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Self-Control and Grit: Related but Separable Determinants of Success

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Abstract
Other than talent and opportunity, what makes some people more successful than others? One important determinant of success is self-control—the capacity to regulate attention, emotion, and behavior in the presence of temptation. A second important determinant of success is grit—the tenacious pursuit of a dominant superordinate goal despite setbacks. Self-control and grit are strongly correlated, but not perfectly so. This means that some people with high levels of self-control capably handle temptations but do not consistently pursue a dominant goal. Likewise, some exceptional achievers are prodigiously gritty but succumb to temptations in domains other than their chosen life passion. Understanding how goals are hierarchically organized clarifies how self-control and grit are related but distinct: Self-control entails aligning actions with any valued goal despite momentarily more-alluring alternatives; grit, in contrast, entails having and working assiduously toward a single challenging superordinate goal through thick and thin, on a timescale of years or even decades. Although both self-control and grit entail aligning actions with intentions, they operate in different ways and over different timescales. This hierarchical goal framework suggests novel directions for basic and applied research on success.

Keywords
self-control, grit, volition, motivation, achievement

Why are some people more successful than others? One obvious answer is talent. Another is opportunity. But even people who have comparable levels of talent and opportunity often enjoy strikingly different levels of success. Applying the scientific method to this age-old question has yielded important new insights regarding the determinants of both everyday success and extraordinary achievement. What is lacking—and of central interest in this article—is an integrative framework for understanding the requirements for these two kinds of success.

The idea that the determinants of everyday success differ from the determinants of extraordinary achievement goes back to the earliest days of psychology. Galton (1869/2006) contrasted "self-denial" in the face of "hourly temptations" with what he considered, other than talent, to be the essential features of high achievers—namely, "zeal [and] the capacity for hard labour" (pp. 40–41). What Galton termed "self-denial" is now referred to as self-control, which includes both inhibiting strong but ultimately undesirable impulses and activating weak but ultimately desirable impulses (Fujita, 2011). Galton's conception of zeal and the capacity for hard work corresponds to *grit*, a newer construct defined as passion for and perseverance toward especially long-term goals (Duckworth, Peterson, Matthews, & Kelly, 2007; see also Vallerand et al., 2003).

Today, "self-control" and "grit" are sometimes used interchangeably. However, despite overlap in key underlying psychological processes, self-control and grit are not identical. To understand their similarities and differences, we employ a hierarchical goal framework that draws on contemporary goal theories. This integrative perspective generates several testable predictions and also sharpens prescriptions for improving success outcomes.

Self-Control: Resisting the Hourly Temptations

Like Galton, both Freud (1920) and James (1890) speculated that the capacity to regulate attention, emotion, and behavior was essential to everyday success. Self-control,

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like the related constructs of ego strength, effortful control, and Big Five conscientiousness, is associated with positive life outcomes (de Ridder, Lensvelt-Mulders, Finkenauer, Stok, & Baumeister, 2012; Hofmann, Fisher, Luhmann, Vohs, & Baumeister, 2014; Roberts, Jackson, Fayard, Edmonds, & Meints, 2009). Prospective longitudinal studies have confirmed that higher levels of self-control earlier in life predict later academic achievement and attainment (Duckworth & Carlson, 2013; Mischel, 2014), prosocial behavior (Eisenberg et al., 2009), employment, earnings, savings, and physical health (Moffitt et al., 2011). In fact, self-control predicts many consequential outcomes at least as well as either general intelligence or socioeconomic status (Duckworth & Seligman, 2005; Moffitt et al., 2011).

The psychological processes that underlie self-control, once so shrouded in mystery that they were summarily referred to as "willpower," are now coming into focus (Mischel, 2014). It is now understood that self-control is required when there is a conflict between two possible action tendencies (i.e., impulses)—one corresponding to a momentarily alluring goal and the other corresponding to a more valued goal whose benefits are deferred in time, more abstract, or otherwise more psychologically distant (Maglio, Trope, & Liberman, 2013). Regardless of the particular type of impulses requiring adjudication (e.g., gobbling up one sweet and chewy marshmallow immediately vs. waiting for two; watching television vs. going to the gym), it seems that common prefrontal brain areas are involved in successful top-down regulation (Cohen & Lieberman, 2010; Heatherton & Wagner, 2011). In addition to directly modulating bottom-up impulses, both children and adults are capable of deploying an array of cognitive and behavioral strategies seconds, minutes, or even hours in advance of confronting temptations (Duckworth, Gendler, & Gross, 2014; Magen & Gross, 2010). In general, the capacity to exercise self-control appears to improve from infancy through adulthood, in parallel with the maturation of prefrontal brain areas and metacognitive sophistication.

Grit: Passion and Effort Sustained Over Years

A newer literature has begun to explore the consequences of pursuing a passionate interest with determination and effort over the course of years. Grit and related constructs are associated with lifetime educational attainment (Duckworth & Quinn, 2009) and professional success (Baum & Locke, 2004; Locke & Latham, 2013; Vallerand, Houlfort, & Forest, 2014; Wrzesniewski, 2012). Prospective longitudinal studies have shown that grit predicts the completion of challenging goals despite obstacles and setbacks. For instance, grittier high school juniors in Chicago public schools are more likely to graduate on time 1 year later (Eskreis-Winkler, Duckworth, Shulman, & Beale, 2014). Grittier cadets are more likely than their less gritty peers to make it through the first arduous summer at West Point (Duckworth et al., 2007; Duckworth & Quinn, 2009). Grittier novice teachers are more likely to stay in teaching, and among the teachers who do stay, those who are grittier are more effective (Duckworth & Quinn, 2009; Robertson-Kraft & Duckworth, 2014).

Research on grit is still in its infancy, and much remains to be discovered about its underlying psychological mechanisms. One study has shown that in the National Spelling Bee, grittier competitors accumulate more hours of deliberate practice over the course of years, which in turn fully mediates the effect of grit on final ranking (Duckworth, Kirby, Tsukayama, Berstein, & Ericsson, 2011). Related research has identified harmonious passion (i.e., autonomous internalization of a passionate activity into one's identity) as a predictor of deliberate practice and, in turn, performance (Vallerand et al., 2014). Many other studies of expert performers in diverse domains have found that thousands of hours of extremely effortful deliberate practice are prerequisite for achieving world-class levels of skill (Ericsson & Charness, 1994). If, as Woody Allen has suggested, showing up is crucial to success in any endeavor (as quoted in Safire, 1989), and if highly effortful, focused practice is a necessary means to improving in skill, then it may be that grit predicts high achievement by inclining individuals to both show up and work very hard, continuously, toward a highly valued goal for years and even decades.

A Hierarchical Goal Framework

It is perhaps no wonder that self-control and grit are often used interchangeably by laypeople and scientists alike. These two determinants of success are highly correlated (e.g., rs > .6 in Duckworth et al., 2007), and both predict success outcomes over and above intelligence (Duckworth et al., 2007; Duckworth & Seligman, 2005; Moffitt et al., 2011). However, some paragons of self-control lead undistinguished lives devoid of a focused lifelong passion, and some gritty and exceptionally successful people are famously undisciplined in life domains other than their chosen passion. Mounting evidence supports this distinction: Domain-general measures of self-control are generally more predictive of everyday measures of adaptive functioning (e.g., grades, physical health) than are domain-general measures of grit (Duckworth, 2014). Grit, on the other hand, predicts retention at West Point and performance in the National Spelling Bee when controlling for self-control, but self-control does not predict these outcomes when controlling for grit (Duckworth et al., 2007).

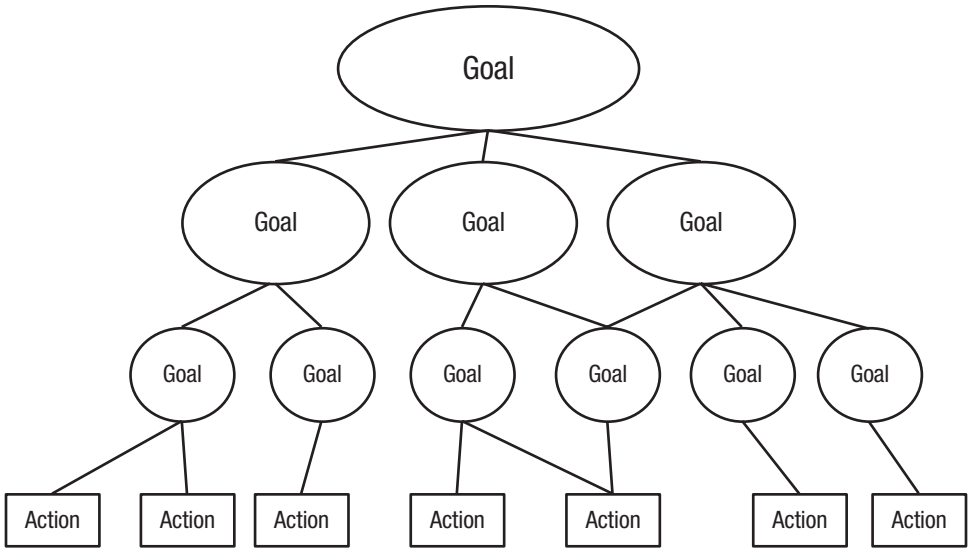


Fig. 1. Hierarchical goal framework. Goals are typically organized hierarchically, with fewer high-level goals and more numerous low-level goals; the latter are associated with action tendencies, here broadly construed to include attention, emotion, and behavior.

How are self-control and grit similar, and how are they different? We propose that both their similarities and their differences can be understood within a hierarchical goal framework (see Fig. 1). Following prominent motivational accounts (Carver & Scheier, 1998; Emmons, 1986; Fujita, Trope, Liberman, & Levin-Sagi, 2006; Kruglanski et al., 2002; Vallacher & Wegner, 1987), we assume that goals are typically organized hierarchically, with lower-order goals serving higher-order goals. Lower-order goals are more numerous, context specific, short-term, and substitutable, whereas higher-order goals are typically fewer in number, more abstract, more enduring, and more important to the individual. At any level in the goal hierarchy, goals are more likely to be activated if they are appraised as feasible and desirable (Atkinson, 1964). Individuals can have not only multiple goals but also multiple goal hierarchies; this multiplicity of motives can lead to conflicts.

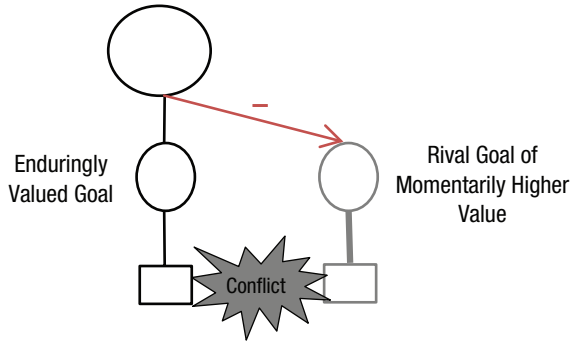


Fig. 2. Schematic showing how self-control is required to adjudicate between conflicting actions, one of which is aligned with an enduringly valued goal and another of which—although temporarily stronger—is aligned with a less enduringly valued goal. Self-control may consist in suppressing the momentarily alluring goal or potentiating the more enduringly valued goal.

Within this framework, self-control refers to the successful resolution of a conflict between two action impulses—one that corresponds to a goal that is more valued in the moment, and another that corresponds to a goal that is of a greater enduring value (see Fig. 2). For example, Monday morning may find the first author torn between editing the method section of her graduate student's manuscript or, alternatively, checking *Us Weekly* for the latest Hollywood gossip. The former action is more valuable in the long run, advancing the goals of supporting her student's development and of publishing empirical studies. In contrast, the rival action is momentarily more alluring—guaranteed to be effortless and amusing—but alas, in the long run, less valuable insofar as it merely advances the goal of having fun. So, whether by modulating her action tendencies in the heat of the moment or, preferably, by deploying cognitive and behavioral self-control strategies earlier in time (Hofmann & Kotabe, 2012; Magen & Gross, 2010; Mischel, 2014), the first author hopes to exercise self-control and choose the manuscript over the tabloid, as depicted in Figure 2.

In the same framework, grit entails having a dominant superordinate goal (e.g., producing useful new insights into the psychological determinants of success) and tenaciously working toward it in the face of obstacles and setbacks, often for years or decades. This superordinate goal sits at the top of a well-organized goal hierarchy in which lower-order goals are tightly aligned with the

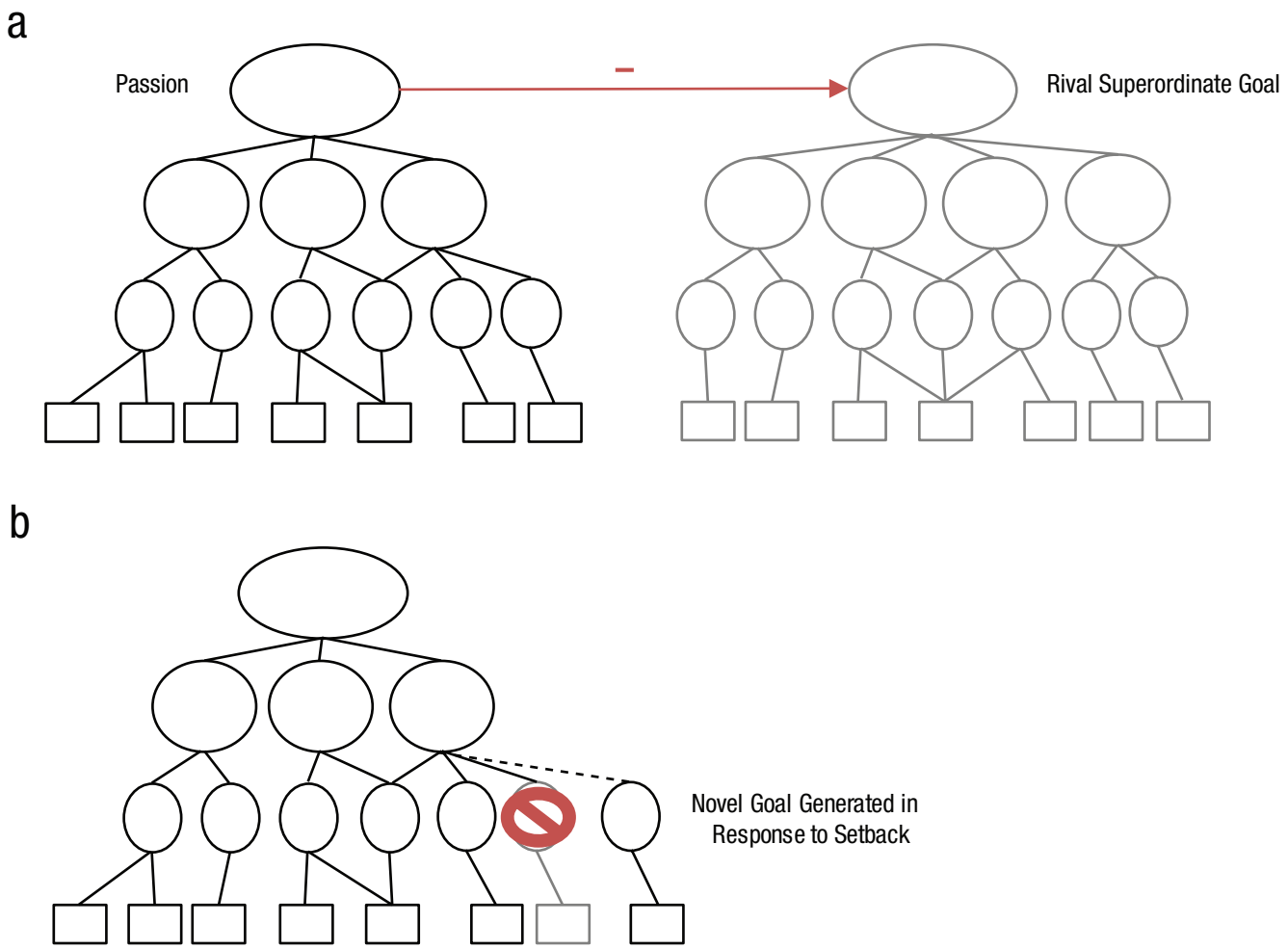


Fig. 3. Schematics illustrating processes underlying grit. Grit entails having a dominant superordinate goal, pursued with passion and perseverance, often over years or decades. The goal hierarchy that corresponds to an individual's chosen passion may require the suppression of rival superordinate goals (a). When a particular lower-order goal or action is blocked, new goals or actions are generated and then pursued with vigor (b).

superordinate goal, and these lower-order goals in turn give rise to effective actions that advance the individual toward the superordinate goal. As shown in Figure 3a, gritty individuals either are able to actively suppress rival superordinate goals or, consistent with descriptions of eminently productive individuals (Cox, 1926; Galton, 1869/2006), lack competing superordinate goals altogether. Figure 3b illustrates how this superordinate goal impels gritty individuals, when faced with setbacks, to find a way forward by "sprouting" new lower-order goals (or actions) when a current lower-order goal (or action) is blocked. For instance, if a grant proposal or manuscript is rejected, tears may be shed, but soon enough another funder or journal outlet is identified and pursued. In other words, in a gritty individual's domain of passionate interest, goals or actions deemed unfeasible are met with the response of an active search for—or even invention of—viable alternatives.

Viewed in this light, it is evident that self-control and grit both involve the defense of valued goals in the face of adversity. Where they principally differ is in the types of goals that are being defended, the nature of the "enemy," and the timescale that is involved. Self-control is required to adjudicate between lower-level goals entailing necessarily conflicting actions. One cannot eat one's cake and have it later, too. In contrast, grit entails maintaining allegiance to a highest-level goal over long stretches of time and in the face of disappointments and setbacks. The alternative to exercising self-control is indulging in an action that immediately satisfies a goal but is soon regretted. The alternative to grit is following a series of different superordinate goals in rapid succession (law school one month and medical school the next) or giving up on a superordinate goal because the means to the end of that goal have been blocked. It follows that self-control is more tightly coupled with everyday success, whereas grit

is more tightly coupled with exceptional achievements that often take decades—or even an entire lifetime—to accomplish.

Directions for Future Research

Self-control and grit have attracted increased interest in recent years, in no small part because they seem more amenable to intervention than other determinants of success such as cognitive ability and socioeconomic status (Heckman, Humphries, & Kautz, 2014). We are optimistic that a better understanding of the psychological processes underlying self-control and grit could, in fact, lead to high-impact, cost-effective interventions (Walton, 2014). However, research efforts targeting self-control, grit, and related constructs have thus far been fractionated. The hierarchical goal framework proposed here may provide a useful centripetal force, encouraging synthesis of empirical findings across diverse but conceptually relevant literatures. Our hope is that this framework will also be generative, suggesting new directions for both basic and intervention-focused research.

From a basic-research perspective, a number of crucial research questions come into sharp relief in the context of this framework. For example, what are the characteristics of individuals who have high versus low levels of self-control or grit, both in terms of the types of goals they hold (Dweck & Leggett, 1988) and in terms of the processes they engage in to defend these goals against challenges (Fishbach, Dhar, & Zhang, 2006)? Given that higher-level goals tend to be more approach oriented than lower-level goals (Elliot, 2006; Robinson & Moeller, 2014), do individuals who exemplify grit but not self-control have stronger approach-motivation systems, and do individuals who exemplify self-control but not grit have stronger avoidance systems? What are the main and interactive effects of self-control and grit with respect to specific success outcomes? It seems likely that there may be synergistic effects: High levels of both self-control and grit may lead to greater success than either alone.

With respect to interventions, the proposed framework implies that self-control is a skill or capacity, which, like other skills and capacities, might be improved with training and practice (Diamond, 2012; Mischel, 2014; Oettingen, 2012). Grit, in contrast, is as much about motivation as volition (Achtziger & Gollwitzer, 2008). Prospective longitudinal studies beginning in childhood and extending across the life course are needed to examine how individuals develop superordinate goals of such compelling personal significance that that they inspire lifelong allegiance despite innumerable alternative pursuits and inevitable mistakes, failures, and other obstacles. Very generally, we assume that commitment to a superordinate goal is a function of that goal's feasibility and desirability, and thus that the diverse psychological antecedents to such valuations (e.g., growth mindset, optimism, attribution style, locus of control, counterfactual style, core self-evaluation, intrinsic motivation, interest, approaches to happiness) are logical targets for intervention and inquiry.

Conclusion

Much of human behavior is goal-directed (Locke & Latham, 2013). Research on self-control has illuminated the importance—and inherent difficulty—of aligning actions with valued goals when momentarily more rewarding actions become available. Separate research on grit has suggested that individuals differ in their pursuit of superordinate goals of enduring significance. A hierarchical-goal perspective on self-control and grit advances the understanding of the related but distinct psychological mechanisms that underlie these two key determinants of success. As James (1907) intimated, research on this general topic is not only theoretically interesting but also relevant "to practical issues superior in importance to anything we know" (p. 332).

Recommended Reading

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Moffitt, T., Poulton, R., & Caspi, A. (2013). Lifelong impact of early self-control: Childhood self-discipline predicts adult quality of life. *American Scientist*, *101*, 352–359. A clearly written and user-friendly overview of self-control and its consequences.

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Declaration of Conflicting Interests

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