The Fable of State Self-Control

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Abstract

Trait self-control is highly valued, often equated with moral righteousness and associated with numerous positive life outcomes. This paper challenges the conventional conflation of trait self-control and state self-control. We suggest that while trait self-control is consistently linked to success, state self-control is not the causal mechanism driving these benefits. Trait self-control, sometimes also referred to as conscientiousness, grit, and the ability to delay gratification, predicts better health, wealth, and academic achievement. Conventional wisdom has it that people high in trait self-control reap all these benefits because they engage in more state self-control, defined as the momentary act of resolving conflict between goals and fleeting desires.

Despite its intuitive appeal, there are problems with extolling state self-control because of our love for trait self-control. First, empirical evidence suggests that individuals high in trait self-control do not engage in more state self-control but engage it less. Second, changes to state self-control do not reliably and sustainably improve people’s outcomes, as least in the long-term. And third, despite the possibility of dramatic improvements in trait self-control, these improvements are often short lived, with people returning to their baseline trait level over longer time horizons.

The roots of this problem are numerous: Imprecise and inaccurate naming of our constructs that lead to construct drift and contamination; ignoring the numerous other facets of conscientiousness like orderliness or industriousness; and not appreciating that traits are sometimes not reducible to states. We suggest that the celebrated benefits of trait self-control arise from mechanisms beyond state self-control and highlight the need for a broader conceptualization of self-control in psychological research and practical interventions.
The Fable of State Self-Control

Self-control is a cherished value [1]. People who have lots of it are celebrated and seen as morally righteous [2,3]. In Aesop’s fable of The Ant and the Grasshopper, we celebrate the industrious ant not the gleeful grasshopper. After all, while the grasshopper plays and sings throughout summer the ant foregoes pleasure to find and store food for the winter. The lesson here is that we should strive to be like the ant, not like the grasshopper. Although the modern science of personality largely vindicates this fable, here we wonder if our admiration of trait self-control confused us into celebrating state self-control, which is mostly ineffective in bringing about sustained change.

Everybody loves trait self-control

Just like the ant, people who are premeditated, patient, and controlled live objectively better lives than their grasshopper-like peers. Although it goes by many names—ability to delay gratification, trait self-control, conscientiousness, or grit [4–6]—empirical study after empirical study suggests that it predicts the good life [7–11]. Thus, children who can delay the gratification of eating a marshmallow go on to become adults with fewer relationship problems [12; but see 13]; children who are rated by their parents and teachers as being high in self-control go on to become wealthy 40-year-olds [7]; gritty students admitted to West Point military academy are more likely to graduate within 4 years [14]; conscientious people go on to live long and fulfilling lives [15,16].

Given the robustness of the correlation between trait self-control and desirable real-world outcomes, scientists rushed to uncover its causal mechanisms: How can we explain how trait self-control predicts so many good outcomes? In answering this, might we be able to help people who are not blessed with high trait self-control?
Perhaps because they share the same name, the most obvious candidate mechanism thought to explain the predictive power of trait self-control is state self-control, sometimes also called willpower [17]. State self-control refers to the process of resolving conflict between two competing goals or desires [18]. The source of the self-control conflict typically relates to the effort cost of enacting one goal/desire on the one hand and reward magnitude and time horizon on the other hand [19], such as when restraining short-lived desires in the service of longer-term goals [20,21]. The thinking here is that people high in trait self-control reap all these benefits because they engage in more state self-control; they more frequently and capably inhibit momentary desires or engage other state self-control strategies [22,23]. For example, a self-controlled student might be thought to achieve high grades because she consistently overcomes her desire to sleep in to attend early morning classes and ignores her various Instagram notifications in class so that she can actively listen to her professor. Trait self-control is as state self-control does.

State self-control is not the answer

Despite its intuitive appeal, there are three problems with extolling state self-control because of our love for trait self-control. First, people high in trait self-control do not engage more state self-control [24,25]. This was a real surprise when first discovered over a decade ago because there is good evidence that traits can be described as a density distribution of states [26], with people high on any given trait enacting trait-consistent behaviors more frequently [27]. People high in trait self-control, however, do not control themselves more in the moment: people high in trait self-control report spending not more, but less time restraining wayward desires [24]. One reason that they relied less on state self-control is that those with high trait self-control experienced fewer temptations that needed controlling. Why they are generally less tempted is
unclear: perhaps they expose themselves to fewer temptations or perhaps they are less intrinsically motivated by certain reward cues [28,29].

Second, changes to state self-control do not reliably and sustainably improve people’s outcomes, as least in the long-term. To be clear, there is evidence that state self-control, including using self-control strategies, can be modestly effective short-term [30]. People who try to restrain their impulse to eat a calorie-rich dessert, for example, are sometimes able to eschew the dessert [24,31]; people overcome momentary temptations about half the time by deploying self-control strategies [29,32]; and interventions to help people meet their goals are modestly successful, at least for a time [33,34]. But the evidence for whether these changes in state self-control work sustainably over many months or years is less encouraging.

Despite state self-control helping people to momentarily restrain temptations, these fleeting victories do not add up to long-term goal success. For instance, effortful restraint of transient desires does not predict goal progress six, three, or even one month later [31,35]. And this is the case for people both high and low in trait self-control. Although behavioral scientists have dreamed up many self-control strategies to help people meet their goals, these behavioral scientists are generally unable to prospectively predict successful from unsuccessful strategies [33]. Worse, the effectiveness of even the successful strategies tends to be modest in the short-term and more or less ineffective after as little as two months [33,36]. This pattern of behavior change—initial modest improvement after using some self-control strategy to only relapse to baseline levels some weeks or months later—is very common and is often described as a triangular relapse pattern of behavior change [37]. Yes, people can lose weight, exercise more, and smoke less in the short term, but old behaviors tend to reemerge over time [38].
Third, a recent examination of change patterns in personality traits over time would caution against even effective interventions to change trait self-control in the long-term. Roemer and colleagues [39] examined both 1-year and 7-year change patterns in personality traits and found something extraordinary. Over a single year, many people changed dramatically, including impressive changes in trait conscientiousness. Over the long-term, however, change was modest at best, consistent with prior meta-analyses [40]. People can show big changes in their traits, but in most cases those changes are given back as people return to baseline. This means that short-term trait change interventions could be quite successful by any standard [41], yet have little long-term effect, just as with the triangular relapse pattern of behavior change.

Everybody loves trait self-control because of the goodies it is associated with. But using state self-control will neither sustainably increase one’s standing on the trait, nor will it deliver the goodies people so desire.

**What the hell is going on here?**

We see at least three reasons for the contrast between trait and state self-control. First, in the inimical words of Henry Adams, “…words are slippery, and thought is viscous”. Or more simply, in the case of psychology, the terms we use to label our measures may not be accurate descriptions of their content. We might label our measures “self-control”, but their content may slip into other dimensions despite our nomenclature. For instance, in the study of the long-term impact of trait self-control [7], the measure of self-control included nine indices, including ratings of impulsive aggression, inattention, hyperactivity, and lack of persistence assessed via parent, teacher, and child report. Psychometrically, this type of aggregation makes sense. That said, the label “self-control” while justifiable, is a clear oversimplification. Likewise, the Self-Control scale [9] is thought to measure the “ability to override or change one’s inner responses,
as well as to interrupt undesired behavioral tendencies (such as impulses) and refrain from acting on them” (p. 274). Yet, it includes items such as “I am lazy”, “I am reliable”, and “I keep everything neat.” We know that these items measure components of conscientiousness that are not central to controlling impulses [42]. And, quite famously, Mischel’s marshmallow test has been shown to be much more heterogenous in content than originally thought [43]. These are just three examples of citation classics in the self-control literature in which the measure labeled “self-control” suffers from construct drift at best and construct contamination at worst.

We would be remiss to argue that this issue is a crisis, as naming measures is difficult and inevitably involves compromise and oversimplification. The problem might not lie so much in the label as it does in how seriously we take the label and its meaning. Maybe we took the label “self-control” too seriously when considering causal mechanisms underlying the construct. It may have been other aspects of the broader domain of something like conscientiousness, such as industriousness or organization skills, which provided the causal mechanism all along. In fact, given the conceptual confusion, we wonder if we should have abandoned the term “self-control” when referring to traits and instead referred to conscientiousness all along, which is a construct that is multifaceted, deeply studied cross-sectionally and longitudinally, and with measures that are psychometrically sound [8].

Second, and relatedly, we may have gotten the mechanism wrong because we focused too narrowly on self-control and not the other aspects of these measures. Consider the alternative universe if we had settled on the name “planfulness” [44] or “consideration of future consequences”. Neither is as sexy or poetic as self-control, but both offer a different mechanistic pathway to the success extracted from life by those high in trait self-control. As others have argued and shown [22,24,31], success in life might be the result of engaging less in
day-to-day state self-control and more in cold calculation before a temptation is ever met. Maybe trait self-control is explained not by exerting state self-control, but by avoiding the need to exert it in the first place.

The third possibility concerns levels of analysis. From biology to psychology to sociology we find systems where one level of analysis cannot be reduced to a lower or higher level of analysis. For example, in relation to trait self-control, country-level measures of conscientiousness behave quite differently than individual-level measures [45]. At the country level, highly conscientious countries perform worse on achievement outcomes. At the individual level, we find the opposite. If we try to explain the country level phenomenon with the individual level data, we fail because the lower level of analysis is simply not the mechanistic explanation for the higher-level phenomenon. At the level of the individual across time spans of years rather than weeks, maybe trait self-control is a different creature than state self-control [18]. This would mean our faith in the idea that state self-control can explain the effects of trait self-control is more than a little misplaced.

**Moving Forward**

Everybody loves trait self-control because it predicts the good life. But how can people not blessed with this trait also benefit? For too long we have looked at state self-control as the answer. By advising people to momentarily overcome their unruly desires—be that by burying their feelings, reappraising them, or not paying attention to them [29,46]—we gave people advice that was mostly ineffective, especially over the long-term [35]. Once a person has an unruly desire, no amount of state self-control will bring about sustained change [31]. Instead, we should focus on other aspects of conscientiousness, including making plans and having well-aligned desires [28,47].
That’s not to say that state self-control is useless. It can be helpful in reaching short-term goals, like fitting into a wedding dress or having a civil family dinner with an ideologically opposed uncle. To the extent that it can increase people’s willingness to exert effort that is then rewarded, it might even become a secondary reinforcer that underpins the development of industriousness [48,49]. In the long term, however, state self-control is fragile, unreliable, and weak [50]. The tale of its potency and strength is merely a fable and we are better off looking elsewhere.
References


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