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# Challenges in the conceptualization of trait self-control as a psychological construct

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## Abstract

Self-control is widely believed to be a valuable characteristic that contributes to leading a healthy, happy, and successful life through the effective pursuit of long-term goals. Yet, despite a prolific literature spanning decades, essential questions about the conceptual nature of trait self-control remain unanswered. Substantially different perspectives on the theoretical nature of (trait) self-control coexist side by side. We briefly review prominent views informing what trait self-control as a psychological construct is. On this basis, we identify four conceptual challenges that we think the field should address moving forward: (a) integrating theoretical notions, (b) addressing variability in individual goals, (c) acknowledging variability in dominant responses, and (d) anchoring trait self-control in a nomological network. We highlight why addressing these challenges is crucial for gaining a deeper understanding of trait self-control. We also suggest how theoretical conceptualizations of trait self-control might do so and the implications this would bear for measurement and interventions.

**KEYWORDS**
construct definition, dominant response tendencies, long-term goal pursuit, nomological network, self-control, self-regulation

# 1 | INTRODUCTION

Imagine a hypothetical psychological construct that predicts desirable life outcomes like health, wealth, and life satisfaction. Considerable funding then facilitates a flood of studies. Sensing great potential for both individual and societal benefit, researchers design interventions to strengthen the construct. However, when diving into the literature, questions arise regarding important foundational issues, including how to precisely define the construct, how to validly measure it, and its (dis)similarity to other constructs. This raises questions for research that aims to build on the construct and change it through interventions.

In this article, we argue that the construct of trait self-control is in a situation similar to the hypothetical construct described above. Reading the self-control literature may give the impression that trait self-control is a panacea to living the good life. It is correlated with (and presumed to cause) diverse desirable life outcomes, including physical and mental health, life satisfaction, interpersonal relationship quality and stability, academic and professional achievement, financial wealth, lack of criminal offending, and even the pace of biological aging (e.g., Belsky et al., 2017; de Ridder et al., 2012; Robson et al., 2020). What is more, trait self-control predicts these outcomes over extended periods of time and beyond some potentially confounding third variables, including intelligence and socioeconomic status (e.g., Daly et al., 2015; Daly et al., 2016; Moffitt et al., 2011). Self-control training interventions are developed and applied, with the goal of providing both individual and societal value (Friese et al., 2017; Piquero et al., 2016). Yet, despite abundant literature emanating from several scholarly fields, widely agreed upon answers to foundational conceptual questions about trait self-control remain hard to find. Different theoretical perspectives informing what trait self-control is coexist side by side, making it difficult to grasp what exactly the term refers to and how the construct is anchored nomologically (Eisenberg et al., 2019; Inzlicht et al., 2021; Milyavskaya et al., 2019). Prominent measures of trait self-control show small-to-zero correlations with one another (Duckworth & Kern, 2011; Eisenberg et al., 2019; Saunders et al., 2018), rendering it difficult to make sense of its predictive power (e.g., de Ridder et al., 2012; Robson et al., 2020). On a theoretical level, what exactly is it about trait self-control that helps people achieve diverse life outcomes?

Trait self-control is sometimes seen as a superordinate construct that comprises a variety of subordinate constructs (e.g., executive functions, impulsivity; Moffitt et al., 2011). We view trait self-control as a distinct psychological construct situated within a nomological network of related constructs. The focus of this article is on challenges in the conceptualization of trait self-control specifically, with trait self-control referring to a disposition across different situations over extended periods of time. A comprehensive treatment of challenges that apply to the conceptualization of related constructs and their conceptual relationship with trait self-control would be valuable but goes beyond the scope of the present article. Our focus confines the implications of the following considerations to trait self-control and should not be readily extended to apply to other constructs. We refer the interested reader to other contributions about the relation of self-control with other constructs (e.g., Nigg, 2017) such as executive functions (Diamond, 2013; Karr et al., 2018) and their relations to self-regulation (Hofmann et al., 2012; Nęcka et al., 2018), and impulsivity (Dalley & Robbins, 2017). Also, we only briefly refer to state self-control research. For a closer examination of relations between state and trait self-control research, see de Ridder et al. (2018).

In what follows, we briefly review prominent views informing what trait self-control is. In doing so, we identify four conceptual challenges we believe the field should grapple with to clarify the theoretical nature of the construct: (a) bridging different theoretical ideas, (b) considering diversity in individual goals, (c) taking notice of variability in dominant responses, and (d) localizing trait self-control in a nomological net. We elaborate on the nature of these challenges, explain why we think addressing them will be beneficial, give recommendations for how conceptualizations of trait self-control might do so, and point out implications for measurement and interventions. We also highlight extant approaches that have addressed some of these challenges to some degree. Our intention is to stimulate debate towards a comprehensive understanding of what trait self-control is and why and how it is related to desirable life outcomes.[1]

## 2 | THE PHENOMENON OF INTEREST: PURSUING LONG-TERM GOALS SUCCESSFULLY

What is the target phenomenon that motivates self-control research? What do highly self-controlled people do or achieve? We refer to the term phenomenon in its literal sense here as *something observable*, at least relatively more directly observable in comparison with a latent construct. We argue that the core of the phenomenon of interest in self-control research is this: Does a person manage to pursue long-term goals successfully despite conflicting behavioral alternatives that reflect a rather short-term orientation? For instance, does the dieter refrain from eating a delicious chocolate cake and have some fruit instead to protect their long-term health? Does the student refrain from going to a party and study instead to protect their long-term academic success? These are typical questions self-control researchers (and their precursors) have aimed to address for ages.

In ancient philosophical literature, Socrates, Plato, Aristotle, and others used the term *akrasia* to discuss the phenomenon of acting against one's better knowledge. Specifically, akrasia means choosing a course of action from a set of behavioral alternatives that is not the best course of action according to one's own personal judgment. This mostly refers to passion gaining the upper hand over reason (Bobonich & Destrée, 2007; Davidson, 2001).

In contemporary psychology, the essence of self-control phenomenology is well captured by delay of gratification and delay discounting paradigms. Delay of gratification refers to choosing a larger later reward over a smaller immediate one (e.g., Mischel et al., 1989). In a seminal study, Shoda et al. (1990) told preschool children they could have one marshmallow (or another small reward in variations of the study) immediately or could have two marshmallows if they waited for some amount of time. The researchers then observed whether the children waited for the larger reward. Individual differences in the amount of time the preschoolers were willing to wait for the researcher to come back predicted academic performance and psychological adjustment in adolescence (see also Falk et al., 2020; Watts et al., 2018). Similar to delay of gratification in preschool children, the terms delay discounting and temporal discounting describe the devaluation of delayed rewards relative to immediate ones in adults (e.g., Critchfield & Kollins, 2001; Odum et al., 2020).

The concepts akrasia, delay of gratification, and delay/temporal discounting (and variations in these phenomena) differ, but all are closely associated with self-control (e.g., Critchfield & Kollins, 2001; Kotabe & Hofmann, 2015; Mischel et al., 1989). Their common phenomenological core is the successful pursuit of long-term goals.

## 3 | PROMINENT AND RECURRING NOTIONS OF THEORETICAL VIEWS ON TRAIT SELF-CONTROL AS A PSYCHOLOGICAL CONSTRUCT

We briefly review three recurring notions prominent theoretical views on self-control imply as essential aspects of trait self-control. We will use this (nonexhaustive) review as a foundation for identifying conceptual challenges with regard to trait self-control afterward. For a deeper analysis of some prominent self-control models and their points of (non)convergence with one another and with broader self-regulation models, see Inzlicht et al. (2021).

### 3.1 | Effortful regulation of presently experienced dominant response tendencies

One prominent aspect of trait self-control seems to be the ability to regulate presently experienced dominant affective, cognitive, and behavioral response tendencies (e.g., Baumeister et al., 2007; Hofmann et al., 2009; Metcalfe & Mischel, 1999). Through this lens, self-control is seen as an effortful and conscious process. In their *Strength Model of Self-Control*, Baumeister et al. (2007; Baumeister & Vohs, 2016) emphasize the effortful inhibition of response tendencies as a central aspect of self-control (see also Baumeister, 2014). Similarly, when introducing their *Self-Control Scale*, a pervasive self-report measure of trait self-control, Tangney et al. (2004) stated that "central to our concept of

self-control was 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).

## 3.2 | Regulation of dominant response tendencies in advance

Another recurring notion of self-control is the regulation of dominant response tendencies before they are even experienced as a preventive aspect of organizing oneself and advance planning (e.g., Duckworth et al., 2016; Fujita, 2011; Gillebaart & de Ridder, 2015). Preventive approaches help circumvent or modify situations in which the effortful regulation of dominant response tendencies is the only remaining tenable strategy for acting in accordance with long-term goals. Prominent examples of organization and advance planning include situation selection and modification (e.g., Duckworth et al., 2016), beneficial habits or rituals (e.g., Galla & Duckworth, 2015; Tian et al., 2018), or implementation intentions (Gollwitzer & Sheeran, 2006).

## 3.3 | Motivational accounts of self-control

The previous two perspectives focus on a person's regulatory ability. Other perspectives stress that a person's ability to regulate dominant response tendencies—either when experienced or in advance—is not sufficient for understanding how people successfully pursue long-term goals (Milyavskaya & Inzlicht, 2018). Motivational aspects beyond ability also need to be considered. For example, Grund and Carstens (2019) argue that "[…] we can only correctly talk about differences in individuals' self-control ability if we can assume similar motivational starting points for all individuals […]" (p. 65). The extent to which a person lives up to their ability depends on their motivational situation (e.g., Berkman et al., 2017; Inzlicht & Schmeichel, 2012; Myrseth & Fishbach, 2009).

## 4 | CONCEPTUAL CHALLENGES

In this section, we elaborate on four challenges conceptualizations of trait self-control should address but that we believe are underdeveloped in the literature. Again, we stress that we focus on trait self-control, not on executive functions, impulsivity or other related constructs. Also, we only briefly touch on state self-control referring to self-regulatory thoughts, feelings, and behavior in single situations.

## 4.1 | Integrating theoretical notions

In the previous section, we reviewed three prominent notions of trait self-control. We believe that all three have value in explaining the phenomenon of successfully pursuing long-term goals. Consequently, a comprehensive theoretical conceptualization of trait self-control should be multidimensional, integrating all of these theoretical notions (and potentially more) by reflecting both their specific roles and their interplay. Such a multidimensional perspective would benefit self-control research in various ways: It would allow a fine-grained understanding of the correlations of trait self-control with outcomes because differentiating between dimensions of the construct would allow to examine their unique predictive contributions. It would also support process-focused research approaches that can help elucidate how exactly people with high trait self-control achieve specific outcomes and the role that each dimension plays in this. What is more, it would allow researchers to design interventions to strengthen trait self-control on a more precise conceptual basis.

There are fruitful approaches for bridging theoretical perspectives on self-control. For example, in their *Preventive-Interventive Model of Self-Control*, Hofmann and Kotabe (2012) distinguish between conceptual aspects of

self-control, referring to the ability to regulate presently experienced dominant response tendencies versus regulating them in advance. Similarly, on the level of specific strategies people may apply, the *Process Model of Self-Control* (Duckworth et al., 2016) differentiates between preventive (regulation in advance) and interventive (regulation in the present) strategies.

On the level of measurement, the idea that different theoretical notions need to be considered is also gaining traction. Some researchers have suggested that the *Self-Control Scale* (Tangney et al., 2004) is not uni- but multidimensional (e.g., Hagger et al., 2021; Lindner et al., 2015; see also Papova & Corbin, 2020). One distinction that emerged refers to the ability to initiate actions conducive to goal attainment versus the ability to stop actions that are maladaptive (de Boer et al., 2011; de Ridder et al., 2011). Newly developed measures have built on this work and have proposed ways to assess trait self-control multidimensionally (e.g., Nilsen et al., 2020; Nęcka et al., 2016).

The conceptual and measurement approaches described above have raised awareness of the theoretical complexity of trait self-control. Yet, these approaches differ widely in how many dimensions of the construct they distinguish, their specific contents, and the extents to which they reflect the three recurring notions of trait self-control we reviewed. A consensual view on the multifaceted nature of trait self-control is missing.

To illustrate the value of distinguishing different dimensions of self-control, consider disentangling motivation and ability. Out of the three broad theoretical notions of trait self-control we described, two (the regulation of dominant response tendencies in present situations and in advance) stress that a person's regulatory ability is a crucial aspect of self-control. Yet, having a certain ability does not necessarily imply making use of this ability in any given situation. This is one reason why motivational aspects of trait self-control are important to consider beyond regulatory abilities. Motivation gives a person's abilities direction and determines whether and how a person will use their abilities to work toward goals. Thus, both regulatory abilities and the willingness to make use of them seem indispensable for explaining the phenomenon of successfully pursuing long-term goals.

Illuminating the specific roles of motivation and ability and their interplay would yield great value for self-control research, not only on conceptual and diagnostic levels but also in applied contexts. For example, being able to separate motivation and ability conceptually and diagnostically would make it possible to distinguish between a person failing to successfully strive toward a specific goal because they lack the ability to do so versus because they are not motivated (enough) to strive toward the goal. Relatedly, distinguishing between motivation and ability would provide an opportunity to design fine-grained interventions to strengthen self-control and tailor them to individual needs.

Prominent theoretical models of self-control have not aimed to integrate motivation and ability to a great extent, but tend to focus on either motivation or ability. A prominent example is the debate around *ego depletion*, the idea that the initial regulation of dominant response tendencies impairs subsequent regulatory performance (Friese et al., 2019). Whereas the *Strength Model of Self-Control* views self-control ability as paramount for explaining ego depletion effects and rejects a central role of motivation (Baumeister & Vohs, 2016), the *Process Model of Self-Control* (Inzlicht et al., 2014; Inzlicht & Schmeichel, 2012) places motivation front and center but rejects the central role of regulatory ability.

Integrating motivation and ability would also advance trait self-control measurement. Prominent self-report measures, such as the *Self-Control Scale* (Tangney et al., 2004), include items that refer to ability-related (e.g., "I am good at resisting temptation") and motivational (e.g., "I am not easily discouraged") aspects but do not separate the two, for example, in the form of specific subscales (but see Papova & Corbin, 2020). Another prominent way to measure trait self-control is to use behavioral inhibition tasks such as the Stroop (1935) or the Flanker task (Eriksen & Eriksen, 1974). Such tasks are primarily designed to measure ability, not motivation. They require different people to be at least roughly equally motivated to perform well on the task. Otherwise, comparing task scores across people has limited informational value.

Authors who tend to see trait self-control exclusively as regulatory ability might argue that such a broad construct integrating motivation and ability should be given a different label and the term self-control should only be used for the ability aspects of the construct. This strikes us as a reasonable position. We do not have strong feelings about labels here. Instead, we argue that a construct aiming to explain the successful pursuit of long-term goals as

comprehensively as possible, whatever its name or the names of its parts may be, needs to incorporate both motivation and ability.

Taken together, theoretical conceptualizations of trait self-control should clarify which dimensions of the construct they distinguish, their respective theoretical contents, and how these dimensions are related to one another. Such conceptualizations provide the basis for the construction of new measurement instruments that measure different construct dimensions separately. For interventions, a multidimensional perspective implies that approaches to strengthen trait self-control should be conceptualized with specific dimensions of the construct in mind, ideally tailored to specific individual strengths and weaknesses pre-intervention.

## 4.2 | Addressing variability in individual goals

Imagine that a researcher knows that a person has strong regulatory ability and high motivation to make use of this ability if needed. Whereas this is valuable information regarding this person's strivings, what the person is motivated to use their regulatory ability for remains open. Which goals a person considers worth striving for can be manifold. We argue that there is a need to distinguish between motivation and ability on the one hand and the contents of the goals a person holds dear on the other hand. The goals a person pursues should not be relevant for considering that person to be more or less self-controlled; this is left to regulatory abilities and motivation. For example, eating healthy foods or performing well academically may be normatively regarded as valuable goals. Nevertheless, some people consider them highly personally important, whereas others do not care about them at all. Thus, to predict whether a person will pursue long-term goals successfully, researchers should only assess if the person (a) has at least some sense of long-term goals they hold dear and (b) is aware of situations that have consequences for the (non-)-achievement of these goals. Goal content is not relevant toward this aim.

Similar to the between-person level, most individuals consider a variety of goals important. This requires prioritizing goals over each other and solving conflicts between different goals. For example, imagine a person striving toward good health with a high priority but at the same time toward pleasurable enjoyment with a lower (but also noteworthy) priority. Theories about the structure and complexity of what people strive for, such as Goal Systems Theory (Kruglanski et al., 2002), highlight that what people want and how they try to achieve it can be diverse and even somewhat contradictory (see also Kung & Scholer, 2021).

The opposite of considering individual goal configurations would be to make normative assumptions about goal contents. Incorporating such normative assumptions into conceptualizations or measures of trait self-control would obscure the idea that a person can be good at regulating dominant tendencies and highly motivated to use this ability but does so (at least partly) to strive for other goals than the ones seen as normative (Brownstein, 2018; Hofmann & Kotabe, 2012; Milyavskaya et al., 2019). Baumeister and Alquist (2009) pointed to the possibility that "[…] some applications of effective self-control can produce destructive or antisocial results. A criminal or torturer with good self-control will be all the more effective at their heinous occupation, and the harmful results would thus be intensified" (p. 119). Similarly, social rewards might lead people to use self-control for self-harming behavior (e.g., binge-drinking or smoking; Rawn & Vohs, 2011). At its core, trait self-control is a domain-general tool that can be applied independently of specific goal contents. Making normative assumptions about goal contents an integral element of conceptualizations or measures of trait self-control compromises this idea.

We do not doubt that many people exert self-control to attain goals that are widely socially approved and shared (e.g., health, social reliability, academic achievement). After all, not only are such goals important to many people, but they also often require people to regulate themselves because dominant response tendencies are not consistently well-aligned with these goals. The point here is that ability, motivation, and goal content are conceptually different things and differentiating between them has value.

Differences regarding the goals a person strives toward are rarely in the spotlight of self-control research. On an abstract theoretical level, self-control is mostly regarded as a regulatory tool that can be used to work toward any

kind of goal. Yet, when elaborating on what the construct is, giving examples of self-control successes and failures, or designing measures to assess trait self-control, this notion is often somewhat compromised. Explicit or implicit normative assumptions regarding specific types of goals people (should) pursue or specific dominant tendencies people experience often creep in (Hofmann & Kotabe, 2012; Milyavskaya et al., 2019). These presumed goals are typically associated with a rational orientation and long-term gratification. For example, the *Self-Control Scale* (Tangney et al., 2004) includes items with content referring to specific goals, such as "I eat healthy foods" or "I spend too much money". One consequence of mixing motivation and regulatory ability with goal content is that the level of self-control ascribed to a person is, in part, tied to whether that person successfully works toward specific, predefined goals that might or might not match the person's actual goals. To assess a person's self-control, we suggest asking (a) "Does a person have (any) long-term goals?", and (b) "Does a person have the regulatory ability to deal with conflicting dominant response tendencies if needed?". We suggest *not* asking for goal content. Peer or societal pressure towards specific goals seen as normatively desirable might conflict with one's personal goals and consequently pose a regulatory challenge.

One way to operationalize trait self-control independently from the specific goals a person might or might not consider important are behavioral inhibition tasks such as the Stroop (Stroop, 1935) or the Flanker task (Eriksen & Eriksen, 1974). Most versions of these tasks are void of real-world goal-related content. Unfortunately, such measures grapple with other issues, limiting their suitability as individual difference measures, both theoretically and psychometrically. For example, they often lack reliability for detecting stable individual differences, have poor predictive validity for real-world outcomes, and have a narrow theoretical focus on maximum inhibitory performance in specific situations (Enkavi et al., 2019; Hedge et al., 2018; Wennerhold & Friese, 2020), the latter presumably detaching them from many people's actual real-life goals (Hofmann & Kotabe, 2012; Milyavskaya et al., 2019).

In sum, we argue that future conceptualizations of trait self-control should address the individual specificity of goals and avoid making implicit or explicit assumptions about what people (ought to) strive for in their lives. At a minimum, conceptualizations of trait self-control should state explicitly whether goal content is considered a part of the construct (and if so, define the kinds of goals considered to be so).

## 4.3 | Acknowledging variability in dominant responses

A prevalent assumption in self-control research is that successfully pursuing long-term goals is a challenge because conflicting short-term desires or temptations evoke dominant response tendencies to give in to them. Hence, such dominant response tendencies must be inhibited in the moment or circumvented in advance. An often-overlooked observation is that dominant response tendencies vary both inter- (e.g., Papies et al., 2021; Stillman et al., 2017) and intraindividually (e.g., Boles et al., 2021; Lally & Gardner, 2013). We argue that trait self-control conceptualizations would benefit from addressing this observation.

A growing body of evidence suggests that dominant response tendencies vary between people. People with higher (vs. lower) trait self-control seem to experience less desire and response conflict about healthy versus unhealthy food stimuli *when confronted* with such stimuli (e.g., Gillebaart et al., 2016; Ha et al., 2019; Haynes et al., 2016). People with higher (vs. lower) trait self-control seem to experience stronger dominant responses toward goal-directed behaviors in various domains (e.g., exercise, study/work) and report experiencing less behavioral resistance for goal-directed behavior (e.g., "Just the thought of doing [X] makes me want to not do it", Gillebaart & Kroese, 2020).

Whereas it is clear that many people often experience dominant response tendencies to indulge in short-term desires and temptations that conflict with long-term goals, this is not some kind of natural law. Instead, it seems that many people do not experience these kinds of dominant response tendencies in many situations typically considered to be situations of self-control conflict as regularly or as strongly (Shenhav, 2017). In fact, some people might even experience the opposite, in the form of dominant response tendencies that are in accordance with long-term goals. These people do not have to actively regulate themselves to go for the behavioral option that suits the respective

long-term goal. Rather, they would need to actively regulate their dominant response tendencies if they wanted (for whatever reason) to *avoid* acting in line with long-term strivings.

Imagine a person working long hours without spending time relaxing. One might argue that this is a typical situation in which a person's self-control prevails over dominant response tendencies to engage in short-term pleasure. But this person might genuinely enjoy their work and be highly engaged in it. Alternatively, this person might be on the brink of workaholism, feeling a compulsive urge to work excessively. In both cases, the person would not be escaping but following dominant response tendencies when working.

Variability in dominant cognitive, affective, and behavioral tendencies is present not only between people but also within a person over time. For example, the literature on habit formation and change has shown that habits (being a form of a dominant response tendency) can be formed and changed (Carden & Wood, 2018; Lally & Gardner, 2013). Also, preliminary evidence suggests that interventions can change specific dominant response tendencies over time (e.g., Boles et al., 2021).

Intra- and interindividual variability in dominant response tendencies and people's goals interact to shape the amount of regulatory ability needed to be successful. Dominant response tendencies in line with personal long-term goals make using regulatory ability superfluous. Such forms of successful long-term goal pursuit are sometimes labeled effortless self-control (e.g., Gillebaart & de Ridder, 2015). In a series of studies, university students with a strong achievement value orientation relative to their well-being value orientation did not feel as tempted by leisure activities as an alternative to studying as students with a reverse value pattern, dampening the need to regulate themselves (Grund & Senker, 2018). On the contrary, dominant response tendencies that conflict with personal goals make using regulatory ability indispensable.

Taken together, conceptualizations of trait self-control should incorporate the notion that dominant response tendencies vary inter- and intraindividually and depict how this variation can shape the amount of regulatory ability people need given their long-term goals. Pursuing long-term goals does not necessarily comprise regulating conflicting dominant response tendencies to the same degree for everyone or for someone all the time. Conceptualizations should also specify whether self-control ability is an ability to control presently experienced dominant response tendencies, circumvent them in advance, change them, or even form and maintain new ones.

The variability in both individual goals and dominant response tendencies implies that also the resulting regulatory demands are highly variable. As we alluded to earlier, people with high trait self-control partly seem to be successful because they more often manage to avoid having to regulate themselves compared to those lower in trait self-control (e.g., de Ridder et al., 2012; Galla & Duckworth, 2015; Hofmann et al., 2012). Consequently, it seems that the importance of trait self-control focusing primarily on the effortful regulation of presently experienced dominant response tendencies, which might be seen as the "classic" pillar stone of the construct, has been overstated compared to the regulation of dominant response tendencies in advance and motivational aspects (Gillebaart & de Ridder, 2015; Inzlicht & Friese, 2021; Milyavskaya & Inzlicht, 2017).

## 4.4 | Anchoring self-control nomologically

For any psychological construct, knowledge about its (dis)similarities to other constructs is a cornerstone of its comprehensive understanding. For trait self-control, this issue has received surprisingly little attention. The broader nomological network of trait self-control is rarely addressed and seems underdeveloped, contributing to conceptual ambiguity in the literature (e.g., Milyavskaya et al., 2019; Nigg, 2017; but see Duckworth & Gross, 2014, for self-control and grit; Roberts et al., 2014, for self-control and conscientiousness). Future conceptualizations of trait self-control should describe its relationships with other constructs, elaborating on both theoretical overlap and distinction.

In their seminal article on construct validity, Cronbach and Meehl (1955) stressed the importance of explicating a construct's nomological network. This is not a purely intellectual exercise without practical relevance. Neglecting

it bears the risk of a *jingle-jangle fallacy*, meaning that either two actually different things are given the same label or that two things given different labels might actually be the same (Kelley, 1927; Milyavskaya et al., 2019; Thorndike, 1904). Such a situation can create conceptual confusion within and across literature that examine the same construct under different labels. In addition, such issues can have worrying ramifications concerning the efficient allocation of resources in science, ultimately not only wasting money and time, but also hampering scientific progress (Hodson, 2021; Lawson & Robins, 2021).

We believe that the nomological status of trait self-control should be illuminated to bring more conceptual clarity not only to self-control but also to related constructs. Similarities of pervasive perspectives on trait self-control with other constructs (e.g., conscientiousness or grit) make it difficult to grasp the construct's (non)distinctness. A conceptualization addressing this challenge should state explicitly whether trait self-control is perceived as a distinct construct that is separable from related constructs or a label (a) given to a part of another construct, (b) given synonymously to another construct in its entirety, or (c) summarizing a combination of other constructs. If trait self-control is considered to be a distinct construct, conceptualizations should describe how it relates to other constructs, highlighting aspects of theoretical uniqueness and overlap. We see potential for trait self-control as such a distinct construct (or at least, a construct with some degree of overlap with other constructs and some unique aspects), but such a conceptualization must pay close attention to its nomological relations to avoid conceptual ambiguity.

## 4.5 | Common ground and fundamental distinctions among theoretical notions of trait self-control

Drawing on our review of prominent theoretical notions and the conceptual challenges we identified and discussed, we see some common ground among theoretical perspectives informing the nature of trait self-control and two essential distinctions.

Skinner (1996) introduced a seminal framework for constructs of control that may be helpful in this respect. In this framework, Skinner stressed the distinction between agents, means, and ends of control and their interrelations as fundamental differences in the foci of conceptualizations of control. Agents refer to "Who exerts control?", means refer to "Through what is control exerted?", and ends refer to "What are the desired and undesired outcomes of exerting control?" Taking up this framework, it seems to be common among perspectives on trait self-control that they primarily focus on agent-ends relations (Does a given person pursue long-term goals successfully?) with the self as the agent, the regulation of that self's thoughts, feelings, and behaviors as its mean, and long-term goal-directed decision-making and action as the desired end. Distinguishing different takes on trait self-control seem to be, first, their temporal focus regarding the regulation of dominant response tendencies (predominantly reactive vs. predominantly preventive means of control), and second, their focus on ability versus motivation. In our view, conceptualizations of trait self-control should make clear how they see the construct with regard to these fundamental distinctions. We argue that future conceptualizations of trait self-control aiming to comprehensively explain the successful pursuit of long-term goals as its target phenomenon should take up and integrate *all* these different notions.

## 5 | CONCLUSION

In this article, we reviewed prominent theoretical views on trait self-control by focusing on the successful pursuit of long-term goals as its target phenomenon. We then described four conceptual challenges that future conceptualizations should address to achieve a comprehensive understanding of trait self-control: bringing together different theoretical perspectives, taking into account plurality in individual goals, heeding variability in dominant responses, and explicating self-control's nomological network.

To the best of our knowledge, a conceptualization of trait self-control that addresses all four challenges is missing, even though some general theoretical models on self-control address some of the challenges to some degree.

These approaches might act as a foundation for the further conceptual development of trait self-control. We also gave some suggestions regarding how future work might do so and the implications this would bear for self-control measurement and interventions.

The potential of applying a comprehensive understanding of trait self-control to the real world, which would help people to successfully pursue long-term goals, is enormous. Yet, any applied work with regard to a psychological construct should be built on a conceptual foundation that is as solid as possible. We hope to stimulate and contribute to the discussion about the theoretical nature of trait self-control, its valid measurement, and the development of sound interventions. Addressing these fundamental issues will help put other, more applied work on solid ground and will pave the way to reap the fruits of the potential of self-control from the individual level to the societal.

## CONFLICT OF INTEREST

The authors declare that there is no conflict of interest that could be perceived as prejudicing the impartiality of the research reported.

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## ENDNOTE

[1] The terms self-control and self-regulation are sometimes used interchangeably (e.g., Baumeister & Vohs, 2016; de Ridder et al., 2012). When they are distinguished, self-regulation typically refers to a broad range of processes of goal pursuit (e.g., including goal setting and monitoring) while self-control refers to the effortful resolution of goal conflict in a present situation specifically (Inzlicht et al., 2021).

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