

The significance of self-control

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Self-control is among the most widely studied constructs in the social sciences. For instance, more than 3% of peer-reviewed psychology articles in the past year were referenced by the key word “self-control” or closely related terms. The report by Moffitt et al. (1) in PNAS substantially advances this growing literature by demonstrating robust predictive associations between childhood self-control and a wide range of consequential life outcomes in a large, nationally representative sample of New Zealanders.

Defining Self-Control

Monikers for self-control vary widely and include delay of gratification, effortful control, willpower, executive control, time preference, self-discipline, self-regulation, and ego strength. Moffitt et al. (1) use the term self-control synonymously with conscientiousness, a large class of personality traits that includes responsibility, industriousness, and orderliness (2). The common thread running through diverse conceptualizations of self-control is the idea of effortful regulation of the self by the self. Self-controlled individuals are more adept than their impulsive counterparts at regulating their behavioral, emotional, and attentional impulses to achieve long-term goals.

The notion of effortful self-governance presumes an internal conflict between mutually exclusive responses. One cannot, alas, have one’s cake later and eat it now, too. Critical to situations that call upon self-control is that one response is obviously superior (e.g., saving one’s cake or, more likely, forgoing the cake altogether) yet the alternative, inferior response is nevertheless more psychologically potent (e.g., devouring the cake on the spot). The seeming irrationality of acting against our own best long-term interests has been of perennial interest not only to social scientists but also to philosophers (3); and, arguably, every major religious tradition advocates forsaking pleasure in the moment to realize greater, deferred rewards (4).

Freud (5) theorized that successful socialization was a process by which children learn to suppress immediately gratifying impulses to do what is best, for oneself and for society, in the long term. Modern empirical research has since confirmed that the capacity for self-control strengthens over the life course, well beyond child-

hood in fact and possibly into middle and late adulthood (6, 7). Although older individuals are, on average, more self-controlled than younger individuals, there are nevertheless salient differences in self-control among individuals of the same age.

Why Self-Control Matters

Moffitt et al. (1) focus on individual differences in self-control among same-aged individuals. Their major finding is that self-control measured with observer, parent, teacher, and self-report ratings during the first decade of life predicts income, savings behavior, financial security, occupational prestige, physical and mental health, substance use, and (lack of) criminal convictions, among other

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outcomes, in adulthood. Remarkably, the predictive power of self-control is comparable to that of either general intelligence or family socioeconomic status.

Moffitt et al. (1) observe that the salutary effect of childhood self-control on adult functioning is evident at all points along the self-control continuum. The consistently beneficial effects of self-control have two important implications. First, there may be no such thing as “too much” self-control, a possibility that has been suggested but not tested directly in a large, representative sample (8). Second, policies, interventions, and cultural practices aimed at bolstering self-control may improve the welfare of the general population rather than just a subset of severely impaired individuals.

Moffitt et al. (1) find that the benefits of self-control for adult functioning are partially mediated by better decision making during adolescence. Specifically, self-controlled children are less likely to smoke, drop out of high school, or become parents during adolescence, and staying out of those three kinds of trouble statistically explains some of the effects of self-control on adult outcomes. Partial rather than full mediation suggests that there are, in addition, other pathways by which self-control might produce its beneficial effects. Among

other possibilities, self-controlled children may thrive in adulthood because of better academic performance (9, 10), physical health (11), and interpersonal relations (12).

Like other personality traits, self-control in the Moffitt et al. (1) study demonstrates moderate rank-order stability. Whereas children do not as a rule change radically in their rank-ordering on self-control, those who do improve in self-control relative to same-aged counterparts fare better in adulthood. Moffitt et al. consider this finding as indirect evidence for the potential benefits of interventions aimed at increasing self-control in children. Given the nonexperimental nature of the Moffitt et al. study (1), we should also keep in mind the possibility that unmeasured factors responsible for accelerating the development of self-control (including, for instance, competent parenting) may act independently as causal antecedents of positive adult functioning. Because of the ever-present possibility of such confounds, random assignment studies demonstrating the benefits of self-control interventions make a stronger case for self-control interventions (13–15).

Importantly, the analyses presented by Moffitt et al. statistically control for the potential confounds of intelligence and family background, two variables that in prior studies have been associated with self-control (16, 17). Moreover, to account for the possibility of unmeasured aspects of the family environment driving the predictive correlations between self-control and later outcomes, Moffitt et al. compare in a separate sample self-controlled children with their less self-controlled siblings. Consistent with their main analyses, childhood self-control continues to predict later outcomes, even when controlling for family effects in this quasi-experimental design.

It seems that less-evolved species are not tortured in the same way as we humans, who struggle to stay on diets, kick smoking habits, stop biting our nails, put an end to procrastinating, control our tempers, and otherwise follow through on resolutions we know will improve our overall well-being. We human beings often

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want, and want to want, different things (18). Moffitt et al. (1) provide convincing evidence that some of us are better

than others at doing what we want to want and, further, that the capacity to govern ourselves effectively in the face

of temptation has profound benefits across every major domain of life functioning.

- Moffitt TE, et al. (2011) A gradient of childhood self-control predicts health, wealth, and public safety. *Proc Natl Acad Sci USA* 108:2693–2698.
- Roberts BW, Chernyshenko OS, Stark S, Goldberg LR (2005) The structure of conscientiousness: An empirical investigation based on seven major personality questionnaires. *Person Psychol* 58:103–139.
- Burnyeat MF (1999) Aristotle on learning to be good. *Aristotle's Ethics: Critical Essays*, ed Sherman N (Rowman & Littlefield, Lanham, MD), pp 205–230.
- Koole SL, McCullough ME, Kuhl J, Roelofsma PHMP (2010) Why religion's burdens are light: From religiosity to implicit self-regulation. *Pers Soc Psychol Rev* 14: 95–107.
- Freud S (1922) *Beyond the Pleasure Principle* (Liveright, New York).
- Roberts BW, Walton KE, Viechtbauer W (2006) Patterns of mean-level change in personality traits across the life course: A meta-analysis of longitudinal studies. *Psychol Bull* 132:1–25.
- Rothbart MK, Rueda MR (2005) The development of effortful control. *Developing Individuality in the Human Brain*, eds Mayr U, Awh E, Keele SW (American Psychological Association, Washington, DC).
- Grant AM, Schwartz B (2010) *Too Much of a Good Thing: The Challenge and Opportunity of the Inverted-U* (University of Pennsylvania, Philadelphia, PA).
- Duckworth AL, Seligman MEP (2005) Self-discipline outdoes IQ in predicting academic performance of adolescents. *Psychol Sci* 16:939–944.
- Mischel W, Shoda Y, Rodriguez MI (1989) Delay of gratification in children. *Science* 244:933–938.
- Tsukayama E, Toomey SL, Faith MS, Duckworth AL (2010) Self-control as a protective factor against overweight status in the transition from childhood to adolescence. *Arch Pediatr Adolesc Med* 164:631–635.
- Tangney JP, Baumeister RF, Boone AL (2004) High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *J Pers* 72: 271–324.
- Diamond A, Barnett WS, Thomas J, Munro S (2007) Preschool program improves cognitive control. *Science* 318:1387–1388.
- Durlak JA, Weissberg RP, Dymnicki AB, Taylor RD, Schellinger KB The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Dev*, in press.
- Duckworth AL, Grant H, Loew B, Oettingen G, Gollwitzer PM (2010) Self-regulation strategies improve self-discipline in adolescents: Benefits of mental contrasting and implementation intention. *Educ Psychol* 31:17–26.
- Shamosh NA, Gray JR (2007) The relation between fluid intelligence and self-regulatory depletion. *Cogn Emotion* 21:1833–1843.
- Evans GW, Rosenbaum J (2008) Self-regulation and the income-achievement gap. *Early Child Res Q* 23: 504–514.
- Frankfurt HG (1971) Freedom of the will and the concept of a person. *J Philos* 68:5–20.