

Raising self-controlled children

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5. Raising self-controlled children. A philosophical analysis of neuroscience and social psychology perspectives

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Abstract

In recent decades, self-control has received increasing attention as it can safeguard child-development and human wellbeing. Researchers from various disciplines – philosophy, neuroscience and social psychology – have investigated what self-control is, how it is generated and how it can be stimulated. This chapter critically reflects on recent discussions of the concept and the science of self-control while investigating their bearings on the question of whether parents have a responsibility to raise self-controlled children and what that would entail. The argument put forth is that current social psychology and neuroscience largely investigates *controlled* behaviour but ignores the prefix *self*. Consequently, a more comprehensive understanding of the term that does justice to both aspects is required. This gives rise to two different sets of educational goals. Firstly, raising self-controlled children entails teaching them strategies to overcome temptation. Secondly, it requires that parents support children to develop a self that sets its own goals, reflects on these goals and considers them as reasons for action.

Keywords

Agency; autonomy; combat-model; compulsion; constitution model; delay of gratification; education; inhibition; neuroscience; philosophy of action; prefrontal cortex; self, self-control; self-determination; self-control strategy; social psychology; recklessness; weakness of will; Horstkötter, Dorothee; marshmallow test; motivation; akrasia; Velleman, David; Korsgaard, Christine

Introduction

In the last decades, self-control has received increasing attention as an important means to safeguard human wellbeing. In other words, lack of self-control has been identified as the cause of much personal and social misery (Baumeister et al. 1994). Moreover, childhood self-control is frequently considered a good predictor of the self-control that people exhibit throughout their lives (Casey et al., 2011; Moffitt et al., 2011). This raises the question of whether parents have a responsibility to raise self-controlled children, that is, to instill self-control in their children. If they do have such a responsibility, what does it entail? Researchers from a variety of disciplinary backgrounds – philosophy, neuroscience and social psychology – have discussed what self-control is, how it is generated, and how it can be stimulated (e.g., Aron et al. 2004; Baumeister and Heatherton 1996; Hare et al. 2009; Henden, 2008; Mele 1995). At first glance, there seems to be widespread agreement regarding the meaning and the relevance of self-control. It has frequently been linked to willpower and has been taken to refer to the successful overriding of inadequate spontaneous responses, for the sake of desirable yet distant goals. At the same time, however, it has also been argued that self-control is a complex concept denoting not only processes of successful goal-achievement, but also the development of understanding of what counts as a desirable goal and what it means when behaviour is controlled by someone, that is, a self (Cervone et al. 2006; Deci and Ryan 2000; Velleman 2000). In that sense, self-control denotes control *of* the self *by* the self at the same time (Horstkötter 2015) referring both to the object and the subject of actions. As a consequence, a conceptualization of self-control that is able to incorporate various tiers and which differentiates between relevant aspects of what can reasonably be called self-controlled behaviour, may best encapsulate the full meaning of the term (Kennett 2001).

In this chapter, I will critically analyse recent views of the concept of self-control and the science behind it while examining, at the same time, the bearings that current conceptual thought and research findings have on the question of whether parents have a responsibility to raise self-controlled children. I will also look at possible implications and the effects of fostering self-control in children and to support the development of self-control in young people. To this end, a series of studies are presented that emphasize the impact of childhood self-control on the future wellbeing of adults in various areas of life and that highlight the need for the active development of self-control in children from an early age. I will then provide a brief overview of up-to-date research data in neuroscience and social psychology regarding the neural basis and the environmental conditions of self-controlled behaviour. Based on this overview, I will analyse the alleged implications for a parental responsibility of raising self-controlled children. These scientific approaches towards self-control will be critically discussed while emphasizing crucial conceptual shortcomings. Particularly interesting is that these approaches examine ‘controlled’ behaviour while the prefix ‘self’ is hardly given any explicit attention. Therefore, a more comprehensive understanding of the term is developed which can do justice to the self being simultaneously the object and the subject of self-controlled behaviour. To that end, I will develop two lines of argument. First, I will sketch a three-tiered picture of self-control that covers weakness of will, compulsion and recklessness as distinct varieties of self-control failure. Recklessness is of particular importance in this regard because it denotes a failure in goal-setting or goal-evaluation rather than mere goal-achievement. Reversely, this also indicates that successful self-control is also about goal-setting and evaluation, rendering the self the indispensable evaluating subject of self-controlled behaviour. Second, I will argue that in order to fully understand self-control, it is important to acknowledge what it means for a person to be an agent. To that end, the distinction between action and event will be introduced and briefly elaborated on.

Equipped with this philosophically informed background, I will then revisit recent neuroscience and social psychology research and critically ascertain their potential impact on what is required for raising self-controlled children. I will point out that different conceptualizations of self-control account for and require different sets of educational goals. Recent findings in neuroscience and social psychology can indeed have repercussions for successful goal-achievement in situations of temptation. However, this does not hold whenever self-control refers to the reasons people have for their behaviour and to their evaluation of what is a desirable goal for them. Here, neuroscience and social psychology findings have no such direct bearing.

On the Importance of Childhood Self-control

For several decades and with increasing frequency, not only scientific, but also popular media and popular science literature have made the public aware that self-control is of paramount importance for achieving wellbeing and success in life in a variety of areas (Baumeister and Tierney 2011; McGonigal 2012). Similarly, lack of self-control has been deemed to be the main cause of many personal and social problems of our time, including health problems, economic miseries and even criminal behaviour (Baumeister et al. 1994; Gottfredson and Hirschi 1990). Apparently, this does not only hold true for adults, but better self-control has been linked to greater agreeableness, conscientiousness and open-mindedness even in children. In line with this view, it has been shown that people who as children had comparably good self-control, have better lives as adults.

To this avail, longitudinal studies spanning over 15 to 30 years of the development of individual participants have been conducted to compare adult functioning with preschool self-control (Loeber et al. 2012; Moffitt et al. 2011; Slutske et al. 2012). Preschool self-control has been defined largely by measures of children's impulsivity, as well as, their emotional liability, restlessness and attention span. When comparing the behavioural styles of young children with their lives and behaviour in adult years, it appeared that those who had more self-control decades before, that is, those who were less impulsive, more emotionally stable and who had longer attention spans, have more success in adult life. They have better physical health, are wealthier and display on average less incidence of, e.g., substance dependence, gambling or criminal behaviour (Loeber et al. 2012; Moffitt et al. 2011; Slutske et al. 2012).

Studies that investigated children's self-control in terms of their ability to delay gratification (Mischel et al. 1989) report similar effects. Individual differences on self-control could not only be determined already at kindergarten-age, but also appeared to correspond to differences in cognitive and social performances many years later (Mischel et al. 1996). More recently, differences in brain function between low and high delayers have been highlighted. That is, those who as children differed in their ability to delay gratification showed corresponding differences in their behavioural patterns many years later; their brains could be shown to exhibit corresponding functional differences (Casey et al. 2011).

Despite these correlational relationships and the idea that childhood self-control is a good predictor of adult outcomes, self-control has also been shown to be malleable and to change over time. It is not predetermined. It improves not only via natural maturation; it can also develop through specially designed brain training programmes (Berkman et al. 2012). Against this double background, a pivotal conclusion of these studies points towards the importance of early and effective intervention in children's capacity to exercise self-control. Enhancement of self-control should be an important target of both childhood and adolescence interventions, according to the forceful advocacy of the authors of one of the longitudinal

studies (Moffitt et al. 2011). Most recently, such scientific findings are readily received by the public and the media. More in particular, parenting guides are published not only to inform parents and professionals about the importance of childhood self-control, but also to provide instructions on how to teach it to children (e.g. Aha! Parenting 2013; Browsers 2012). Before critically discussing this tendency and the apparent urgent need to teach children self-control, I will analyse what is meant by self-control and which types of behaviours are perceived as consistent with the exercise of self-control.

Neuroscience and Self-control

In the last ten years, neuroscience research on self-control has intensified and has received more and more public attention. Increasingly, claims are being made regarding its implications for the set-up of behavioural interventions and the design of policy measures. This raises the question whether, and if so how, parents have a responsibility to aim at the development of self-control in their children by taking corresponding neuroscience findings on children's self-control into account.

The main question of neuroscience research regards the location of self-control in the brain and the activity of these areas under different conditions. That is, neuroscientists try to identify which brain regions are involved whenever people can be said either to exercise or to fail to exercise self-control. Self-controlled behaviour can then be explained by the pattern of activation of relevant brain regions. To this end, neuroscience research focuses on inhibitory control as an important subcategory of self-control (Berkman et al. 2012) and on that basis defines whether any behaviour ought to count as either an instance of self-control or of self-control failure. According to current definitions, inhibition denotes the cancelling of intended movements, the suppression of inappropriate responses (Aron et al. 2004), or the ability to override a dominant response in order to enact a subdominant one (Berkman et al. 2012).

Self-control has further been connected to cognitive control as a crucial facilitator of delayed gratification. According to this understanding, it denotes "the ability to suppress competing inappropriate thoughts or actions in favour of appropriate ones" (Casey et al. 2011, 14998). These abilities have been mainly investigated by lesion and brain-imaging studies. In carefully designed experimental settings, participants are given so-called self-control tasks whereupon their brain-activity is measured, or – in case of lesion studies – their performances are compared to their known brain deficits. Typical self-control tasks in neuroscience include the so-called *Go/No-go* and *stop signal* tasks. Here, participants are presented with rapid sequences of predefined cues and are asked to respond speedily to them. They are shown, for example, a series of letters and are asked to respond [Go], e.g. press a button, to some of these cues such as the letters A,B, or C and to inhibit the response [No-go], that is not press the button, in case some other letters are presented. Alternatively, they may be asked to stop responding whenever a particular signal, for example a sound, is given [stop-signal]. How well people are able to inhibit, i.e. exercise self-control, is then measured as a function of either the errors they make on the no-go trial (how often they press the button when they are supposed not to do so), or of the time needed to react to the stop-signal.

Performance of such tasks while being brain scanned delivers information about brain regions involved, and the brain activity correlated with the performance. Apparent differences in the neurobiological substrate are in turn described as underlying the observable differences between people's behaviour and their different success rates in self-controlled behaviour. Most prominently, various regions in the prefrontal cortex (PFC), typically connected to cognitive processes, have been identified as the main

locations of self-controlled behaviour (Aron et al. 2004). Hare et al (2009) specified these findings by pointing out that one PFC sub-region (ventromedial) is considered to process the incoming signal on the short-term while another sub-region (dorsolateral) is supposed to incorporate long-term considerations and on that basis modulate the incoming signal. Such a system may allow for the explanation of differences between self-controllers and non-self-controllers on the neural level in two ways: either the activity within the highlighted brain regions differs between participants or there are differences in the interconnections between the sub-regions involved.

In addition to the involvement of prefrontal regions, Casey et al (2011) point towards the relevance of the ventral striatum which is a deep brain system. This is considered relevant for the processing of emotional and rewarding cues. Amplified activity in this emotional region may reflect a high sensitivity to emotional and rewarding cues and in turn negatively influence activity at the prefrontal level and people's ability to suppress emotionally loaded thoughts and actions. At the neural level, differences in behavioural self-control are then to be explained by interpersonal differences between the relative activity of the prefrontal and of the deep brain system. Diminished prefrontal activity in conjunction with amplified activity of the deep brain system may then be the neural basis of any uncontrolled behaviour, that is, behaviour that follows immediate emotional triggers yet fails to display cognitive control. These differences in self-control related brain-activity can be applied in two ways (Berkman et al. 2012). First, they can inform the development of specialized training programmes that specifically target the brain areas deemed relevant. Second, childhood self-control and related brain activity can be seen as a predictor of adult self-control and help determine who is, and who is not, in need of behavioural interventions.

Social Psychology and Self-control

While neuroscientists are looking for neural correlates and neural underpinnings of self-controlled behaviour, social psychologists are mainly interested in the features that constitute self-controlled behaviour, the conditions that may facilitate or hinder it and the actions that people do when they behave in a self-controlled way. In the following I will briefly present the main approaches and findings in social psychology in this area and reflect on their potential implications for early self-control improvement.

Research on behavioural self-control has been on the agenda of social psychology for the last 30 years. Self-control, as its early modern pioneers argued, is indispensable for the understanding of human behaviour (Carver and Scheier 1998). Essentially, it has been considered to function like a thermostat. By way of an informational feedback loop people's actual states (behaviour) are compared to some target states (desired goal). In case of a discrepancy, people adapt their behaviour so that they are still able to achieve the respective goal. This basic picture of action control turned out to be highly influential in subsequent self-control research. In their review of self-regulation failure, Baumeister and colleagues considered self-regulation to be crucial for goal-achievement and to entail the alteration of people's spontaneous responses (Baumeister et al. 1994). To that end, they distinguished several phases. For instance, people monitor their actual response, they keep in mind certain standards or goals that are to be achieved. Finally, they adapt or control their response so that potential divergences are diminished and the goal is achieved.

Numerous experiments have since then been conducted to investigate the empirical basis of this understanding of human behaviour and the conditions under which self-control is successful or fails. These have led to the so-called *strength model of self-control*. According to this model, people cannot

only bring about changes in their current behaviour and reorient in case their actual doings keep them from achieving their goals; but sequential, yet unrelated acts of self-control diminish their strength to perform equally well in later self-control tasks. For example, people who in experimental set-ups were first asked not to think of a white bear (thought-control) were afterwards less able to suppress their emotional response to a disgusting movie (emotion-control) or to squeeze a handgrip and overcome physical discomfort (Muraven et al. 1998) than people who were not given the initial thought-control task and who were therefore not depleted. As a consequence, self-control has been considered a matter of strength and self-control failure has been explained as the result of some mental weakness or a weakness of will. Often called willpower, this mental strength is thought to work like a mental muscle that becomes depleted after exertion, replenishes after rest, and can be trained to become stronger in the long run (Baumeister 2012; Hagger et al. 2010; Muraven and Baumeister 2000).

Related research that builds on the early work of Mischel and colleagues (e.g. Mischel et al. 1972) focused on the concrete actions that people, particularly young children, perform when they exercise self-control, and questioned whether some kinds of action may better support distant goal-achievement than others. Their research uncovered a variety of specific strategies that one may invoke in order to delay gratification and achieve later but greater rewards. The test has become famous as “The Stanford Marshmallow Experiment”. It investigated, for example, the degree to which young children were able to withhold from taking a tasty reward (such as a marshmallow) while left unsupervised, after being told that leaving the reward untouched would lead to them being offered two rewards. Thanks to this experiment it was discovered that children are better at waiting when they, for example, cognitively refigured a marshmallow as a white and puffy yet inconsumable cloud, moon or ball, or when they thought of something pleasurable instead (Mischel et al. 1989; Mischel 2014). Teaching children such strategies improved their ability to wait and made them significantly better self-controllers than their uninstructed peers.

An Intermediate Conclusion

These findings in social psychology preceded and motivated research in neuroscience such as the previously presented. Neuroscientists interested in the neural underpinnings of self-control refer back to both the strength-model (e.g. Berkman et al. 2012) and the delay of gratification paradigm (e.g. Casey et al. 2011). Therefore, from an interdisciplinary perspective there seems to be widespread agreement regarding the relevance and the meaning of self-control. Furthermore, the implications of how to improve self-controlled behaviour appear to be straightforward and shared among the two disciplines. On the public policy level, it seems advisable to arrange default settings so that people are less in need of self-control which will make self-controlled decisions much easier than not self-controlled decisions (Moffitt et al. 2011). This may avoid the depletion of self-control strength or prevent the activation of emotional brain areas. The banning of smoking in public areas or of sweets from schools are examples of this. In addition, in order to achieve comparable outcomes, for example to make people quit smoking or reduce their sweets consumption, it seems conducive to teach people distinct self-control strategies (Strayhorn 2002), i.e. train their brains according to insights on the neural generation of self-control (Berkman et al. 2012), or have them practice and strengthen the self-control ‘muscle’ (Baumeister 2012; Muraven and Baumeister 2000).

In accordance with this perspective, a particular focus should be on children and the implementation of early intervention programmes. Children are more amenable to interventions and their brains are much more plastic than those of adults, so the argument goes (Berkman et al. 2012; Moffitt et al. 2011). In addition, suggestions have been made that these findings may be used for the set-up of interventions for children with self-control related psychopathologies. In their case, fMRI (functional magnetic resonance imaging) scans could be used to test individual brain maturity and intervention readiness before any training is offered, as well as, to trace potential increases in self-control at the neural level during or after the implementation of self-control interventions (Berkman et al. 2012).

The scientific evidence supporting a belief in people's ability to prevent and suppress impulses or emotions and the possibility to acquire such capacities already during childhood appears overwhelming. Translated into the terminology of educational goals, what parents should aim for when raising their children to be self-controlled is to be able to obey distant goals, to live up to predefined rules and to suppress immediate impulses. Parents may achieve this by teaching their children self-control strategies, by confronting them regularly with self-control tasks in order to train their 'self-control muscle', or they can enrol them in self-control testing and intervention programmes, neuroscientifically informed or otherwise.

.... And Beyond

A critical look back at the original definition of self-control as employed in the scientific work discussed calls attention to further important issues that should be addressed. The scientific experiments and the resulting evidence all focus on goal-achievement and the conditions conducive to that end. However, the original definition of self-control that underlies these experiments is much broader. It covered not only goal-achievement and the corresponding suppression of emotions or alteration of actual behaviours, but also an essentially normative component. Self-control has been defined as the ability to suppress *inappropriate* thoughts or responses (Aron et al. 2004; Casey et al. 2011) or as the capacity to override and prevent *undesired* thoughts, behaviours and emotions (Baumeister 2012; Baumeister et al. 1994) and to achieve *desirable* goals. These specifications of the nature of the thoughts to be suppressed, the behaviours to be overridden (inappropriate, undesired) and the goals to be achieved can inspire important subsequent questions: which thoughts are inappropriate and what makes some behaviours or emotions undesirable? Who determines what is inappropriate and undesirable or appropriate and desirable? These questions have not been addressed in the research of either neuroscience or social psychology. The goals have been predefined and the tasks of participants have been mainly to achieve what they were told, not to evaluate the goals or to reflect on their appropriateness or desirability. Participants have to 'go' or to 'no go' depending on the instructions. Similarly, they have to avoid thinking of white bears, not loosen the handgrip, or whatever else the respective task required them to do or leave undone. However, one may wonder why the resulting behaviours, even if successful, should count as instances of self-controlled behaviour at all. Obviously, these behaviours entail important elements of control, yet why should one say that they are paradigmatic examples of *self-control*?

When people describe themselves as being self-controlled, they typically use expressions like: *I control myself*, or *I control what I do*. Thereby, they simultaneously refer to themselves as the subject ['I'] and the object ['me'/'myself'] of control. They determine what goals they consider desirable or appropriate and worthwhile to achieve and so act on those determinations. In an early critique of the feedback-loop

model of behavioural self-control, psychologists Ryan and Deci emphasized that in these theories, the prefix *self* has been put with a hyphen in front of the word *regulation*, however, without adding any meaning to that term (Ryan and Deci 1999). In theories of human behaviour based on the feedback-model, what is evaluated is whether the person can display control, not whether she can, specifically, display self-control, that is, control directed by the self onto the self rather than control directed by others (the researchers) on the self. This is because in these theories an action counts as a successful instance of self-control as soon as the goal is achieved and the person has been controlled; yet this is evaluated independently of the question of whether the person concerned considers the goal appropriate or desirable, or has given it any thought at all and hence is in charge of the control.

Ryan and Deci try to make good for this by drawing a difference between what they term ‘controlled’ and ‘self-determined’ behaviour (Deci and Ryan, 2000, 2002). Controlled behaviour occurs due to some intrapsychic or environmental forces; it is heteronomously initiated and does not represent any true choice of the person in question. By contrast, self-determined behaviours are initiated and regulated through autonomous choices and as such are expressions of one’s values and of oneself as an agent.

The term *autonomy* has been much discussed in various philosophical disciplines. In their work, Ryan and Deci seem to rely on the Frankfurtian understanding of the term (Frankfurt 1988). According to Frankfurt, a person acts autonomously when her second order desires determine her course of action. Second order desires are those that express people’s evaluation of their immediate, first order desires. That is, second order desires express the decision of whether, or not, people desire to have their first order desires. Whenever self-determined, autonomous agents act in a goal-directed way, they do so because the achievement of the goal is important to them. According to this understanding of self-control, self-determined people experience fewer difficulties in achieving *their* goals, show greater behavioural persistence and display more effective performance (Deci and Ryan 2000).

More recently, the notion of ‘motivation’ as a central part of a person’s evaluation of her own goals has also been investigated from the perspective of the strength-model. Motivation has increasingly been integrated in this understanding of self-controlled behaviour (Vohs et al. 2013).

These discussions and developments in social psychology, however, can place the meaning of parental responsibility in a different perspective. If it is the subject, that is, the self of self-control that is concerned, then teaching self-control strategies, strengthening the self-control-‘muscle’ or training brain areas in an attempt to influence activation patterns become less relevant to the development of self-control. They may even be the wrong things to do. In this way, parents may render their children able to achieve pre-set goals. However, in order to safeguard that the self is in place, a different set of educational goals seems required instead. Rather, it seems more adequate that parents aim at their children becoming autonomous people (Betzler 2015) who are able to reflect on the goals presented to them, as well as, on their own emotional or immediate responses. Are the goals reasonable and worthwhile and should they change their behaviour in order to achieve them? Or is it the reverse: are the goals too difficult, of minor importance or maybe even undesirable for them and should they follow their immediate emotional response and adapt their long-term goals? Some illustrative examples will clarify this. Children would, for example, display more self-control if they played soccer or tennis every week because they see themselves as soccer or tennis players and develop an identity around these activities, than children who play these sports to please their parents. In order to be successful, the latter group of children may engage

some self-control technique by which they can make themselves participate in the trainings. The former group, however, is not even in need of any such techniques or skills, but their behaviour can be said to be controlled by their own conception of their self, that is by whom they are or who they want to become.

A similar analysis holds true for children who in a fit of rage shout out that they know they should count to ten – a strategy frequently taught to children to calm down – but that they will not do so because they want to be angry now. These children may be more *self*-controlled than those who immediately, and successfully, adopt the mentioned strategy. In the first case, the children evaluate their behaviour and the goals they have (calm down); while in the latter they do not do so. The children in the first case disagree with the goals that adults may provide them with: but disagreement is something other than self-control failure. Parents' responsibility to raise self-controlled children in this sense rather implies the importance of raising a 'self' or an autonomous person who is able to form reasons for action and the ability to act on these reasons – and maybe later change previous reasons for better reasons – rather than on installing a mere capacity of control or to develop some self-control skills or strengths.

A Brief Philosophy of Self-control

A thorough analysis of the concept of self-control can elucidate its meaning and why it is important to acknowledge that self-control is more and something else than mere goal-achievement (Horstkötter 2015). If we want to understand the content of parental responsibility to raise self-controlled children, it is important to consider the following two aspects. First, the expression 'lack of self-control' reasonably denotes a three-partite understanding of agential failure (Kennett 2001). This idea, in turn, gives rise to the argument that successful self-control encompasses three meanings of agency, that is, i) people's capacity of intentional action, ii) their capacity of goal-achievement over time, as well as iii) their well-considered reasons for action.

Second, the concept of agency is of particular importance in that it is relevantly different from mere behavioural events. An account of full-fledged agency, however, will put the idea of what is entailed in behavioural change or alteration in a different perspective than the one currently underlying the work of social psychologists and neuroscientists.

A Three-partite Picture of Self-control and Self-control Failure

In addition to, and long before neuroscientists and social psychologists investigated self-controlled human behaviour, philosophers have been engaging with the concept and discussing its meaning. In the *Nicomachean Ethics* (trans. 1980, 1150a 11-13), Aristotle writes that people are self-controlled when they overcome temptations, whereas those who give in suffer from *akrasia*, that is, weakness of will. In a similar vein, Plato (trans. 1952, 246a, 253c ff.) offered the metaphor of a charioteer who steers two horses: one obeys the voice of the charioteer smoothly and immediately, while the other one is constantly unruly and recalcitrant. The chariot is controlled whenever and as long as the charioteer and the obedient horse, with their united effort, manage to withstand the powers of the second one and subdue it.

In contemporary philosophy of action, Alfred Mele revitalized this discussion and established a modern account of self-control whereby self-control and weakness of will (*akrasia*) appear as the two sides of the same coin (Mele 1995). Those who are self-controlled overrule their unruly emotions, thoughts or urges, whereas those who are weak-willed give in to temptation and let their spontaneous responses reign. So

far, the philosophical understanding of self-control seems well compatible with the models invoked in neuroscience and social psychology.

From a conceptual point of view, however, weakness of will is not the only opposite of self-control. In philosophical literature, weakness of will has typically been understood as intentional behaviour against one's better judgment (Davidson 1980). Formulated differently, people who act in a weak-willed fashion act freely (that is, they are not coerced) against what they consider best, or against their goal. This definition, however, has given rise to two further accounts of self-control failure which are typically termed *compulsion* and *recklessness*, respectively. Most basically, people can lack intentional control of their actions, in which case they act compulsively. They may, for example, want to give a presentation in front of their class, yet as soon as they see all the faces of their fellow pupils watching them, become so nervous that they can only stutter incoherently. Moreover, they may fail to take into consideration or pay due attention to their best judgment or the reasons that in their own eyes should guide their course of action. In case people fail to follow judgments that would otherwise have guided their action, people act recklessly. For example, a person who fully agrees that it would be best to prepare well for a presentation, but who still does not care and therefore does not prepare.

By drawing these distinctions, philosophical analysis intends to specify what exactly it means to act in a weak-willed fashion has given rise to a comprehensive three-tiered account of agential or of self-control failure (e.g. Kennett 2001) distinguishing between compulsion, weakness of will and recklessness. A closer look at these three accounts of self-control failure can help us to understand a correspondingly comprehensive account of successful self-control.

The typical understanding of weakness of will presupposes that people do not only act intentionally while having the capacity to act as is required, but that they also hold a corresponding judgment and consider a certain goal worthwhile to achieve. Anyhow, people fail. In both compulsion and recklessness, one of these preconditions is not fulfilled. As said, compulsion denotes behaviour that is not intentional and hence in these kinds of failure the first precondition is not fulfilled. For the purpose of this chapter it is the failure of recklessness that is of particular importance. Recklessness seriously challenges the precondition of holding a best judgment by the very person – the self – who is supposed to act. Reckless people have formed a distinct judgment and hold certain goals; nonetheless they fail to take these as reasons for action. Formulated differently, they fail to care for their goals and guide their behaviour on the basis of what they themselves deem valuable and worthwhile. Conversely, successful self-control means that people care for their goals properly. That is, they consider these as providing them with reasons for action on the basis of which they alter and adapt their actual behaviour. Such an account of self-control, however, depends on a specific relationship agents have with the goals in question. Goals that are pre-defined or externally provided for are not even able to trigger behaviour that can count as an instance of *self-control* (in the sense of opposing recklessness).

The participants in the various experimental set-ups invoked in social psychology and neuroscience could not have failed recklessly. Either they succeeded, or they failed in a compulsive or weak-willed manner, conceptually speaking. However, once the possibility of reckless behaviour is taken seriously, the self's view of what counts as a reason for action becomes indispensable and it cannot be replaced by successful goal-achievement. In this sense, "the truly self-controlled agent, ..., would intend and do what he judges he ought to do, because *he so judges*, and not because he has managed to skilfully circumvent or

overcome a motivational state his judgment cannot control” (Campbell 2000, 116, my emphasis). By contrast, reckless people would somehow silence their own reasons or behave in a way that shows a disregard for the reasons actually available to them (Kennett 2001, p.171ff). For example, if a devoted footballer or tennis player points out before skipping training that it is raining too much although it is only a light drizzle, would be reckless. Such a person would, however, not be weak-willed. Being a devoted footballer, rather than one who only plays for the exercise or to please her parents, playing football provides her with a weighty reason to actually go and play. It is part of who she is and by not playing for any good alternative reason would embody a disregard of her own consideration, or in Kennett’s words, one would “reach a judgment which is unfounded in the totality of reasons actually available” (p. 172).

Understood this way, the prefix *self* does add meaning to the term control in the concept of self-control. Only in case a self’s normative outlook of what counts as a reason for action for her is integrated in the respective behaviour, can the behaviour count as a *self*-controlled action. By contrast, only when a person has developed reasons for action – being a keen footballer – can she fail in a reckless way. In both cases, predetermined and externally set goals are excluded. This, however, seriously limits the practical implications of recent neuroscience and social psychology findings for raising self-controlled children, as these depend on experimental settings that provide research participants with predefined goals rather than examining the participants’ view on what is worthwhile and a reason for action – and then evaluating their ability to act on the basis of their own reasons.

Self-control as Agency

A closer look at philosophical discussions on the meaning of agency may shed further light on this issue and help elaborate on what it means when a self’s perspective is involved in the behaviour rather than the goals that guide people’s course of action. In philosophy of agency, an interesting distinction has been drawn between full actions and mere behavioural events (Wilson and Shpall 2012). Both concepts regard some behaviour as carried out by a specific person, yet the way in which the person is involved differs significantly. For behavioural events it can be said that the psychological and physiological processes are well in place so that successful goal-achievement can be safeguarded. However, for any behaviour to count as an action something more is required. The person has to be involved actively, so that she carries out the action as something which belongs to her personally, rather than that the behaviour is carried out due to certain psychological and physiological processes.

The philosopher David Velleman (2000) pointed this out in a critique originally oriented at previous philosophical thought on the meaning of human behaviour. These discussions had centred on concepts of desire, intention, judgment, reason or bodily movement and investigated their respective interrelationship. Velleman, however, argued that in these standard theories of agency, specific causal relationships between these abstract concepts (e.g., reason causing intention and intention causing bodily movement) would have been considered sufficient to describe and explain human agency. The problem with this understanding of agency, however, is that “in this story, [...] nobody – that is no person – does anything. Psychological and physiological events take place inside a person, but the person serves merely as the arena for these events: he [or she] takes no active part“ (Velleman 2000, 123). This, however, is what actually distinguishes full actions from mere events. Transferred into the terminology of self-control, I argue that only in case people are involved in their behaviour as agents, can their behaviour be considered to be self-controlled in the sense of being controlled by the self. However, the question of whether the self

as object is controlled as well is a different question and both questions can be answered independently of each other.

Christine Korsgaard's distinction between what she called the combat-model and the constitution-model of agency (Korsgaard 1999) can shed further light on this question. According to the combat-model, agents will continuously experience an inner conflict between some reason and some diverting passion. To put it into the terminology of empirical psychology and neuroscience, they would experience a conflict between some goal-state and some spontaneous response. Whenever reason prevailed, the result of the conflict would be a genuine (read: self-controlled) action, whereas in case passion prevailed the result would count as a mere behavioural event (read: lack of self-control). So the combat-model says. Hence, the suggestion is that whenever reason or some goal prevailed, corresponding behaviours were instances of agency or self-control.

The problem with this understanding of agency, or self-control, is that it cannot explain why reasons, or goals, are superior to desires, or spontaneous responses. As a consequence, the combat-model cannot provide room for people to evaluate and determine the relative weight or relevance of desires and eventually to adjust their reason or goals in case they consider these to be inadequate or even undesirable. A constitution-model of agency, however, could make good for this, so Korsgaard argues: according to this model, agency is in place only and because the person's constitution, that is who she is, is involved. In that case, people live up to reason, because it is *their* reason or because *they* consider the goal worthwhile to achieve. Analogously, one could argue that whenever a person deliberates about the desirable course of action, or about whether or not to adapt her current behaviour, the person who adapts her behaviour is inevitably involved in such decisions. A desire may be so strong that it outweighs the force of a reason, resulting in behaviour that may be best described as an instance of weakness of will.

According to Korsgaard, a different understanding of the situation is also available. "The strength of a desire may be counted by you as a reason for acting on it; but this is different from its simply winning" (Korsgaard 1989, 370). For example, a keen footballer may decide that her dislike of playing football during a severe storm may be a good reason not to play and stay at home. In that case, the person acts on the basis of the desire [dislike to go outside], yet in case she considers it appropriate [the storm is too heavy to go outside] and a reason for action for herself, acting accordingly counts as an instance of successful agency rather than an event or a failed action. So the agential value of any behaviour carried out by a specific person is mainly determined by the question of whether and how her constitution is involved. Goal-achievement [be on the football pitch and play] and response-suppression [go outside despite dislike] as such are not decisive criteria of whether or not a person exercises self-control. Instead, self-control is on hand if and because a person considers a certain goal-state to be appropriate and worthwhile and as something that she ought to achieve.

Raising Self-controlled Children Revisited

The above analyses present rich information from recent research findings in neuroscience, d social psychology and philosophical work on the meaning of the concept of self-control. In this final paragraph I reflect on this and ponder answers to the initial question presented in this chapter. What would a parental responsibility to raise self-controlled children sensibly entail and how does or should recent neuroscience and social psychology inform this responsibility? Halfway through the chapter the answer seemed

straightforward and clear. Yet, after having reflected on the concept in greater detail, issues appear more complex and easy answers are no longer convincing.

The chapter started off by showing that self-control denotes people's ability to alter their actual behaviour in order to achieve certain ends or, formulated differently, to prevent and override unwanted thoughts, behaviours and emotions. In light of such definitions, experimental research in both neuroscience and social psychology mainly focused on means and mechanisms related to the alteration of behaviour and the prevention and suppression of immediate responses. The goals or the target-states, however, are hardly picked out as separate issues; instead they are typically predefined and given to research participants. Thereby, neuroscience and social psychology research on self-control is silencing essential aspects of its own topic. The research communities here presuppose a self rather than investigate it as the subject of behavioural control. However, as self-determination theory indicated and recent philosophical work argued, a profound understanding of the self is crucial in order to grasp what self-control means and what is required for self-controlled behaviour. Explicit attention to the self as the subject of self-controlled behaviour is required to determine the appropriateness and desirability of specific goals, as well as, the inadequacy of potentially opposing urges, thoughts or behaviours.

From an educational perspective, this double background according to which self-control is both control of the self and control by the self provides a variety of possibilities. Two different sets of educational goals become available that relate to the task of raising self-controlled children. One of these sets regards the enablement of children to control themselves so they can achieve some distant or desirable goal. This set of educational goals includes goals like obedience, accepting and following externally-set rules, or the suppression of impulses and immediate desires. The other set, however, regards the processes that support children in developing a self in the sense of becoming able to set goals for themselves and to determine what they consider desirable or worthwhile (Horstkötter and Snoek 2013). This second set of educational goals requires reflection on the normative value of possible goals, evaluating the desirability of one's actual behaviour or feelings, or the development of a self who sets goals and considers these then as self-evident reasons for her action.

I argued that in order to raise self-controlled children, parents can teach them established self-control skills and strategies, train their self-control strength, or enrol them in self-control testing and intervention programmes. By doing this, parents could realise the first set of educational goals aimed at a capacity to control the self, according to some pre-set goals. However, these activities may not help parents in also achieving the second set of educational goals. To that end, parents are required to aim at enhancing the capacity for autonomy in children (e.g. Betzler 2015) or to contribute to the development of the 'subjective self' of their children, as it has been argued recently (Wringe 2015).

Supporting their children in becoming autonomous agents should then be considered as a distinct way to safeguard their long-term wellbeing. Therefore, raising self-controlled children is a comprehensive undertaking inevitably connected to two different sets of educational goals. It denotes activities that enable children to suppress their immediate desires and to delay gratifications and, as well as, endeavours that contribute to the development of a self, that is, a normative outlook that teaches children to determine when to suppress which responses and why to aim at which goals. Parents' first responsibility would then be to acknowledge the comprehensiveness of raising self-controlled children. In so far as self-control contributes to children's wellbeing, it is important to further investigate how parents can live up to the

two sets of educational goals highlighted. Against this background, the relevance of recent neuroscience and social psychology research may be more limited than it appeared at the beginning of and halfway through this chapter. While research findings can be useful to inform parents about what to do to instil in their children the capacity, for example, to suppress spontaneous responses, these findings alone cannot determine the value for their children of certain distant goals or spontaneous desires. In this sense, while being informative, current neuroscience and social psychology miss out on their aim of adequately prescribing what is required to raise self-controlled children.

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