



# Self-Regulation and Conscientiousness

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Self-regulation means changing oneself based on standards, that is, ideas of how one should or should not be. It is a centrally important capacity that contributes to socially desirable behavior, including moral behavior. Effective self-regulation requires knowledge of standards for proper behavior, careful monitoring of one's actions and feelings, and the ability to make desired changes.

## Learning Objectives

- Understand what self-regulation means and how it works.
- Understand the requirements and benefits of effective self-regulation.
- Understand differences in state (ego depletion) and trait (conscientiousness).

## Introduction

**Self-regulation** is the capacity to alter one's responses. It is broadly related to the term "self-control". The term "regulate" means to change something—but not just any change, rather change to bring it into agreement with some idea, such as a rule, a goal, a plan, or a moral principle. To illustrate, when the government regulates how houses are built, that means the government inspects the buildings to check that everything is done "up to code" or according to the rules about good building. In a similar fashion, when you regulate yourself, you watch and change yourself to bring your responses into line with some ideas about how they should

be.



When you find that quiet spot in the library and keep yourself focused on your study tasks for a few hours you're demonstrating self-regulation. Certainly you're controlling your thinking, but you may also be controlling your impulses to do other things. [Image: Clemson University Library, <https://goo.gl/RtZrqu>, CC BY-NC 2.0, <https://goo.gl/VnKlK8>]

People regulate four broad categories of responses. They control their thinking, such as in trying to concentrate or to shut some annoying earworm tune out of their mind. They control their emotions, as in trying to cheer themselves up or to calm down when angry (or to stay angry, if that's helpful). They control their impulses, as in trying not to eat fattening food, trying to hold one's tongue, or trying to quit smoking. Last, they try to control their task performances, such as in pushing themselves to keep working when tired and discouraged, or deciding whether to speed up (to get more done) or slow down (to make sure to get it right).

## Early Work on Delay of Gratification

Research on self-regulation was greatly stimulated by early experiments conducted by Walter Mischel and his colleagues (e.g., Mischel, 1974) on the capacity to delay gratification, which means being able to refuse current temptations and pleasures to work toward future benefits. In a typical study with what later came to be called the "marshmallow test," a 4-year-old child would be seated in a room, and a favorite treat such as a cookie or marshmallow was placed on the table. The experimenter would tell the child, "I have to leave for a few minutes and then I'll be back. You can have this treat any time, but if you can wait until I come back, you can have two of them." Two treats are better than one, but to get the double treat, the child had to wait. Self-regulation was required to resist that urge to gobble down the marshmallow on the table so as to reap the larger reward.

Many situations in life demand similar delays for best results. Going to college to get an education often means living in poverty and debt rather than getting a job to earn money right away. But in the long run, the college degree increases your lifetime income by hundreds of thousands of dollars. Very few nonhuman animals can bring themselves to resist immediate

temptations so as to pursue future rewards, but this trait is an important key to success in human life.

## Benefits of Self-Control

People who are good at self-regulation do better than others in life. Follow-up studies with Mischel's samples found that the children who resisted temptation and delayed gratification effectively grew into adults who were better than others in school and work, more popular with other people, and who were rated as nicer, better people by teachers and others (Mischel, Shoda, & Peake, 1988; Shoda, Mischel, & Peake, 1990). College students with high self-control get better grades, have better close relationships, manage their emotions better, have fewer problems with drugs and alcohol, are less prone to eating disorders, are better adjusted, have higher self-esteem, and get along better with other people, as compared to people with low self-control (Tangney, Baumeister, & Boone, 2004). They are happier and have less stress and conflict (Hofmann, Vohs, Fisher, Luhmann, & Baumeister, 2013). Longitudinal studies have found that children with good self-control go through life with fewer problems, are more successful, are less likely to be arrested or have a child out of wedlock, and enjoy other benefits (Moffitt et al., 2011). Criminologists have concluded that low self-control is a—if not the—key trait for understanding the criminal personality (Gottfredson & Hirschi, 1990; Pratt & Cullen, 2000).



If you have never seen a 4-year-old try to resist eating a marshmallow, you may not realize how difficult (and funny) a task like this is. See the “Outside Resources” of this module for a great video demonstration. [Image: CC0 Public Domain, <https://goo.gl/m25gce>]

Some researchers have searched for evidence that too much self-control can be bad (Tangney et al., 2004)—but without success. There is such a thing as being highly inhibited or clinically “over-controlled,” which can impair initiative and reduce happiness, but that does not appear to be an excess of self-regulation. Rather, it may stem from having been punished excessively as a child and, therefore, adopting a fearful, inhibited approach to life. In general, self-control resembles intelligence in that the more one has, the better off one is, and the benefits are

found through a broad range of life activities.

## Three Ingredients of Effective Self-Regulation

For self-regulation to be effective, three parts or ingredients are involved. The first is standards, which are ideas about how things should (or should not) be. The second is monitoring, which means keeping track of the target behavior that is to be regulated. The third is the capacity to change.

Standards are an indispensable foundation for self-regulation. We already saw that self-regulation means change in relation to some idea; without such guiding ideas, change would largely be random and lacking direction. Standards include goals, laws, moral principles, personal rules, other people's expectations, and social norms. Dieters, for example, typically have a goal in terms of how much weight they wish to lose. They help their self-regulation further by developing standards for how much or how little to eat and what kinds of foods they will eat.

The second ingredient is monitoring. It is hard to regulate something without being aware of it. For example, dieters count their calories. That is, they keep track of how much they eat and how fattening it is. In fact, some evidence suggests that dieters stop keeping track of how much they eat when they break their diet or go on an eating binge, and the failure of monitoring contributes to eating more (Polivy, 1976). Alcohol has been found to impair all sorts of self-regulation, partly because intoxicated persons fail to keep track of their behavior and compare it to their standards.

The combination of standards and monitoring was featured in an influential theory about self-regulation by Carver and Scheier (1981, 1982, 1998). Those researchers started their careers studying self-awareness, which is a key human trait.



With some self-regulation goals (like increasing your distance in preparation for a 10K race), it is easier to monitor your actual progress. With other goals, however, if there isn't a helpful standard to compare oneself to it may be harder to know if you are progressing. [Image: CC0 Public Domain, <https://goo.gl/m25gce>]

The study of self-awareness recognized early on that people do not simply notice themselves the way they might notice a tree or car. Rather, self-awareness always seemed to involve comparing oneself to a standard. For example, when a man looks in a mirror, he does not just think, "Oh, there I am," but more likely thinks, "Is my hair a mess? Do my clothes look good?" Carver and Scheier proposed that the reason for this comparison to standards is that it enables people to regulate themselves, such as by changing things that do not measure up to their standards. In the mirror example, the man might comb his hair to bring it into line with his standards for personal appearance. Good students keep track of their grades, credits, and progress toward their degree and other goals. Athletes keep track of their times, scores, and achievements, as a way to monitor improvement.

The process of monitoring oneself can be compared to how a thermostat operates. The thermostat checks the temperature in the room, compares it to a standard (the setting for desired temperature), and if those do not match, it turns on the heat or air conditioner to change the temperature. It checks again and again, and when the room temperature matches the desired setting, the thermostat turns off the climate control. In the same way, people compare themselves to their personal standards, make changes as needed, and stop working on change once they have met their goals. People feel good not just when they reach their goals but even when they deem they are making good progress (Carver & Scheier, 1990). They feel bad when they are not making sufficient progress.

That brings up the third ingredient, which is the capacity to change oneself. In effective self-regulation, people operate on themselves to bring about these changes. The popular term for this is "willpower," which suggests some kind of energy is expended in the process. Psychologists hesitate to adopt terms associated with folk wisdom, because there are many potential implications. Here, the term is used to refer specifically to some energy that is involved in the capacity to change oneself.

Consistent with the popular notion of willpower, people do seem to expend some energy during self-regulation. Many studies have found that after people exert self-regulation to change some response, they perform worse on the next unrelated task if it too requires self-regulation (Hagger, Wood, Stiff, & Chatzisarantis, 2010). That pattern suggests that some energy such as willpower was used up during the first task, leaving less available for the second task. The term for this state of reduced energy available for self-regulation is ego depletion (Baumeister, Bratslavsky, Muraven, & Tice, 1998). As people go about their daily lives, they have to resist many desires and impulses and must control themselves in other ways, and so over the course of a typical day many people gradually become ego depleted. The result is that they become increasingly likely to give in to impulses and desires that they would have resisted successfully earlier in the day (Hofmann, Vohs, & Baumeister, 2012). During the state



of ego depletion, people become less helpful and more aggressive, prone to overeat, misbehave sexually, express more prejudice, and in other ways do things that they may later regret.



People can get worn down from exercising self-control. And when they do they're more likely to make the kinds of decisions that are not in their own best interests. [Image: Tim Caynes, <https://goo.gl/vaoc3q>, CC BY-NC 2.0, <https://goo.gl/VnKlK8>]

Thus, a person's capacity for self-regulation is not constant, but rather it fluctuates. To be sure, some people are generally better than others at controlling themselves (Tangney et al., 2004). But even someone with excellent self-control may occasionally find that control breaks down under ego depletion. In general, self-regulation can be improved by getting enough sleep and healthy food, and by minimizing other demands on one's willpower.

There is some evidence that regular exercise of self-control can build up one's willpower, like strengthening a muscle (Baumeister & Tierney, 2011; Oaten & Cheng, 2006). Even in early adulthood, one's self-control can be strengthened. Furthermore, research has shown that disadvantaged,

minority children who take part in preschool programs such as Head Start (often based on the Perry program) end up doing better in life even as adults. This was thought for a while to be due to increases in intelligence quotient (IQ), but changes in IQ from such programs are at best temporary. Instead, recent work indicates that improvement in self-control and related traits may be what produce the benefits (Heckman, Pinto, & Savelyev, in press). It's not doing math problems or learning to spell at age 3 that increases subsequent adult success—but rather the benefit comes from having some early practice at planning, getting organized, and following rules.

## Conscientiousness

**Conscientiousness** is a stable dimension of personality, which means that some people are typically higher on it than others. Being a personality trait does not mean that it is unchangeable. Most people do show some changes over time, particularly becoming higher on conscientiousness as they grow older. Some psychologists look specifically at the trait of

self-control, which is understood (and measured) in personality psychology in a very specific, narrowly focused, well-defined sense. Conscientiousness, in contrast, is one of five super-traits that supposedly account for all the other traits, in various combinations. The trait self-control is one big part of conscientiousness, but there are other parts.

Two aspects of conscientiousness that have been well documented are being orderly and being industrious (Roberts, Lejuez, Krueger, Richards, & Hill, 2012). Orderliness includes being clean and neat, making and following plans, and being punctual (which is helpful with following plans!). Low conscientious means the opposite: being disorganized, messy, late, or erratic. Being industrious not only means working hard but also persevering in the face of failures and difficulties, as well as aspiring to excellence. Most of these reflect good self-control.

Conscientious people are careful, disciplined, responsible, and thorough, and they tend to plan and think things through before acting. People who are low in conscientiousness tend to be more impulsive and spontaneous, even reckless. They are easygoing and may often be late or sloppy, partly because they are not strongly focused on future goals for success and not highly concerned to obey all rules and stay on schedule. Psychologists prefer not to make a value judgment about whether it is better to be high or low in any personality trait. But when it comes specifically to self-control, it is difficult to resist the conclusion that high self-control is better, both for the person and for society at large.

Some aspects of conscientiousness have less apparent connection to self-control, however. People high in conscientiousness tend to be decisive. They are often formal, in the sense of following social norms and rules, such as dressing properly, waiting one's turn, or holding doors for others. They tend to respect traditions and traditional values.

Conscientious people behave differently from people who score low on that trait. People scoring low on conscientiousness are more likely than others to report driving without wearing seatbelts, daydreaming, swearing, telling dirty jokes, and picking up hitchhikers (Hirsh, DeYoung, & Peterson, 2009). In terms of more substantial life



One of the most important characteristics of people high in conscientiousness is orderliness. If someone could take a look at your desk or your room right now, how conscientious would they judge you to be? [Image: William Iven, CC0 Public Domain, <https://goo.gl/m25gce>]

outcomes, people low on conscientiousness are more likely than others to get divorced, presumably because they make bad choices and misbehave during the marriage such as by saying hurtful things, getting into arguments and fights, and behaving irresponsibly (Roberts, Jackson, Fayard, Edmonds, & Meints, 2009). People low on conscientiousness are more likely than others to lose their jobs, to become homeless, to do time in prison, to have money problems, and to have drug problems.

Conscientious people make better spouses. They are less likely than others to get divorced, partly because they avoid many behaviors that undermine intimacy, such as abusing their partners, drinking excessively, or having extramarital affairs (Roberts et al., 2009).

Encompassing self-control, conscientiousness is the personality trait with the strongest effect on life or death: People high on that trait live longer than others (Deary, Weiss, & Batty, 2010). Why? Among other things, they avoid many behavior patterns associated with early death, including alcohol abuse, obesity and other eating problems, drug abuse, smoking, failure to exercise, risky sex, suicide, violence, and unsafe driving (Bogg & Roberts, in press). They also visit physicians more regularly and take their prescribed medicines more reliably than people low in conscientiousness. Their good habits help avoid many life-threatening diseases.



## Outside Resources

**Book:** For more advanced and in-depth coverage, consult *The Handbook of Self-Regulation* (2nd Edition), edited by Kathleen Vohs and Roy Baumeister. This book contains different chapters by different experts in the field, covering large amounts of research findings.

**Book:** To read more, the easiest and most fun source would be *The New York Times* bestseller *Willpower: Rediscovering the Greatest Human Strength*, by Roy Baumeister and John Tierney, published by Penguin. This is intended not as a purely scientific work but as an entertaining summary for the general public.

**Video:** For an enjoyable and brief re-enactment of Mischel's "marshmallow" studies on delay of gratification, try the following video. Watching those children struggle to resist temptation is sure to bring a smile.

<http://vimeo.com/5239013>

## Discussion Questions

1. Why do you think criminals are often poor at self-regulation?
2. On average, children growing up without both parents present do worse at many things, from math achievement in school to the likelihood of being arrested for crimes. Might self-control be part of the explanation? Why?
3. Many people make New Year's resolutions to change themselves in various ways, but often they fail at these. Why?
4. Is good self-control something one is born with or something that is learned?
5. How would a parent teach his or her children to have good self-control?
6. Why are people with good self-control happier than other people?

## **Vocabulary**

### **Conscientiousness**

A personality trait consisting of self-control, orderliness, industriousness, and traditionalism.

### **Ego depletion**

The state of diminished willpower or low energy associated with having exerted self-regulation.

### **Monitoring**

Keeping track of a target behavior that is to be regulated.

### **Self-regulation**

The process of altering one's responses, including thoughts, feelings, impulses, actions, and task performance.

### **Standards**

Ideas about how things should (or should not) be.

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