

Inhibitory and Initiatory Self-Control at Work.

A Field Study on the Relationship of Two Types of Self-Control with the Prevalence of
Productive and Counterproductive Behavior at the Workplace.

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Abstract

Self-regulation enables people to control and regulate their emotions, desires, cognitions and behaviors. In the current field study we investigated the thoughts, behavior and feelings of employees ($N = 318$) in a two wave correlational design to understand more about the self-regulatory process and to find support for a recent theory which, different from the leading theory on self-regulation, distinguishes between two types of self-regulation: stop and start control. This study contributes to current knowledge on self-regulation in three ways. First, by establishing a nomological network of stop and start control in which in general, stop control relates to personality traits that facilitate inhibition (e.g., negative relation with impulsivity), and start control relates to traits that facilitate initiation of action (e.g., positive relation with action-orientation). Second, by showing that stop and start control theory can be generalized to the work domain, as the construct differently predict how people behave and feel at work (e.g., stop control relates negatively to counterproductive work behavior and relates positive to expressive suppression; start control relates negative to decreasing job demands and relates positive to positive framing). Third, by explicitly testing rather than assuming how individual differences in perceived attractiveness of behavior and the value attributed to the outcome of behavior interplay with stop and start control to influence whether someone performs behavior. Results indicate main effects for each variable involved and a cross-level interaction between stop control and value attributed to behaviors outcome, showing that as stop control increases, the stronger value predicts whether someone performs behavior.

Key words: Self-regulation, stop control, start control, work behavior, affect regulation.

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“Beche' io son Re, poi che signoreggio me stesso.”

(I am, indeed, a king, because I know how to rule myself.)

— Pietro Aretino, *Letter to Maestà Agostino Ricchi, Venice, May 1537.*

Self-regulation, also called self-control, enables people to control and regulate their impulses, emotions, desires, cognitions and behavior (Karoly, 1993; Vohs & Baumeister, 2004). Self-regulation is essential to the pursuit of long-term and higher order goals as it facilitates both prevention of undesirable behavior and initiation of desirable behavior. It transforms our inner animal nature into a civilized human being, as it facilitates adherence to morals, laws, social norms and other rules and regulations. As such, it is one of the most important and beneficial processes in the human personality structure (Gailliot et al., 2007).

Although the level of self-regulation varies within individuals over time, in some people it is generally stronger than in others and therefore many studies have operationalized self-regulation as a trait (e.g., Tangney, Baumeister, & Boone, 2004). This trait has been linked to a broad range of desirable outcomes, such as better physical health (De Ridder & De Wit, 2006), superior academic performance (Duckworth & Seligman, 2005), and healthier interpersonal relationships (Finkel, & Campbell, 2001). Despite the benefits of successful self-regulation, there are many examples of failure. Nearly every major personal and social problem affecting large numbers of modern citizens involves some kind of self-regulatory failure (Vohs, & Baumeister, 2004). Deficiencies in self-regulation have been linked to a broad spectrum of problems, including addiction and substance abuse, crime and violence (DeWall, Baumeister, Stillman, & Gailliot, 2007; Hirschi, 2004), school failure, teen pregnancy, debt and bankruptcy, sexually transmitted diseases, smoking and obesity (see Baumeister, Heatherton, & Tice, 1994, for a

review). Considering that self-regulation has such impact within various domains on both individual and societal level, it is important to understand how self-regulation works.

Regulatory Strength

According to one of the most prominent theories on self-regulation of the last two decades, the regulatory strength theory, acts of self-regulation such as restraining yourself from eating chocolate cookies or pushing an extra bar at the gym, all require the same skill which depletes the same resource (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Baumeister, Vohs, Tice, 2007). Baumeister and his colleagues conducted numerous experiments in which participants were asked to perform tasks, like the examples above, that require self-regulation. Participants usually performed worse on a second self-regulation task (e.g., solving a complicated anagram) after a first act of self-regulation (e.g., restraining from eating chocolate cookies). According to regulatory strength theory, using self-regulation (for example by performing such tasks) brings people in a state, which is called ego-depletion. In this state someone's 'ego', which refers to *the self*, is weakened and therefore has less strength to regulate itself. From these studies, Baumeister and his colleagues conclude that both restraining from and enduring in behavior, draw on the same limited resource or strength, which causes defects in self-regulation, when depleted. However, while restraining oneself from and enduring in behavior indeed seem to influence one another over time this does not mean they are the same. Considering self-regulation as a single construct may not be appropriate.

In the current field study we investigated the thoughts, behaviors and feelings of employees to understand more about the self-regulatory process and to find support for a recent theory which, different from the leading theory on self-regulation, distinguishes between two types of self-regulation: stop and start control. We will first elaborate on the theory and relevant terms and then explain the current study in more detail.

Stop and Start Control

Just recently, researchers have started testing the plausibility of a distinction between inhibitory(stop) and initiatory(start) self-control and its relevance for predicting behavior (De Boer, Van Hooft, & Bakker, 2011, in press; De Ridder, De Boer, Lugtig, Bakker, & Van Hooft, 2011). Stop control is defined as self-control aimed at inhibiting attractive behavior with a negative outcome and start control is defined as self-control aimed at initiating unattractive behavior with a positive outcome. Confirmatory factor analyses has indicated that a two-factor model, including the distinction between stop and start control, fitted the data better than a one-factor self-control model (De Boer et al., 2011; De Ridder et al., 2011). The relationship between stop and start control was only weak to moderate ($r = .28$), as was expected because the two constructs refer to distinguished but related dimensions of self-control. Furthermore research shows that the two types of self-control predicted different behaviors. Stop control related negatively to generally attractive behavior which has negative outcomes (e.g., smoking, drinking alcohol) while start control related positively to generally unattractive behavior which has valued outcomes (e.g., studying, personal initiative; De Boer, Van Hooft, & Bakker, 2011, in press; De Ridder, De Boer, Lugtig, Bakker, & Van Hooft, 2011). These relations indicate that people with high stop control smoke less and drink less alcohol than people with low stop control and that people with high start control study more and take more personal initiative than people with low start control.

These results are a first step in validating the distinction, but they tell us relatively little about why and how the two self-control constructs relate to behavior. For example, we do not know why people with high stop control displayed less generally attractive undesirable behavior. Self-control theory would propose that people with high stop control find generally attractive behaviors just as attractive as people with low stop control, but they are better at resisting attractive behavior. Therefore, the attractiveness of behavior is less determining for whether or not they perform the behavior. An alternative explanation is that people with high stop control

simply find generally attractive behavior (e.g., eating sweets) less attractive than people with low stop control. Because the previous studies did not assess people's opinion regarding the behavior and its outcomes, we cannot exclude this explanation. More research is required to better understand how stop and start control work. As our understanding of self-control grows, we will be able to better predict behavior.

One domain in which it may prove helpful to make sound predictions of behavior based on stop and start control is the work domain. If stop and start control theory can be generalized to the work domain this may help organizations and individuals find a better fit between people's specific self-control strengths and self-control demands in their jobs. De Boer et al. (in press) made a first attempt at testing the generalizability of stop and start control theory to the work domain. Their results support differential validity of stop and start control in predicting contextual performance. We need to replicate and elaborate upon these results to further extent stop and start control theory and investigate the usefulness of stop and start control in the work domain.

The Current Study

The current study takes the next step in the stop and start control research. This study partly aims to replicate what has already been investigated, creating a more solid base for the stop and start control theory, and partly aims to investigate new hypotheses which concern both broadening the theory and investigating the applicability of the stop and start control constructs in the work domain.

Our first goal is to further validate the stop and start control distinction. Therefore, we first aim to replicate the confirmatory factor analyses of De Boer et al. (2011), by testing whether a two-factor stop and start control model fits better than a one factor self-regulation model. Then we investigate the convergent and divergent validity of stop and start control. We aim to establish a nomological network of stop and start control by looking at relations between the two

self-control types and various personality traits. This would further increase our confidence in the stop and start control distinction and it increases our understanding of how the stop and start control relate to other personality traits.

Our second goal is to investigate the generalizability of stop and start control theory within the work domain. Therefore, we tested the predictive validity of stop and start control by looking at their relations with various behaviors (i.e., organizational citizenship behavior, counterproductive work behavior, job crafting), emotion regulation strategies (i.e., cognitive reappraisal, positive framing and expressive suppression) and general affect, which are relevant at the workplace. We also tested whether stop and start control predict these variables better than self-regulation assessed by a commonly used general trait self-regulation scale (i.e., the brief Self Control Scale by Tangney et al., 2004).

Our third goal is to learn more about the way in which stop and start control predict behavior. An important contribution of the current research to what is currently known is that it explicitly tests, rather than assumes, how attractive behavior and how valuable the outcome of behavior is to people. This provides insight into how these variables interplay, hereby extending and explicitly testing the theory on stop and start control.

These goals have led to the following four key questions: Can we replicate that a two-factor stop and start control model fits better than a one-factor self-control model? Do stop and start control relate differently to various personality traits and behaviors in the workplace? Are stop and start control better predictors of specific behaviors and emotion regulation strategies at the workplace than the commonly used measure of self-regulation? How do stop control, start control, perceived attractiveness of behavior and value of its outcome interplay in predicting the frequency with which behavior is displayed?

Construct Validity

Model Fit

As noted, an important goal of this study is to further validate the stop and start control distinction. One way to do so is by comparing the model fit of a one factor self-regulation model to a two-factor stop and start control model. If the model with two factors explains more variance, as it did in Boer et al.'s (2011) study, we can be more confident that self-regulation indeed consists of two constructs rather than one.

Hypothesis 1: A two-factor stop and start control model fits the data better than a one-factor self-regulation model.

Convergent and Divergent Validity

Another way to investigate the construct validity is by comparing our stop and start control scales to other scales that intend to measure conceptually related or unrelated constructs. If our scale properly captures stop and start control, it will correlate with related constructs (convergent validity) and it will show weak or no correlations with unrelated constructs (divergent validity). Consistent with our conceptualization of self-regulation as a personality trait, we investigated the convergent and divergent validity of stop and start control by testing their relation with other personality traits that somehow relate to self-regulation (i.e., conscientiousness, action state orientation, trait-procrastination and impulse control). Although many different constructs can be included in the self-control domain (Will et al. 2008), relatively little is known about the position that self-control takes among other personality variables. Thus far, only conscientiousness has been shown to have a (positive) relation to stop and start control (De Boer et al., in press). In the current study, we aim to replicate the relation between stop and start control and conscientiousness and we aim to build up stop and start control's nomological network with the additional personality traits. Generally, we expect that stop control relates to traits that facilitate inhibition (e.g., positive relation with impulse control), and that start control relates to traits that

facilitate initiation of action (e.g., positive relation with action-orientation). Each trait and our expectations regarding their relation to stop and start control are explained below.

Conscientiousness

Conscientiousness is one of the big five personality traits. It refers to being purposeful, determined, disciplined, dutiful, reliable, orderly, punctual and responsible (Costa & McCrae, 1992; McCrae & Costa, 1987). Self-regulation can be viewed as a part (lower-order facet) of conscientiousness. We may thus expect a positive relation between self-regulation and conscientiousness. To show that stop and start control can be useful as constructs separate from conscientiousness De Boer et al. (in press) included conscientiousness in a pilot study and found that both stop ($r=.35, p<.01$) and start control ($r=.51, p<.01$) were positively correlated with conscientiousness. Based on the size of these correlations they concluded that although stop and start control are related to conscientiousness, they are sufficiently distinct to justify separate investigations. We like to follow up on these results, using a different scale for conscientiousness. Similar to De Boer et al. (in press) we expect a positive relation of both stop and start control and conscientiousness, based on the assumption that both components of self-control are facets of conscientiousness.

Hypothesis 2: Stop (2a) and start (2b) control relate positively to conscientiousness.

Action State Orientation

Action-state orientation captures individual differences in the ability to initiate and maintain intentions (Kuhl, 1994). People with a strong action orientation are able to devote their cognitive resources to the task at hand. They are characterized by enhanced performance efficiency under demanding circumstances (Koole, Jostmann, & Bauman, 2012). People with a weak action orientation, also referred to as state orientation, tend to have persistent, ruminative thoughts about alternative goals or affective states which reduce the cognitive resources needed

for goal striving (Kuhl, 1994). Because action oriented people can easily initiate their intentions, we expected that individuals who are more action oriented will score higher on start control than people who are less action oriented. We expect that individuals who are less action (more state) orientated will score low on start control, since to the contrary of action oriented individuals, they have difficulty acting out goal directed behavior.

Hypothesis 3: Start control relates positively to action-orientation.

Generally, action-state orientation addresses initiating and not inhibiting behavior, so we would not expect a relation between orientation and stop control. We could argue however that state oriented individuals are more hesitant than action orientated individuals and thus would have more stop control. Since, we do not have a strong conviction we chose to look at this relation exploratorily.

Trait-Procrastination

Procrastination is defined as unplanned voluntary delay of an intended behavior (Steel, 2007). Although procrastination has contextual influences, some people generally procrastinate more than others and therefore it has often been operationalized as a relatively stable personality trait (Van Hooft, 2010; Steel, 2007; Tice, Bratslavsky, Baumeister, 2001). In general, a lack of motivation increases the likelihood to procrastinate tasks. However, strong self-regulatory abilities reduce the effect of a lack of motivation on procrastination (Van Hooft, 2010). It is unknown whether this is mainly caused by stop control, start control or both. As procrastination per definition is not doing intended behavior and start control facilitates initiation of intended behavior, we expect a negative relation between start control and trait-procrastination.

Hypothesis 4a: Start control relates negatively to trait-procrastination.

In addition, procrastination often involves doing unintended behavior that has less priority. In order to stop procrastinating, someone has to stop the activity currently taking up their attention;

stop control will help them do so. Therefore, we also expect a negative relation between stop control and trait-procrastination.

Hypothesis 4b: Stop control relates negatively to trait-procrastination.

Impulse Control

Carver and White (1994) theorized there are two dimensions of personality which guide behavior: anxiety (anxiety proneness) and impulsivity. These two qualities of personality represent individual differences in the sensitivity to two neurological systems in their responses to relevant environmental cues. One system regulates aversive motivation, the behavioral inhibition system (BIS); the other regulates appetitive motivation, the behavioral activation system (BAS). The BIS is sensitive to signals of punishment, nonreward, and novelty. It is responsible for experiencing feelings such as fear, frustration and sadness in response to these cues and it inhibits behavior that may lead to negative or painful *outcomes* (Carver & White, 1994). People who score high on BIS are anxious and hesitant. Considering the above, we expect that people who score high on BIS are better at suppressing attractive behavior which has a negative outcome than people who score low on BIS.

Hypothesis 5a: Stop control relates positively to the behavioral inhibition system.

From this same angle we expect that someone who scores high on BIS will be better at initiating unattractive behavior which has a positive outcome. BIS activation seems to put focus on the outcome of behavior. We expect that the fear of a negative outcome may motivate people to initiate behavior that is beneficial in the long run.

Hypothesis 5b: Start control relates positively to the behavioral inhibition system.

The BAS is sensitive to signals of reward, nonpunishment, and escape from punishment. BAS is responsible for the experience of positive feelings such as hope, elation, and happiness. People who score high on BAS are active and impulsive (Carver & White, 1994). We therefore expect

that people who score high on BAS will be less inclined to suppress attractive behavior which has negative outcomes than people who score low on BAS.

Hypothesis 5c: Stop control relates negatively to the behavioral activation system.

There are three dimensions of BAS: fun seeking, reward responsiveness and drive. These three dimensions all describe a different type of behavioral activation. The drive dimension is measured with four items. Each of these items describes actively engaging in goal directed behavior (e.g., When I want something, I usually go all-out to get it). We expect people with high BAS drive scores to find it easier to initiate unattractive behavior with a valued outcome than people with lower BAS drive scores.

Hypothesis 5d: Start control relates positively to the drive dimension of behavioral activation system.

Stop and start control at the workplace

The second goal of this study is to investigate the usefulness of stop and start constructs in the workplace. We do so in two ways. First, we test whether stop and start control are related to how we behave and feel in the workplace. Second, we test whether stop and start control are better at predicting how we behave and feel in the workplace than a commonly used standard self-regulation scale (SCS, Tangney et al., 2004).

Predictive Validity

To see if the effects of stop and start control can be generalized to the work domain we look at the relation of stop and start control with various work relevant outcome variables. We expect that stop control is differently related to various behaviors and feelings at the workplace compared to start control. In general, we expect that stop control relates to behavior and feelings that require inhibition (e.g., emotional suppression) and that start control relates to behaviors and feelings that require initiation (e.g., making an effort to learn new things at work).

We included three behaviors (i.e., organizational citizenship behavior, counterproductive work behavior, job crafting) and two emotion regulation strategies (i.e., expressive suppression and cognitive reappraisal) that people may engage in at the workplace for which self-regulation is useful, and we included general affect. We believe these variables are especially relevant in the light of self-regulation since they address behavior that is not predetermined by job description, but that does influence how someone functions in the workplace. Furthermore, how people feel and/or cope with emotion is an important aspect of professional functioning (for a review see Brief & Weiss, 2002) and may sometimes require inhibition and sometimes initiation (Gross & John, 2003). The five variables and our expectations regarding their relation to stop and start control are explained below.

Organizational Citizenship Behavior

Organizational citizenship behavior (OCB) is a general term for all sorts of individual contributions in the workplace that go beyond role requirements and contractually rewarded job achievements, and that are beneficial to the organization (Organ & Ryan, 1995). The items for example concern voluntary aiding your colleagues or working extra hours for the sake of the company. Since OCB generally involves getting things done that are not in itself very attractive, but that do have a positive outcome, we expect a positive relation between start control and OCB. The results of De Boer et al. (in press) are in line with these expectations.

Hypothesis 6: Start control relates positively to organizational citizenship behavior.

Counterproductive Work Behavior

Counterproductive work behavior (CWB) is an umbrella term for a set of distinct acts that share the characteristics that they are volitional (as opposed to accidental or mandated) and harm or intend to harm organizations and/or organizational stakeholders, such as clients, coworkers, customers and supervisors (Spector & Fox, 2005). This involves all sorts of behavior from

spreading destructive rumors about the company to working purposefully slowly. The most frequently displayed behaviors can be classified as withdrawal and mild abuse (Spector, 2006). Previous research has shown that self-regulation in general relates negatively to general counterproductive behavior (Marcus & Schuler, 2004). De Boer et al. (in press) found that counterproductive behavior relates negatively to both stop and start control. In the current study we aim to specify the relationship of stop and start control with counterproductive behavior, by looking at the separate withdrawal and abuse dimensions (Spector, 2006). The withdrawal dimension involves not fulfilling job requirements (e.g., arriving at work late, not finishing a task). We expect that someone with a low level start of start control will have more difficulty with arriving at work on time and finishing a task, than someone with a high level of start control, because hurrying (to finish a task) may be unattractive, but it has a positive outcome.

Hypothesis 7a: Start control relates negatively to withdrawal behavior

The abuse dimension concerns behaving in a rude manner toward others. We expect that people who have a low level of stop control may behave in rude manner more frequently than people with a high level of stop control, because it may feel good to react impulsively, notwithstanding its possible negative outcome.

Hypothesis 7b: Stop control relates negatively to mild abusive behavior.

Job Crafting

Job crafting refers to self-initiated changes that employees make in their own job demands and job resources to attain and/or optimize their personal work goals and align their jobs with their own preferences, motives and passion (Wrzesniewski & Dutton, 2001). Tims, Bakker and Derks (2012) developed a job crafting scale which consist of four dimensions. The first dimension ,increasing structural job resources, concerns behavior which involves seeking the opportunity for development and autonomy. The second dimension, increasing social job resources, involves asking for feedback, social support and coaching. The third dimension,

increasing challenging job demands, involves making the job more challenging. The fourth and last dimension, decreasing hindering job demands, involves *actively* avoiding tough mental and emotional demands. These dimensions have in common that they require a) active engagement in behavior that is not required for the job, and b) effortful changing of one's job environment, that in the long run has a beneficial outcome for personal and professional development. Because job crafting requires initiative (Tims et al., 2012), and start control is positively related to initiative (De Boer et al., in press) we believe that employees with high levels of start control will job craft more than employees with low levels of start control. In other words, we expect a positive relation between start control and all four dimensions of job crafting. Since the fourth dimension, lowering task demands, involves taking up fewer tasks, the positive relation between start control and this dimension may seem counterintuitive. However, items which measure this dimension start with "I manage", "I try", "I organize" or "I make sure" (e.g., I make sure that my work is mentally less intense). So, although the outcome of the behavior that is addressed in this dimension is less work, the behavior itself describes effortful restructuring of task demands. Therefore, we believe that even though the result of the behavior is engaging less, job crafting to engage less, requires start control.

Hypothesis 8: Start control relates positively to all four dimensions of job crafting: increasing structural (8a) and social resources (8b) and task demands (8c) and decreasing task demands (8d).

Affect Regulation

Self-regulation enables people to control and regulate their behavior, impulses, emotions, desires and cognitions (Karoly, 1993; Vohs & Baumeister, 2004). Thus far our outcome variables only addressed behavior. However, an important part of human functioning is to keep emotions in line with personal goals. Especially in the workplace, there are norms considering emotional display. Much research has been done about emotions in the workplace (Ashkanasy,

Hartel, & Daus, 2002; Barsade & Gibson, 2007; Gibson & Callister, 2010, Van Kleef, in press).

Working effectively involves effective affect regulation. Therefore, we consider affect regulation as a job relevant variable.

Gross and John (2003) developed a scale that measures two ways of emotion regulation: cognitive reappraisal and expressive suppression. These two forms of regulation can be differentiated along the timeline of the unfolding emotional response (Gross, 2001). Cognitive reappraisal is considered *antecedent focused* which means it takes place before the emotion response tendencies have become fully activated and have changed our behavior and peripheral physiological responding (Gross & John, 2003). It is a form of cognitive change that involves construing a potentially emotion-eliciting situation in a way that changes its emotional impact (Lazarus & Alfert, 1964). For example, someone could reduce nervousness by viewing a job interview as an opportunity to find out if the job is suited for the person instead of viewing it as a test of one's worth. By cognitively reinterpreting a situation as less threatening the nerves stay down. Another way of cognitive reappraisal is positive framing which involves interpreting a situation as an opportunity rather than threat (Ashford & Black, 1996). It may take cognitive effort to reappraise emotional cues in a less disturbing and more positive way, but it has a more positive feeling as an outcome. Since start control facilitates initiating behavior that is unattractive but that has a positive outcome, we expect that start control will help to cognitively reappraise emotionally loaded situations. Therefore, we expect that someone who has a high level of start control will indicate more successful use of emotional reappraisal than someone who has low level of start control.

Hypothesis 9a: Start control relates positively to cognitive reappraisal and positive framing.

Expressive suppression is *response-focused*. It takes place once an emotion is already underway, after the response tendencies have already been generated. It is a form of response modulation that involves inhibiting ongoing emotion-expressive behavior (Gross, 1998). Staying polite to a

customer who is making you angry is a good example of expressive suppression. Even though you feel the urge to express an emotion (e.g., anger) you inhibit its expression, this requires inhibitory strength. Therefore, we expect that someone who has strong stop control will indicate a more successful use of emotional suppression than someone who has weak stop control.

Hypothesis 9b: Stop control relates positively to expressive suppression.

General Affect

Affect influences critical organizational outcomes such as job performance, decision making, creativity, turnover, pro-social behavior, teamwork, negotiation, and leadership (Barsade & Gibson, 2007). Affect also influences self-regulatory ability (Tice, Bratslavsky, & Baumeister, 2001). When we feel bad, our self-regulatory abilities decrease. This likely also works the other way around, self-control also influences how we feel. Failing at stop control is more visible than succeeding in stop control. If someone constantly fails in inhibiting attractive behavior with bad outcomes this may result in negative general affect. Succeeding in start control is more visible than failing in start control. If someone succeeds at initiating unattractive behavior with positive outcomes this may lead to a more happy and satisfied feelings. De Boer et al. (2011) tested this in a student sample using a cross-sectional design and indeed found that start control related positively to positive affect, while stop control related negatively to negative affect. Due to the cross-sectional design we cannot interpret the direction of the relationship between affect and stop and start control. In the current study we use a two wave correlational design in which the measurement of stop and start control precedes the measurement of affect with a week. With this design we can be more confident about the direction of the relationship. We expect to replicate the results of De Boer and colleagues (2011) in our sample of employees.

Hypothesis 10: Start control relates positively to positive affect (10a) and stop control relates negatively to negative affect (10b).

The relation between stop and start control and how people behave and feel in the workplace is important. However it does not tell us whether or when the stop and start questionnaire is of added predictive value to the already existing self-regulation questionnaire. Therefore, we compared the predictive value of stop and start control with that of general self-regulation.

Stop and Start Control Compared to General Self-Regulation

We tested whether the separate stop and start control constructs are better predictors of how people behave and feel in the workplace than a standard general self-control measure. If so, this would allow us to make more specific predictions about behavior. An often used measure of general self-control is the brief Self Control Scale by Tangney et al. (2004). The Self Control Scale measures self-control without distinguishing between stop and start control. It consists of stop and start control items and items which are a combination of both constructs (e.g., ‘*I am lazy*’), without explicitly distinguishing between the two constructs. When behavior is mainly influenced by one of the two self-controls (i.e., unattractive behavior with a positive outcome or attractive behavior with a negative outcome), a scale which is designed to specifically measure one of the two, will explain more variance than a general measurement. Therefore, we expect that the stop and start control scale predicts whether people show certain work behavior that generally requires initiative (e.g., voluntarily helping colleagues) or inhibition (e.g., expressive suppression) better than the Self Control Scale.

Hypothesis 11: The stop and start control scale predicts whether people show behavior that generally requires initiative or inhibition better than the Self Control Scale.

Attractiveness and Desirability

The last goal of the current study is to explicitly test attractiveness and value hereby elaborating the stop and start theory itself. The attractiveness of specific behaviors and how much value is attributed to their outcome varies between behaviors and across individuals. A

behavior is attractive if a person experiences an immediate impulse for displaying it and/or when the behavior is intrinsically enjoyable. Examples of behaviors that are considered attractive by many people are eating sweets, chatting with friends, watching videos or playing (video) games, surfing online, staying in bed or working on an exciting task. The outcome of a behavior is valued by individuals when it helps them to achieve their goals, and is unvalued when it interferes with these goals. Goals exist at many levels of abstraction (Carver, 2004). They form a hierarchy in which the more abstract goals are attained (e.g., being a good person) by attaining the concrete goals that define them. At the lowest order goals are translated in concrete behaviors (e.g., helping an old lady cross the street) that serve the goal (Vallacher & Wegner, 1987). Because goals exist in a hierarchy the value that is attributed to a behavior's outcome may depend on external factors like job requirements and expectations of others. For example, it could be part of someone's job description to reach a certain sales target. The target may in itself not be an important goal to the employee, but meeting the job requirements is. This way, the value of the company influences the behavior of the employee.

The positive relation between attractiveness and whether someone performs behavior and between value and whether someone performs behavior is described by various goal and motivation theories. The Expectancy Theory (e.g., VIE; Vroom, 1964) for example proposes that individuals choose behavior with the greatest amount of motivational force. Motivational force is defined as a product of expectancy and value. Expectancy is the expected likelihood that a person's efforts will result in the desired performance. Value depends on the extent to which a person values a given outcome or reward. As value increases the motivational force increases which increases the likelihood that the behavior is executed.

The Self Determination Theory (Deci & Ryan, 1987) emphasizes the importance of interests and curiosity towards behavior for motivation. When behavior is attractive and valued people are intrinsically motivated and act without need for self-regulation (Deci & Ryan, 1987; Sansone & Thoman, 2005). When behavior is unattractive and unvalued, people are amotivated,

there is neither a need nor motivation to act so there is no need for self-regulation (Deci & Ryan, 1987). Self-regulation is only relevant when the attractiveness of behavior and the value attributed to its outcome are incongruent (Sansone & Thoman, 2005).

In their theorizing on self-control De Boer et al. (2011) state that inhibiting attractive unvalued behavior, requires stop control and initiating unattractive valued behavior requires start control (De Boer et al., 2011). As can be seen in the schematic overview in Figure 1, attractiveness and value determine what type of self-regulation is relevant.

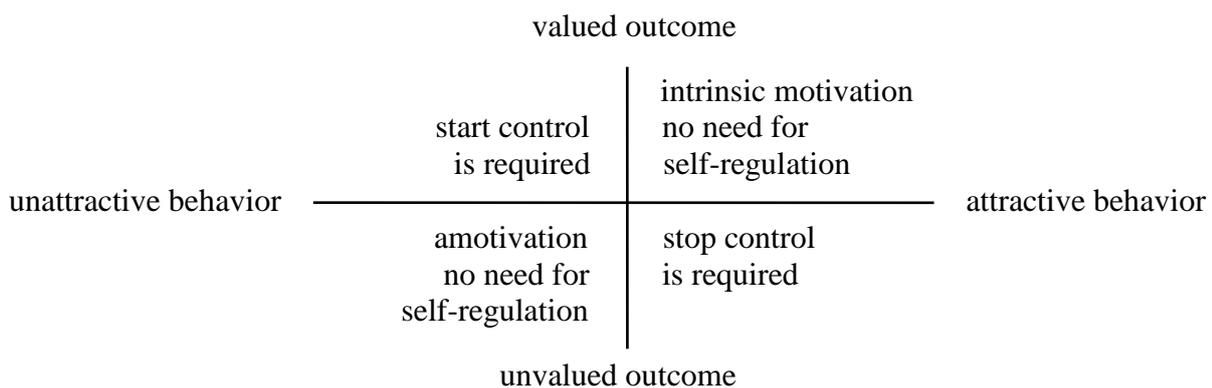


Figure 1. Schematic overview of expectations regarding the need of self-regulation for behavior varying in attractiveness and value of the outcome.

Self-regulation is assumed to determine how strongly attractiveness and value influence whether someone displays a certain kind of behavior. Presumably, the more stop control someone possesses, the better someone is at resisting attractive behavior that is unvalued. The more start control someone possesses, the better someone is at starting unattractive behavior that is valued. In line with the above assumption, we theorize that stop and start control moderate the relationship between attractiveness and value of certain behaviors (e.g., helping colleagues, problem-solving, reflection), and whether people display these work behaviors (see Figure 2). In other words, we expect that attractiveness and value influence the presence of behavior differently for people high or low in stop or start control. Specifically, the higher someone's stop

control, the less attractive unvalued behavior someone shows. The higher someone's start control, the more unattractive valued behavior someone shows.

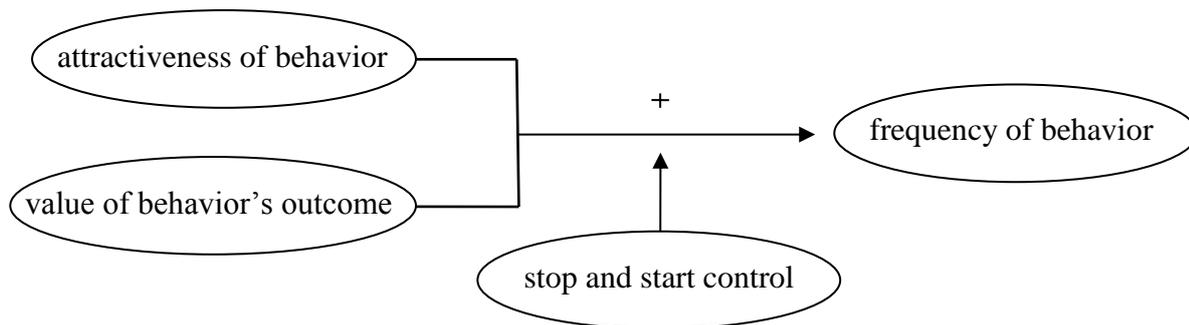


Figure 2. Schematic overview of the moderating role of stop and start control on the relation between attractiveness and value and the frequency of behavior (e.g., helping colleagues, problem-solving, reflection).

These expectations are captured by a three-way interaction for both types of self-regulation (stop control x attractiveness x value and start control x attractiveness x value) predicting the frequency with which behavior is conducted.

Hypothesis 12: stop and start control moderate the relationship between attractiveness and value, and the frequency with which people perform certain work behavior.

Stop control should by definition only relate to the frequency of behavior that is attractive but has an unvalued outcome. Start control should only relate to the frequency of behavior that is unattractive but has a valued outcome. This is reflected in four sub hypotheses that further specify the main hypothesis.

Hypothesis 12a: Given that the outcome of behavior is unvalued, the higher someone's stop control, the weaker the relationship between attractiveness and frequency of behavior.

For example, smoking is generally considered unvalued. Therefore, if someone considers smoking unattractive he or she will probably not smoke. If smoking is considered attractive, people with high stop control will smoke less than people with low stop control (see Figure 3).

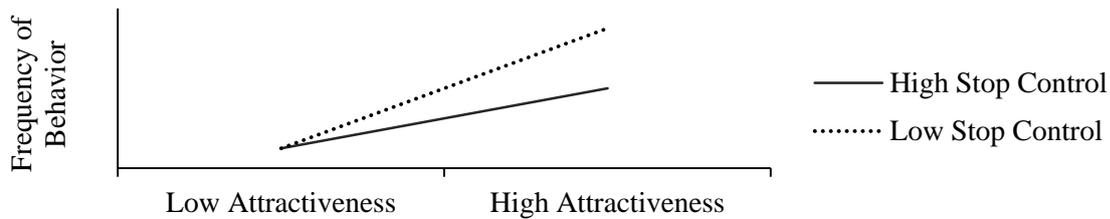


Figure 3. Hypothesized relation between attractiveness and whether someone performs behavior for varying levels of stop control, given that the outcome of behavior is unvalued (Hypothesis 12a).

Hypothesis 12b: Given that the outcome of behavior is valued, the higher someone's start control, the weaker attractiveness influences whether someone performs behavior.

For example, studying is generally valued. If someone considers studying valued and attractive there is no need for self-regulation, someone will likely study. If studying is considered unattractive, people with high start control will study more than people with low start control (see Figure 4).

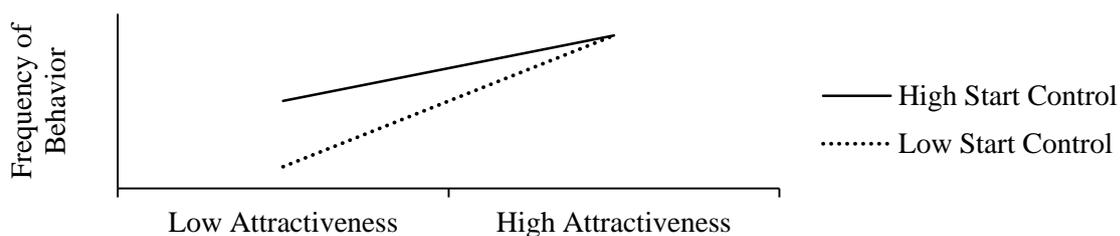


Figure 4. Hypothesized relation between attractiveness and whether someone performs behavior for varying levels of start control, given that the outcome of behavior is valued (Hypothesis 12b).

Hypothesis 12c: Given that behavior is attractive, the higher someone's stop control, the stronger value of the outcome influences whether someone performs behavior.

For example, eating fattening foods is often considered attractive. If someone considers eating fattening foods attractive and valued, there is no need for self-regulation, someone will probably eat fattening foods. If eating fattening foods is considered unvalued, people with high stop control will eat less than people with low stop control (see Figure 5).

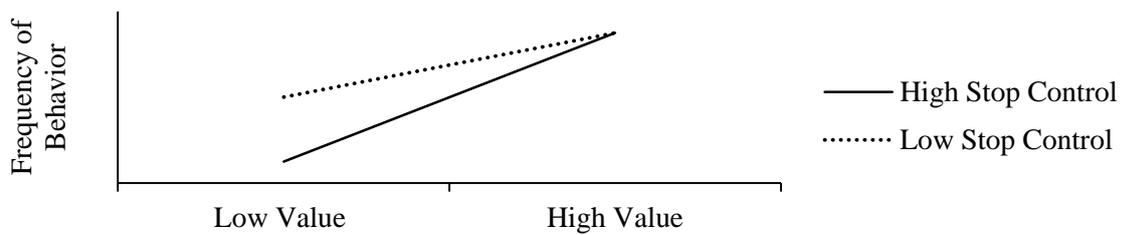


Figure 5. Hypothesized relation between the value of the outcome of behavior and whether someone performs behavior for varying levels of stop control, given that the behavior is considered attractive (Hypothesis 12c).

Hypothesis 12d: Given that behavior is unattractive, the higher someone's start control, the stronger value of the outcome influences whether someone performs behavior.

For example, filling in tax forms is often considered unattractive. If someone considers it unvalued there is no need for self-regulation, someone will simply not fill in tax forms. If however filling in tax forms is considered valued, people with high start control are more likely to fill in their tax forms than people with low start control (see Figure 6).

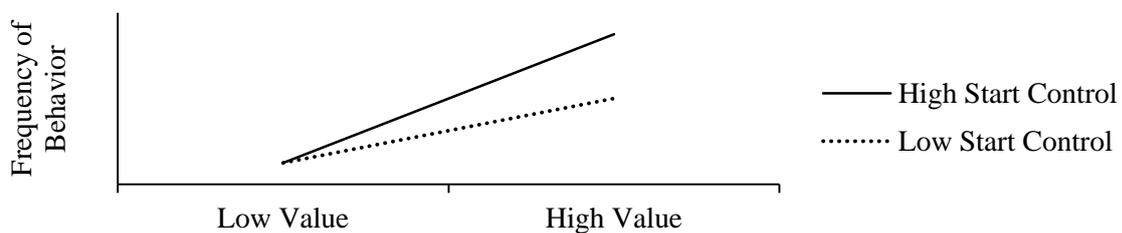


Figure 6. Hypothesized relation between the value of the outcome of behavior and whether someone performs behavior for varying levels of stop control, given that the behavior is considered unattractive (Hypothesis 12d).

Method

Participants and design

Participants varying in age, gender, educational level and profession who currently work a minimum of 16 hours a week were recruited via the researcher's social network in the months February and April of 2014. People received an e-mail with the request to participate in a study "on motivation and (counter)productive work behavior" and to send the invitation to colleagues that would be interested. In return for participating in the study, participants could win cinema tickets and receive an overview of the results of the study and/or tips to work more efficiently.

A total of 346 people subscribed to participate. The study was conducted in two parts. At the end of the data collection period, 318 of the 346 people who subscribed to participate filled in at least the first scale of the first questionnaire. Since we need at least the stop and start control questionnaire to answer our hypothesis we excluded the cases, which did not at least include a finished stop and start control scale. Of the 318 participants that did finish this the scale, 308 finished the whole first questionnaire, 301 of them started the second questionnaire and 291 finished the second questionnaire. Participant's responses to the first and second questionnaire were matched using their e-mail address. After matching the two data files the names and e-mail addresses were replaced by participant number.

A non-response analyses, consisting of various t-tests comparing responses of participants who did and participants who did not finish both questionnaires, indicated there were no differences in the age, years of work experience, hours of work each week and in mean scores on all independent variables that were measured in the first questionnaire (including stop and start control), except for procrastination. People who finished both questionnaires scored higher on procrastination ($M = 2.63$, $SD = 0.72$) than people who did not finish both questionnaires ($M = 2.32$, $SD = 0.51$), $t(311) = -2.57$, $p = .017$. In other words, people who procrastinated more were more likely to also finish the second questionnaire. Perhaps this can be explained by considering finishing the questionnaire as a form of procrastination from work. Since all the other variables

did not differ in the response and nonresponse group, we do not believe nonresponse is a threat to the validity of our results.

The sample consisted of somewhat more women (58%) than men, 2 participants preferred to not fill in their gender. The average age of the participants was 49 years ($SD = 11.62$), with a minimum of 22 years, a maximum of 72 years. Participants worked an average of 37 hours a week ($SD = 9.48$), with a minimum of 18 and maximum of 72. They had an average of 15 years of experience with the type of work they were conducting at the moment of participating in the study ($SD = 9.83$). Most participants (77%) had a permanent contract, 12% had a temporary contract and 9% was working independently. The majority of the participants (97%) had a paid job, a small portion (the remaining 3%) had either a unpaid job or (un)paid internship where they worked at least 16 hours a week. The majority of the participants (97.5%) had the Dutch nationality, the other nationalities were Dutch-British, Dutch-Surinamese, Dutch-Moroccan and Belgian. The sample was relatively highly educated with 40% university, 44% higher vocational education and 10% lower vocational education. Participants were mostly employed in education (60%) and health care (13%) and consultancy (6%) and 16% had a managerial position.

We used a two-wave correlational design. We assessed the expected predictors of behavior (i.e., self-control, attractiveness of behavior and value attributed to behaviors outcome) at the first measurement time, Time 1. Along with the predictors we measured various personality traits which are related to self-control (i.e., trait-procrastination, action-state orientation, conscientiousness and impulse control). A week later, at Time 2, we assessed the outcome variables (i.e., the presence of behavior, job crafting, organizational citizenship behavior, counterproductive work behavior, general affect and emotion regulation). The temporal distance between the two measurements functions to counteract common-methods bias (Podsakoff, Mackenzie, Lee, Podsakoff, & Zedeck, 2003). This design furthermore enables our participants to provide us with more precise estimations of the variables related to the behaviors (within one week) than when we would ask them about behavior in general.

Materials

Independent variables

Stop and start control were measured using the questionnaires constructed and validated by De Boer et al. (2011, Study 2), which consists of 9 stop control and 8 start control items. All items have a 7-point Likert response format ranging from 1 (*totally disagree*) to 7 (*totally agree*). Participants were asked to respond to items that involve a self-regulation conflict. Stop control items describe (not) refraining from or engaging in attractive behavior with negative outcomes (e.g., 'It is easy for me to quit something when I know it is not good for me'). Start control items describe (not) initiating unattractive behavior with positive outcomes (e.g., 'Even if I don't feel like it, I will get the things done that have to be done'). Items were coded in such a way that a high score indicates high self-control. We measured the internal consistency of the items with Cronbach's alpha and we judged the reliability of scales based on the COTAN test quality rating (COTAN, 2010): inadequate: $\alpha < .70$, sufficient: $.70 \leq \alpha < .80$, good: $\alpha \geq .80$. Based on these criteria, the reliability of the original scales is satisfactory for both stop (.70) and start control (.75), which is similar to previous research (De Boer et al., 2011, in press). With the aim to increase the reliability we wrote three additional items for each scale. We based the new items on the definitions of stop and start control and the existing items. Each item involves a self-regulation conflict. Inclusion of these items to the scales resulted in an increase of the reliability to .76 for stop and .78 for start control. We used the extended scales to test our hypotheses. We also tested the model fit. Since the model fit is one of our research questions, we reported its results in the result section.

General self-control was measured using the 13-item brief self-control scale (SCS; Tangney et al., 2004) translated in Dutch by Finkenauer, Frijns and Baumeister (2005). This scale is commonly used to assess self-control. The items have a 7-point Likert response format ranging from 1 (*totally disagree*) to 7 (*totally agree*). Participants were asked to indicate their agreement to statements like: 'I am lazy' or 'People tell me I have very strong self-discipline'.

Items were coded in such a way that a high score indicated high self-control. Cronbach's alpha is .77, indicating sufficient reliability.

Attractiveness and desirability. The work-related behaviors we used are based on a qualitative pilot, asking participants to indicate which behaviors require their initiatory and inhibitory self-control. Data for this pilot were intentionally collected from employed people with varying age, gender, educational level and profession, since we also recruited people with these characteristics for the main study. We collected data from 23 participants who together indicated over 150 behaviors. We categorized these behaviors based on frequency. We used the 16 behaviors which were mentioned most often and formulated these in a more general way, such that they are applicable to various professions (e.g., solving a complicated problem, taking a break from work, using internet for personal purpose during work hours). We assume that these behaviors vary between individuals in attractiveness and in value. The attractiveness of these behaviors and the value people attribute to the outcome of these behaviors is measured by having participants indicate on a 9-point scale how immediately (un)attractive (' aantrekkelijk') the behavior will be to them in the upcoming week and how (un)valued (' wenselijk/belangrijk') the outcome of the behavior is. Before indicating the attractiveness and desirability participants read short descriptions of the concepts.

Personality traits

Trait procrastination was measured using eight items formulated by Van Hooft, Born, Taris, van der Flier and Blonk (2005), based on Lay's (1986) General Procrastination Scale. The items have a 5-point Likert response format ranging from 1 (*totally incorrect*) to 5 (*totally correct*). Participants were asked to indicate whether the statements described them correctly. Some items are positively (e.g., "I usually finish my work well before the deadline") and some are negatively keyed (e.g., "I even start important things at the last moment"). Items were coded

such that high scores reflect high levels of trait-procrastination. Cronbach's alpha is .80 indicating good reliability.

Action-state orientation was measured using 24 items of the Action Control Scale (ACS-90, Kuhl, 1994a) translated in Dutch by Otten, Boekaerts and Seegers (1994) and adjusted by Diefendorff, Hall, Lord and Streans (2000). Participants were asked to choose one of two options that best described their response to a situation. For example: 'When I know something has to be finished soon' (A) It takes me a lot of effort to get started; (B) I finish the job rather quickly. Here option A indicates a state oriented response and option B indicates an action oriented response. The responses were coded in such a way, that a high score on the scale indicates action orientation and a low score indicates a state orientation. Cronbach's alpha of the 24 items is .74, indicating sufficient reliability.

Conscientiousness was measured with twenty items from the subscale conscientiousness of the Five Factor Personality Inventory (FFPI; Hendriks, Hofstee, & De Raad, 1999). All items have a 5-point Likert response format ranging from 1 (*much less often than others*) to 5 (*much more often than others*) and half of the items are positively keyed (e.g. "I do things according to a plan") and half are negatively keyed ("I make a mess of things"). Items are coded such that high scores reflect high levels of conscientiousness. The FFPI factors have been found reliable, stable, and of good construct validity (Hendriks, Hofstee, & De raad, 1999). Cronbach's alpha is .86 indicating good reliability.

Impulse control was measured using the BIS-BAS questionnaire of Carver and White (1994), translated by Franken, Muris, & Rassin (2005). It consists of 20 items with a Likert response format ranging from 1 (*totally disagree*) to 7 (*totally agree*). The questionnaire consists of four dimensions: One 7-item Behavioral Inhibition System (BIS) dimension (e.g., 'I worry about making mistakes.') with a good reliability of Cronbach's alpha .86 and three Behavioral Activation System (BAS) dimensions; the 5-item Reward Responsiveness (e.g., 'When I'm doing at something, I love to keep at it. '), the 4-item Drive (e.g., 'When I want something, I

usually go all-out to get it.’) and 4-item Fun Seeking (e.g., ‘I will often do things for no other reason than that they might be fun’). The BAS dimension (.80) as a whole had good reliability. The sub dimensions Reward Responsiveness (.74) and Drive (.78) also had sufficient reliability. Fun Seeking (.60) had inadequate reliability. These reliabilities are fairly similar to those found by Carver and White (1994). In their study, the reliability of BIS was somewhat lower (.74) and the reliability of Fun Seeking was somewhat higher (.66) than in our study.

Workplace relevant outcome variables

Presence of behavior was measured at Time 2 with the questions: How often did you engage in each behavior? Participants indicated their answer on a 7-point scale ranging from 1 (*not at all*) to 7 (*constantly*).

Organizational citizenship behavior (OCB) was measured using a nine-item questionnaire of Smith, Organ and Near (1983) recommended by Kelloway et al. (2002) with a 5-point Likert response format ranging from 1 (*totally does not characterize me*) to 5 (*totally characterizes me*). Individuals had to indicate to what extent they identified with statements like ‘helping a colleague to finish tasks when he or she has been sick’ or ‘Making innovative suggestions to improve the overall quality of the department’. The scale had an inadequate reliability (.65). It should be kept in mind though, that OCB is an umbrella term of various behaviors. Behavior checklists are best considered causal indicator scales in which items are not interchangeable indicators of an underlying construct (Edwards & Bagozzi, 2000). Therefore, the relatively low internal consistency of the items is to be expected and of no threat to the validity of our findings.

Counterproductive work behavior was measured using the four-item withdrawal scale and nine items of the abuse scale of the CWB-Checklist classified by Spector et al. (2006). We asked participants to indicate how often they averagely engaged in various withdrawal (e.g., arriving at work later than desirable or allowed) and abusive behaviors (e.g., blaming someone else for something you did wrong). Participants could choose from nine options starting with 1 (*never*) to

9 (*daily*). The reliability of both dimensions was sufficient, .70 for withdrawal and .73 for the abuse items.

Job crafting was measured using the four dimensions of the 21-item Dutch job crafting scale developed and validated by Tims et al. (2012). Participants are asked to indicate on a 5-point Likert response format ranging from 1 (*never*) to 5 (*very often*) how often they engage in various job crafting behavior. Dimension 1, increasing structural job resources, includes five items which involve seeking the opportunity for development and autonomy (e.g., 'I try to develop myself professionally'). Dimension 2, increasing social job resources, includes five items which involve asking for feedback, social support and coaching (e.g., 'I ask my supervisor to coach me'). Dimension 3, increasing challenging job demands, includes five items which involve making the job more challenging (e.g., 'when there is not much to do at work, I see it as a chance to start a new project'). Dimension 4, decreasing hindering job demands, includes six items which involve avoiding tough mental en emotional demands (e.g., 'I make sure that my work is mentally less intense'). The dimensions have sufficient reliability, .78, .70, .73 and .77 respectively.

Emotion regulation was assessed with the 10-item Emotion Regulation Questionnaire by Gross and John (2003), translated in Dutch by Koole (2004). This questionnaire assesses two types of emotion regulation strategies: Cognitive reappraisal and expressive suppression. In addition we included three items that measure positive framing (e.g., 'tried to see your situation as an opportunity rather than a threat') from Ashford and Black's (1996) relationship building scale. Participants indicated on a 7-point Likert response format ranging from 1 (*totally disagree*) to 7 (*totally agree*) to what extent they agreed with statements regarding their emotion regulation strategies. Reliability of cognitive reappraisal (.88) and positive framing (.80) is good and sufficient for expressive suppression (.76).

General affect was assessed using the Positive and Negative Affect Schedule (PANAS). The PANAS is a 20-item self-report measure of positive and negative affect developed by

Watson, Clark, and Tellegen (1988b) and further validated by Crawford and Henry (2004). The scale consists of ten words indicating positive affect (PA; strong, alert, proud, inspired) and ten words indicating negative affect (NA; nervous, guilty, hostile, scared). We asked participants to indicate on a 5-point Likert response format ranging from 1 (*never*) to 5 (*almost constantly*) how often they had felt these emotions in the last week. Both scales have good reliability, for Positive Affect .88 and for Negative Affect .85.

Procedure

Participants received an e-mail with a personal link to the Time 1 questionnaire. The link directed them to a page where they were given information on the content of the study and their rights as a participant. Participants were encouraged to finish the questionnaires within one week after starting the questionnaire and they were informed that they would receive a link to the Time 2 questionnaire a week after finishing the Time 1 questionnaire. After reading this page the participant had the opportunity to provide informed consent. After their consent participants were directed to the questionnaires. First, we assessed participants' self-regulation abilities with the stop and start control questionnaire and with the standard trait self-control scale. Then we assessed how attractive and valued participants perceived several behaviors and their outcomes in the upcoming week. Subsequently, we assessed various personality traits (i.e., trait-procrastination, action-state orientation, conscientiousness and impulse control). After this, we asked participants to fill in some demographical information and to provide information about their employment. Participants who had not started or finished the Time 1 questionnaire after three days or after six days after receiving the link, received a reminder. If participants had not finished the Time 1 questionnaire a week after they started it, their data were saved but they could not continue. Participants who had not started the questionnaire a week after receiving the link received a third and last reminder. A week, consisting of at least five workdays, after finishing in the Time 1 questionnaire, participants received a second e-mail with a personal link

to the Time 2 questionnaire. Participants were asked to indicate how often they displayed the behaviors they were asked about a week earlier. In addition, we measured general affect, organizational citizenship behavior, job crafting, emotion regulation (including positive framing) and counterproductive work behavior, as outcome variables. Again, participants had one week to fill in the Time 2 questionnaire, they were reminded of this in similar manner as the Time 1 questionnaire. After filling in all questions participants were thanked. They could indicate whether they liked to win cinema tickets and whether they would like to receive an overview of the results of the study and/or tips to work more efficiently.

Discussion

The current study has taken a next step in stop and start control research. Our results support the validity of a stop and start control distinction within self-control and show that stop and start control theory can be generalized to the work domain. They contribute to current knowledge by constructing stop and start control's nomological network with other personality traits, providing convergent and divergent validity for stop and start control. In addition, the current study provides new insights about how stop and start control interplay with attractiveness attributed to behavior and value attributed to its outcome to predict the frequency with which people engage in behavior.

Primary findings and implications

The current study had three main aims. The results can be divided into three primary findings that follow from our aims: Construct validity, generalizability to the work domain and the interplay of attractiveness, value and stop and start control.

Construct validity

First, this study aimed to test stop and start control's construct validity. Our results provide support in two ways by replicating the findings of De Boer et al. (2011) that a two factor model

fitted better than a one factor model and by showing that stop and start control related differently to various personality traits. We also only found a weak to moderate relationship between stop and start control, which further underlines their distinct nature. If stop and start control were merely different words for the same construct one would expect an almost perfect correlation. Our results further indicate that both stop and start control have a positive relation with general self-control. Which is to be expected, considering stop and start control make up general self-control.

Relating stop and start control to personality traits allowed us to construct a nomological network which gives insight into how stop and start control are placed among conceptually related and unrelated constructs. This contributes to a more complete and nuanced picture of how self-regulatory ability relates to other personality structures. Thus far, only the personality trait conscientiousness had been related to stop and start control (De Boer et al., in press). The current study related three other personality traits to stop and start control enabling an assessment of the convergent and divergent validity of the constructs which supported a differential validity of the construct. As expected, stop control related to traits that concern inhibition of behavior (e.g., negatively to BAS activation or impulsivity) and start control related to traits that concern initiation of behavior (e.g., positively to action orientation). Some personality traits were related to both stop and start control, given stronger to one than to the other (i.e., conscientiousness and trait-procrastination).

Action orientation related positively to start control, while its relation with stop control was not significant. This was in line with our expectations since both start control and action orientation address the initiation of behavior, while stop control does not (Kuhl, 1994). These results support the divergent and convergent validity of stop and start control. As did the relation of stop and start control with impulse control.

BIS activation related negatively to start control, while its relation with stop control was not significant. BAS activation related negative to stop control, while its relation with start

control was not significant. These results are not entirely in line with our expectations. We expected BIS activation would encourage people to initiate behavior with a valued outcome despite its unattractiveness to avoid unwanted outcomes and would thus relate positively to start control. The results indicate the opposite. Possibly people who are sensitive to cues of punishment and non-reward are discouraged to initiate unattractive behavior with a valued outcome.

Considering studying as a typical example of unattractive behavior with a valued outcome, research on achievement goals shows a similar pattern. Avoiding an unwanted outcome is a performance avoidance goal. In general, adopting performance avoidance goal is related to fear of failure, disorganization, suboptimal study behavior and relatively low grades in a student sample (Elliot & McGregor, 2001). These results suggest that students who were motivated to avoid an unwanted outcome were less able to initiate unattractive behavior with a valued outcome, as if BIS activation works paralyzing rather than encouraging.

The negative relationship between stop control and behavioral activation system (BAS) activation was expected. It indicates that people who are sensitive to cues of reward and non-punishment find it harder to inhibit attractive behavior that has negative outcomes. In other words, someone with low stop control is more impulsive than someone with high stop control. These results contribute to the convergent validity of stop control.

Conscientiousness related positively to both stop and start control. Exploratory analyses further indicated that stop control related more strongly to conscientiousness than start control. This suggests that the various tendencies (e.g., being disciplined, dutiful, orderly and responsible; Costa & McCrae, 1992), which compose conscientiousness resemble or rely more strongly on stop control than on start control. Although, since the results are merely correlational, it could also be the other way around. Perhaps being more orderly and dutiful makes it easier to inhibit attractive behavior, which has a negative outcome, than to initiate unattractive behavior with a positive outcome. We have to be cautious to interpret the results

though, as the various tendencies that conscientiousness consists of may be dependent on the scale that is used. In another scale the balance between tendencies that relate to stop and start control may be different. Nonetheless, the results are in line with the assumption that both components of self-control are facets of conscientiousness.

Trait-procrastination related negatively to both stop and start control. Exploratory analyses further indicated that start control related more strongly to trait-procrastination than stop control. These results clarify in what way self-regulation reduces procrastination. It seems that to reduce procrastinating behavior, someone mostly needs start control to initiate intended behavior and to a lesser extent needs stop control to stop any activity that distracts from the intended behavior.

Together these results further our understanding of how self-control relates to other personality traits enabling us to construct a nomological network, which supports the convergent and divergent validity of the stop and start control constructs. This increases our confidence in the validity of the self-control distinction and contributes theoretically as it also specifies the relation of general self-control with the other personality traits.

Generalizability to the work domain

The second aim of this study was to test the generalizability of stop and start control theory to the work domain. Our results support this generalizability by showing that stop and start control differently predict how employees behave and feel/cope with feelings at the workplace. In addition, our results point out that stop and start control improved predictions over the commonly used (general) self-control scale (Tangney et al., 2004). In general, using stop and start control to predict work behavior led to more precise predictions.

Predictive validity

Organizational citizen behavior. Start control positively correlated with OCB. This was anticipated since OCB generally involves behavior that in itself is not attractive, but has a

beneficial outcome. The correlation was rather weak ($r = .13$) and given our conservative p-value the relation was only marginally significant. This means we did not replicate the results of De Boer et al. (in press) who found a correlation of .40 using the same OCB measure. Perhaps this can be explained by a difference in characteristics of the samples. Our sample was recruited dependent on the generosity of people to spend time in our study. It could be argued that our sample is therefore generally more willing to help others, which may have influenced the OCB scores. Indeed, the mean OCB score in our sample ($M = 4.75$, $SD = 0.51$) was higher than in De Boer and colleague's (in press) sample, which was not recruited based on generosity ($M = 3.75$, $SD = 0.50$). Perhaps the OCB of the people in our sample comes more natural than in the sample of De Boer (in press) and therefore does not require start control. As explained, start control is only applicable if behavior is considered unattractive, but has a valued outcome. If OCB is simply considered less unattractive by our generous sample this explains why the correlation with start control was somewhat low.

Counterproductive work behavior. To specify the relationship of stop and start control with CWB we looked separately at the most commonly displayed CWB dimensions concerning withdrawal and mildly abusive behavior (Spector, 2006). We expected that these dimensions would relate differently to stop and start control. Although our specific hypotheses were not entirely supported, our results did indicate that the two dimensions related differently to stop and start control.

Stop and start control are both equally negatively related to withdrawal behavior. The negative relation with start control we did expect, since having difficulty initiating unattractive behaviors which has positive outcome would likely result in withdrawal behavior like being late for work or not finishing a task. Our results indicate that having difficulty inhibiting attractive behavior with an unwanted outcome also predicts withdrawal behavior. In retrospect, it is not so surprising that stop control too relates negative to withdrawal behavior. Stop control is aimed at inhibiting attractive, but unvalued behavior, and withdrawal behavior fits the profile (e.g.,

leaving work early on a sunny day before finishing your tasks). It is possible that the same logic applies to withdrawal behavior as to procrastination: stop control is needed to stop behavior that distracts from the task at hand. For example, in case of withdrawal behavior, a lack of stop control may cause that people chat for too long with coworkers to finish their tasks.

Stop control related negatively to the abuse dimension. This relation was weak ($r = .16$) and marginally significant given our conservative level of alpha, but in the expected direction. Abusive behavior involves being inconsiderate towards other people's feeling (e.g., being rude to a client, insulting someone about their job performance, starting an argument with someone at work). These types of behaviors may stem from an inability to suppress frustration towards others. Indeed, our results show a positive relation between expressive suppression and stop control, suggesting that people with a low level of stop control have more difficulty suppressing emotional display. This may explain why someone with a high level of stop control may be better able to inhibit acting rude when frustrated than someone with a low level of stop control.

Job crafting. We did not find the expected positive relation between start control and the job crafting dimensions. There are several possible explanations for the absence of a positive relation. Job crafting involves actively engaging in behavior aimed at optimizing the work environment to meet personal goals. Having a high level of start control may not lead to engaging in job crafting behavior because having start control does not determine the type of goals someone has and the way in which someone wants to attain his or her goals.

The first and third dimension, increasing structural resources and increasing challenging task demands involve taking additional training to optimize capacities and taking on extra tasks to make the work more challenging. Start control is aimed at being able to easily initiate unattractive behavior with a valued outcome. This means that start control would only relate positively to these dimensions if someone considered additional training or challenging extra tasks as unattractive but did value their outcome. However, it is more likely that people who volunteer to go on an additional training or take on challenging tasks are intrinsically motivated

to do so. This means they would not need self-regulation. It is also possible that people in the sectors from we sampled are in a field that does not have so many opportunities of promotion, which would make the outcome less desirable.

The second dimension of job crafting is increasing social resources, which involves asking for feedback, social support and coaching. Again, only when asking for help is considered unattractive but valued will start control influence the behavior. Whether someone is interested in coaching is not dependent on whether someone has start control or not. Arguably people with a high start control are less likely to be overburdened and would thus need less help. The negative relation between start control and increasing social resources, the third dimension of job crafting, supports this line of thought, but is not significant. The negative relationship between start control and decreasing job demands is another indicator of the relation between start control and the amount of task demands that can be handled. Someone with low start control may not be able to finish his or her assigned tasks, which would motivate them to lower the task demands.

In our theorizing we focused on the fact that job crafting required actively engaging in behavior. Active engagement in behavior however only requires start control when it is considered both unattractive and valuable. Our results indicate that job crafting does not meet these requirements.

Affect regulation. Start control related positively to both cognitive reappraisal and positive framing. This means that people who are good at initiating unattractive behavior with a positive outcome are also good at reinterpreting the emotional loading of a situation in order to feel better. We should be cautious at drawing causal conclusions from our data. However, we can imagine that having the ability to mentally turn a negative situation into a positive one, will help people to get motivated for unattractive tasks which have a valuable outcome. This is in line with research showing that cognitive reappraisal helped students to increase focus, enthusiasm, and performance whilst being tempted to get distracted (Leroy, Grégoire, Magen, Gross, & Mikolajczak, 2012). Stop control related positively to expressive suppression, suggesting that

someone who is good at inhibiting attractive behavior, which has a negative outcome is also good at suppressing the expression of felt emotions. Although this relationship was in the expected direction it was not significant. We used the ERQ to assess emotional suppression. This questionnaire measures what people generally tend to do, not what they are good at (e.g., “I control my emotions by suppression them”). It is possible that the relationship between stop control and emotional suppression would have been stronger if the questions would measure ability instead of general tendency.

General affect. Start control related positively to positive affect. This can be explained by the visibility of successful and unsuccessful start control. Successful start control is more visible than start control failure. Someone who is good at start control may thus be more aware of his or her successes and therefore feel better than someone with low start control. Likewise, stop control failure is more visible than stop control success, since stop control failure means someone performs certain ‘bad’ behavior and stop control success means someone does not. Indeed, stop control related negatively to negative affect, but not significantly. Negative affect had a rather low mean with a relatively large standard deviation compared to the mean ($M=1.60$, $SD=0.42$). Perhaps this made it more difficult to find a p-value below our conservative standard. Our results imply that altering the visibility of success would alter the relationship between stop and start control affect. There is no positive relation between stop control and positive affect. If someone has set a goal, which requires stop control (e.g., stop smoking) it may help to make successful stop control more visible (e.g., marking each day you did not light a cigarette). This is especially important because there is also a relationship between how people feel and how well they regulate (Tice, Bratslavsky, & Baumeister, 2001). When people are emotionally distressed they tend to self-regulate worse.

General self-control versus stop and start control

To test the usefulness of the stop and start control constructs in the work domain, we tested whether stop and start control are better predictors of how people behave and feel/cope with feelings at work than general self-control. Our results indicate that for most behaviors and affect regulation strategies (with the exception CWB abuse and increasing social resources) adding stop and start control to a model that already contains general self-control increased the explained variance. For some outcome variables the predictive value of the general self-control was completely explained by the stop and/or start control construct(s). The overall impression based on the regression analyses of these outcome variables is that generally stop and start control predict how people behave and feel/cope with feelings at work more precisely than general self-control. In other words, our results endorse the usefulness of the stop and start control constructs in the workplace. Using stop and start control to assess people's self-regulatory ability paints a more complete picture of someone's capabilities. The practical implications that follow from these results are discussed in practical applicability section later in the discussion.

Interplay of attractiveness, value and stop and start control

The third aim of this study was to learn more about how stop and start control relate to attractiveness attributed to behavior and value attributed to the outcome of behavior and the frequency with which people engage in behavior. Our data support the theorized main effects of value, attractiveness and their interaction effect on frequency. This means that regardless of self-control the higher the attractiveness of behavior or the higher the value attributed to it, the more someone performs the behavior. This is in line with what is suggested by motivational theories like the Expectancy Theory (e.g., VIE; Vroom, 1964) which emphasizes motivational power of the value attributed to the outcomes of behavior, the Herzberg's Motivation-Hygiene Theory (Herzberg, 1968) which emphasizes satisfaction with 'the work itself' as one of the main

motivators of employees or the Self Determination Theory (Deci & Ryan, 1987) which emphasizes the importance of interest and curiosity towards behavior for motivation. Our results thus confirm the basis from which we build up our theoretical framework.

Exploratory analyses furthermore indicated that there was also a main effect of stop and start control on the frequency of behavior. These main effects were negative, meaning that the higher people's level of stop and start control the lower the frequency with which they performed behavior. These effects were not expected, since we used sixteen different behaviors on which stop or start control should have different effects depending on the attractiveness and value attributed to it. For example: "behaving friendly to someone at work who is rude to you" might be shown more frequently by someone with self-control while "using the internet for non-work-related purposes" might be shown less frequently by someone with self-control. In theory, which type of control relates to the frequency of behavior should be dependent on the attractiveness and value attributed to (the outcome of) behavior, but our results suggest there is also a direct relationship with frequency of behavior and stop and start control. The negative relation with stop-control implies that in general, the sixteen behaviors do not have a valued outcome. If so, a higher start control would not lead to a higher frequency of behavior. The negative relation between start control and frequency of behavior may then arise from a preference of people with a high level of start control for behavior with a valued outcome over behavior with a less valued outcome. We can only speculate on the cause of these relations. Experimental research in which the attractiveness of behavior and the value of its outcome can be held constant or manipulated will further our understanding of the interplay of these variables with stop and start control.

Our exploratory analyses also indicated a cross-level interaction between stop control and value. These results imply that value becomes more important for the frequency with which people display behavior when they have a high level of stop control. As expected, the difference between people with a high and low level of stop control was only apparent when behavior resulted in an unvalued outcome. We did not find any interaction with attractiveness.

We did not find the expected three way interactions between stop or start and attractiveness and value. If we rely on our data and method we should reconsider our theory. The stop and start theory proposes that people with a high level of start control find behavior just as (un)attractive as other people but are better able at ignoring the attractiveness of behavior. Perhaps we need to reconsider this assumption. Start control related positive to positive framing and cognitive reappraisal. These are two characteristics that enable people to (re)assess a particular situation in a more positive way. When behavior has a valued outcome and is attractive there is no need for self-regulation. If people with a high level of start control indeed “make” their duties more attractive we would not find a three way interaction between start control x attractiveness x value. There would be a main effect of start control on the attractiveness of behavior which has a valuable outcome. This proposed relationship is confirmed by our exploratory analyses.

Exploratory analyses indicate that when the value attributed to the outcome of behavior is positive, there is a positive relationship between start control and attractiveness of behavior and between start control and the (positive) value attributed to the outcome of behavior. There are no such relationships for stop control when the value attributed to the outcome of behavior is positive. However when the value attributed to the outcome of behavior is negative, there is negative relationship between stop control and attractiveness of behavior and between start control and the value attributed to the outcome of behavior.

Although confirmatory research is needed to retest these relationships in another sample, we will already speculate that these relationships may be one of the causes we did not find the expected three way interaction. We proposed that the relation between the value attributed to the outcome of behavior and the frequency of behavior would be influenced by stop and start control. Contrary to our line of thinking, the data suggest that instead of a moderation effect stop and start control have an indirect effect on the frequency behavior via the attractiveness attributed to the behavior and the value of its outcome.

This implies that people with a high level of start control (compared to someone with a low level of start control) are better able to engage in behavior that is generally unattractive but has a positive outcome because the behavior is considered more attractive and the outcome more valuable. Similarly, people with a high level of stop control (compared to people with a low level of stop control) are better able to refrain from behavior that is generally attractive but has a negative outcome because the behavior is considered less attractive.

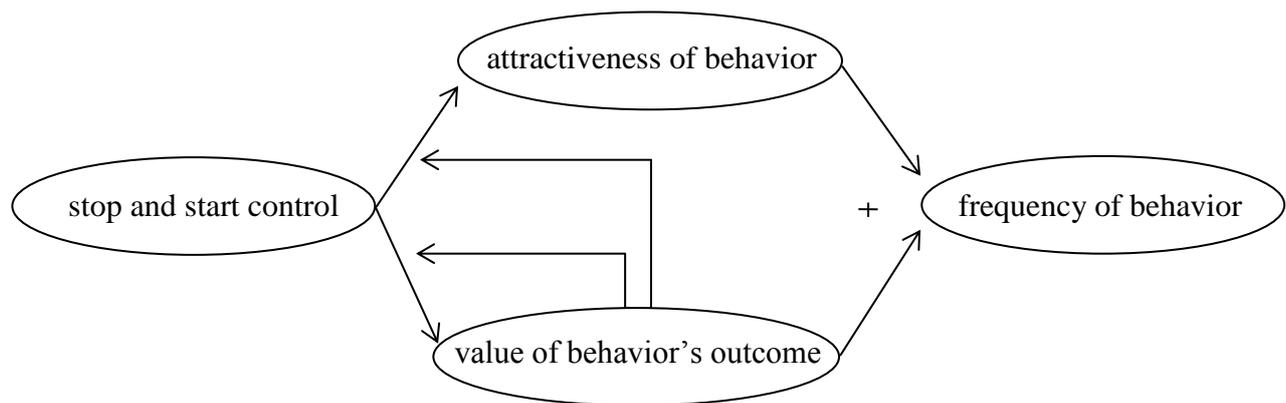


Figure 8. Schematic overview of the indirect relation of stop and start control with the frequency of behavior through attractiveness of the behavior and value of its outcome moderated by (the valance of) the value attributed to the outcome of behavior.

The theoretical implications of these results is that we may have to reconsider our theory. We should consider revising the model in which stop and start control have a moderating effect on the relationship between attractiveness of behavior and frequency of behavior and between value attributed to the outcome of behavior and frequency of behavior (Figure 2) to a model in which stop and start control have an indirect effect on the frequency of behavior through the attractiveness of behavior and the value attributed to its outcome. In this model (Figure 8) the relation between stop and start control and attractiveness of behavior and value attributed to its outcome will depend on the valance of the value attributed to the outcome.

Contributions and practical applicability

The above findings give us new insight in to the workings of self-regulation. Our results contribute on both theoretical and practical level. In the following section we will sum up contributions and discuss their practical applicability.

Theoretical contribution

The current study represents a theoretical contribution to the stop and start control literature in several ways. In general, we may be more confident about the distinct nature of the stop and start control constructs. This is supported by the two-factor stop and start control model fit, the weak to moderate correlation between the construct, the nomological network and the differential predictive validity of the constructs.

Thus far, only the personality trait conscientiousness had been related to stop and start control (De Boer et al., in press). Although many different constructs can be included in the self-control domain (Will et al. 2008), relatively little is known about the position that self-control takes among other personality variables. The current study related three other personality traits to stop and start control enabling an assessment of the convergent and divergent validity of the constructs which supported a differential validity of the construct. The current study furthermore provided support for the predictive validity of stop and start control in the workplace showing that stop and start control are useful constructs to predict how people behave and feel at work.

Another contribution of the current study to the field of self-regulation is that it explicitly tested rather than assumed how attractive and valuable behavior is to people. This enables us to investigate the way people's opinions about behavior and its outcome interplay with stop and start control. The results showed the main and interaction effects of value and attractiveness on frequency of behavior. Many theories describe this positive relation between attractiveness and value and likelihood with which behavior is performed. Our study provides the connecting

empirical results. Our exploratory analyses furthermore provide an interesting starting point for a theoretical expansion of stop and start theory.

Practical applicability

The practical implication that follows from the predictive validity of stop and start control in the workplace is that assessment/recruiting agencies may, in time, benefit from the implementation of stop and start control in applied settings. When assessing people's strengths and weaknesses in a job interview or assessment, one should consider also assessing stop and start control. Learning more about people's self-regulatory strengths may help hiring the right people for a certain job and to set the right work environment for them. In theory, someone with a low level of stop control may for example benefit more from a work environment which offers relatively little opportunity to engage in attractive behavior with a negative outcome than someone with a high level of stop control. Likewise, someone with a low level of start control may be less suited for a job that requires relatively much unattractive behavior with a positive outcome than someone with a high level of start control. The best scenario would be if someone could work in an environment in which behavior is considered attractive and its outcome valuable. Then no self-regulation would be needed at all (Deci & Ryan, 1987; Sansone & Thoman, 2005).

Since we may not always have the opportunity to choose our work environment, we may encounter situations in which what we like to do and what we think we should do are not the same. The current study suggests that the attractiveness we attribute to behavior and the value we attribute to its outcome relate positively to the frequency with which we show behavior. Strong stop and start control might help us to behave like we think we should, towards the attainment of valued outcomes, by directly influencing the attractiveness of behavior. Although this needs to be further investigated it would imply that perhaps, people with low levels of stop and start control could compensate for their lack of self-control by using attentional and

cognitive strategies to influence the attractiveness of behavior. The positive relation between start control and positive framing suggests that people who are able to cognitively reconstruct a negative situation in a positive one are better able to do unattractive tasks which have a valuable outcome. This may be a strategy which can help people engage and endure in behavior that will help them reach their goals. Literature on delayed gratification shows that attentional and cognitive strategies can also be helpful to suppress immediately attractive behavior to reach a more desired goal in the future (Mischel, Ebbesen, Raskoff Zeiss, 1972). If someone has a low level of stop control perhaps focusing away from the attractive stimulus is one strategy to show less generally attractive behavior with an undesirable outcome. An even saver strategy would be to avoid being tempted at all. An important class of cognitive-behavioral interventions helping with stimulus control, is the regulation of behavior by anticipatory stimulus selection (Kanfer & Gaelick, 1986), like avoiding food in order to reduce the temptation to eat (Schachter, 1968).

Limitations and future research

To put the contributions of the current study into perspective and be aware of boundaries on the conclusions that can be drawn from our data collection, we will point out some limitations of this study with suggestions for future research.

We did not find the expected three-way interactions between stop or start control, attractiveness of behavior, value of its outcome and the frequency of behavior. There are three possible explanations for this: Either our theory is incorrect, we did not test it properly or we lacked the statistical power to find the expected results. We have speculated on the possibility of an alternative theory earlier in the discussion. However, it is also possible that the material we used was not sensitive enough to capture the expected effect. The quality of our data relies on people's ability to properly fill in the attractiveness, value or frequency of the behavior.

Although the behaviors we used were carefully selected, the terms were well explained and the temporal distance between behaving and reporting on the behavior is relatively short, we did not

pretest the behaviors in the intended format. Therefore, we have no way of knowing whether participants properly understood what was asked of them. In addition, all variables were based on self-report, which is associated with various methodological issues (e.g., social desirability, consistency motif, and common method bias; Podsakoff & Organ, 1986). We aimed to control for common method bias by using a two wave correlational design (Podsakoff et al., 2003) but future research should use more objective measurements of behavior to further counteract confounding influences. For example, by using other reports, measuring actual behavior or by decreasing the temporal distance between behavior and measurement even more with a diary study.

In addition to measurement issues, it is possible that our study lacked the statistical power to find the expected effects. Multilevel designs render traditional methods of estimating statistical power inapplicable, given the complex non-independence of lower level observations. This is particularly problematic when studying cross-level interactions, as there is no way of assessing the power of your tests (Snijders & Bosker, 1999). Aguinis and Stone-Romero (1997) argue that it is not uncommon in field studies that two-way interactions are falsely rejected due to lack of power (e.g., due to range restriction). This problem will only be stronger when testing a three-way interaction. Experimental research could account for this problem. By manipulating the attractiveness of behavior and/or the value or its outcome, a full range could be obtained on these variables rendering less participants and more power.

We did have the statistical power to find relations of stop and start control with various work related outcome variables (e.g., OCB, CWB, job crafting). However, we must be cautious with generalizing these results. The relation of stop and start control with behavior presumably depends on people's evaluation of the behaviors and their outcome. Therefore, the relationships may be different for employees working in different companies. Depending on people's personal preferences for behavior and the values that are attributed to it in certain work environments, people will strive for different behavior and use stop and start control to initiate or

refrain from different behavior. As noted, our sample characteristics (i.e., sample was recruited based on generosity) may be one of the reasons we could not replicate the positive relation between OCB and start control found by De Boer (in press).

More research on the relation between stop and start control, work environment and work performance is needed to support the practical applicability of stop and start control. Since one may not always have the flexibility to shape the work environments to match the employee's regulatory strengths, it will furthermore be helpful to learn more about the possibility to improve these strengths. Self-regulation has been compared to a muscle that can be both exhausted and trained (Muraven & Baumeister, 2000). Indeed various tasks/trainings have proven to be beneficial to someone's regulatory strength. For example, practicing mindfulness (Masicampo & Baumeister, 2007) or using the non-dominant hand for tasks usually executed by the dominant hand (e.g., tooth brushing, dining; Gailliot, Plant, Butz & Baumeister, 2007) improved people's performance on self-regulatory tasks in domains unrelated to the training tasks. To our knowledge no research has investigated the relationship between training and stop or start control specifically. Future research could focus on which of the two types of control benefits the most from which type of training. This knowledge will be useful when one intends to improve one of the two specifically, but it will also provide insight into the way in which training influences general self-control.

Concluding remark

Self-regulation is essential to the pursuit of long-term and higher order goals as it facilitates both prevention of undesirable behavior and initiation of desirable behavior. Accumulating research supports a distinction in self-regulation between inhibitory and initiatory control. The current study supports this view. Our results contribute to the convergent, divergent and predictive validity of stop and start control and demonstrate the constructs' generalizability in the work domain. As our understanding of self-control grows we may be a step closer at

understanding how we can work productively in the workplace and eventually to knowing how to rule ourselves.

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References

- Aguinis, H., Stone-Romero, E. F. (1997). Methodological artifacts in moderated multiple regression and their effects on statistical power. *Journal of Applied Psychology, 82*, 192-206.
- Ashkanasy, N. M., Hartel, C. E. J., & Daus, C. S. (2002). Diversity and emotion: The new frontiers in organizational behavior research. *Journal of Management, 28*, 307-338.
- Barsade, S. G. & Gibson, D. E. (2007). Why does affect matter in organizations? *Academy of Management Perspectives, 21*, 36-59.
- Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology, 74*, 1252-1265.
- Baumeister, R. F., Vohs, K. D., & Tice, D. M. (2007). The strength model of self-control. *Current Direction in Psychological Science, 6*, 351- 355.
- Brief, A. P., & Weiss, H. M. (2002). Organizational behavior: Affect in the workplace. *Annual Review of Management, 53*, 279-307.
- Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: The BIS/BAS scales. *Journal of Personality and Social Psychology, 67*, 319-333.
- Carver, C.S. (2004). Self-regulation of action and affect. In R.F. Baumeister, & K.D. Vohs (Eds.), *Handbook of self-regulation: Research, theory, and applications* (pp. 13-39). New York, NY: The Guilford Press.
- Coe, R. (2002, September). It's the effect size, stupid: what "effect size" is and why it is important. Paper presented at the 2002 Annual Conference of the British Educational Research Association, Exeter, England. Paper retrieved from <http://www.leeds.ac.uk/educol/documents/00002182.htm>.
- Cohen, J. (1992). "A power primer". *Psychological Bulletin, 112*, 155-159.

COTAN (2010). COTAN beoordelingssysteem voor de kwaliteit van tests. Amsterdam: NIP.

Crawford, J. R., & Henry, J. D. (2004). The positive and negative affect schedule (PANAS):

Construct validity, measurement properties and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, *43*, 245-265.

De Boer, B. J., Van Hooft, E. A. J., & Bakker, A. B. (2011). Stop and start control: A distinction within self-control. *European Journal of Personality*, *25*, 349-362.

De Boer, B. J., Van Hooft, E. A. J., & Bakker, A. B. (in press). Self-control at work: Its relationship with contextual performance. *Journal of Managerial Psychology*.

De Ridder, T. D., De Boer, B. J., Lugtig, Bakker, A. B., & Van Hooft, E. A. J. (2011). Not doing bad things is not the equivalent to doing the right thing: Distinguishing between inhibitory and initiatory self-control. *Personality and Individual Differences*, *50*, 1006-1011.

Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology*, *53*, 1024-1037.

DeWall, C. N., Baumeister, R. F., Stillman, T. F., & Gailliot, M. T. (2007). Violence restrained: Effects of self-regulation and its depletion on aggression. *Journal of Experimental Social Psychology*, *43*, 62-76.

Diefendorff, J. M., Hall, R. J., Lord, R. G., & Streat, M. L. (2000). Action–state orientation: Construct validity of a revised measure and its relationship to work-related variables. *Journal of Applied Psychology*, *85*, 250-263.

Duckworth, A. L., & Seligman, M. E. P. (2005). Self-discipline outdoes IQ in predicting academic performance in adolescents. *Psychological Science*, *16*, 939-944.

Edwards, J. R., & Bagozzi, R. P. (2000). On the nature and distinction of relationships between constructs and measures. *Psychological Methods*, *5*, 155-174.

Elliot, A. J., & McGregor, H. A. (2001). A 2 × 2 achievement goal framework. *Journal of Personality and Social Psychology*, *80*, 501-519.

Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). London: SAGE Publications Ltd.

- Finkel, E. J., & Campbell, W. K. (2001). Self-control and accommodation in close relationships: An interdependence analysis. *Journal of Personality and Social Psychology, 81*, 263-277.
- Franken, I. H. A., Muris, P., & Rassin, E. (2005). Psychometric properties of the Dutch BIS/BAS scales. *Journal of Psychopathology and Behavioral Assessment, 27*(1), DOI: 10.1007/s10862-005-3262-2.
- Gailliot, M. T., Baumeister, R. F., DeWall, C. N., Maner, J. K., Plant, E. A., Tice, D. M., & Schmeichel, B. J. (2007). Self-control relies on glucose as a limited energy source: Willpower is more than a metaphor. *Journal of Personality and Social Psychology, 92*, 325-336.
- Gailliot, M. T., Plant, E. A., Butz, D. A., & Baumeister, R. F. (2007). Increasing self-regulatory strength can reduce the depleting effect of suppressing stereotypes. *Personality and Social Psychology Bulletin, 33*, 281-294.
- Gibson, D. E., & Callister, R. R. (2010). Anger in organizations: Review and integration. *Journal of Management, 36*, 66-93.
- Goldberg, L. R. (1999). A broad-bandwidth, public-domain, personality inventory measuring the lower-level facets of several five-factor models. In I. Mervielde, I. Deary, F. De Fruyt, & F. Ostendorf (Eds.), *Personality Psychology in Europe* (pp. 7-28). Tilburg: Tilburg University Press.
- Gross, J. J. (1998). Antecedent- and response-focused emotion regulation: Divergent consequences for experience, expression, and physiology. *Journal of Personality and Social Psychology, 74*, 224-237.
- Gross, J. J. (2001). Emotion regulation in adulthood: Timing is everything. *Current Directions in Psychological Science, 10*, 214-219.
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology, 85*, 348-362.

- Herzberg, F. (1968). "One More Time: How Do You Motivate Employees?". *Harvard Business Review*, 46, 53-62.
- Hirschi, T. (2004). Self-control and crime. In K.D. Vohs, & R. F. Baumeister (Eds.), *Handbook of self-regulation: Research, theory and applications* (pp. 537-552). New York, NY: Guilford Press.
- Hu, L. & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6, 1-55.
- Karoly, P. (1993). Mechanisms of self-regulation: A systems view. *Annual Review of Psychology*, 44, 23-52.
- Kelloway, E. K., Louglin, C., Barling, J., & Nault, A. (2002). Self-reported counterproductive behavior and organizational citizenship behaviors: separate but related contrasts. *International Journal of Selection and Assessment*, 10, 143-151.
- Koole, S. L. (2004). Volitional shielding of the self: Effects of action orientation and external demands on implicit self-evaluation. *Social Cognition*, 22, 117-146.
- Koole, S. L., Jostmann, N. B., & Baumann, N. (2012). Do demanding conditions help or hurt self-regulation? *Personality and Social Psychology Compass*, 6, 328-346.
- Kuhl, J. (1994). Action versus state orientation: Psychometric properties of the action control scale (ACS-90). In J. Kuhl & J. Beckmann (Eds.), *Volition and personality: Action versus state orientation* (pp. 47-59). Göttingen: Hogrefe.
- Lay, C. H. (1986). At last, my research article on procrastination. *Journal of Research in Personality*, 20, 474-495.
- Lazarus, R. S., & Alfert, E. (1964). Short-circuiting of threat by experimentally altering cognitive appraisal. *Journal of Abnormal and Social Psychology*, 69, 195-205.

- Leroy, V., Grégoire, J., Magen, E., Gross, J. J., & Mikolajczak, M. (2012). Resisting the sirens of temptation while studying: Using reappraisal to increase focus, enthusiasm, and performance. *Learning and Individual Differences, 22*, 263-268.
- Masicampo, E. J., & Baumeister, R. F. (2007). Relating mindfulness and self-regulatory processes. *Psychological Inquiry, 18*, 255-258.
- Muraven, M., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychological Bulletin, 126*, 247-259.
- Organ, D. W., & Ryan, K. (1995) A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. *Personnel Psychology, 48*, 775-802.
- Otten, R., Boekaerts, M., & Seegers, G. (1994). Handelingscontrolevaardigheden in het onderwijs. *Tijdschrift voor onderwijsresearch, 19*, 343-355.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-Reports in organizational research: Problems and prospects. *Journal of Management, 12*, 531-544.
- Podsakoff, P. M., Mackenzie, S. B., Lee, J., Podsakoff, N. P., & Zedeck, S. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879-903.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2nd ed.). Newbury Park: Sage.
- Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling. *Journal of Statistical Software, 48*, 1-36.
- Sansone, C., & Thoman, D. B. (2005). Interest as the missing motivator in self-regulation. *European Psychologist, 10*, 175-186.
- Shoda, Y., Mischel, W., & Peake, P. K. (1990). Predicting adolescent cognitive and self-regulatory competencies from preschool delay of gratification: Identifying diagnostic conditions. *Developmental Psychology, 26*, 978-986.

- Smith, C. A., Organ, D.W., & Near, J. P. (1983). Organizational citizenship behavior: Its nature and antecedents. *Journal of Applied Psychology, 68*, 653-663.
- Snijders, T. A. B., & Bosker, R. J. (1993). Standard errors and sample sizes for two-level research. *Journal of Educational Statistics, 18*, 237-259.
- Spector, P. E., & Fox, S. (2005). A model of counterproductive work behavior. In S. Fox & P. E. Spector (Eds.), *Counterproductive workplace behavior: Investigations of actors and targets* (pp. 151-174). Washington, DC: APA.
- Spector, P. E., Fox, S., Penney, L. M., Bruursema, K., Goh, A., & Kessler, S. (2006). The dimensionality of counterproductivity: Are all counterproductive behaviors created equal? *Journal of Vocational Behavior, 68*, 446-460.
- Steel, P. (2007). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin, 133*, 65-94.
- Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality, 72*, 271-322.
- Tice, D. M., Bratslavsky, E., & Baumeister, R. F. (2001). Emotional distress regulation takes precedence over impulse control: If you feel bad, do it! *Journal of Personality and Social Psychology, 80*, 53-67.
- Tims, M., Bakker, A. B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of Vocational Behavior, 80*, 173-186.
- Twisk, J. W. R. (2006). *Applied multilevel analyses: a practical guide*. Cambridge: Cambridge University Press.
- Vallacher, R. R., & Wegner, D. M. (1987). What do people think they're doing? Action identification and human behavior. *Psychological Review, 94*, 3-15.
- Van Hooft, E. A. J. (2010, April). The role of task-related factors in predicting procrastinatory behavior. In E. A. J. van Hooft (Chair), *Why do we put things off? Self-regulation, task-*

- characteristics, and procrastination*, Symposium conducted at the 25th Annual Meeting of the Society of Industrial and Organizational Psychology, Atlanta, GA.
- Van Hooft, E. A. J., Born, M. P., Taris, T. W., Van der Flier, H., & Blonk, R. W. B. (2005). Bridging the gap between intentions and behavior: Implementation intentions, action control, and procrastination. *Journal of Vocational Behavior*, *66*, 238–256.
- Van Kleef, G. A. (in press). Understanding the positive and negative effects of emotional expressions in organizations: EASI does it. *Human Relations*.
- Vohs, K. D., & Baumeister, R. F. (2004). *Handbook of self-regulation: Research, theory, and applications*. New York: Guilford Press.
- Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of Management Review*, *26*, 179-201.