Spelling Bee.

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