the many benefits of high self-control

self-control, conscientiousness, grit, emotion regulation, willpower – whatever word you use, it's sure important to have it

this handout with links to all research studies was posted to www.stressedtozest.com on 14.06.11

a wake-up call from the very impressive 1,000 child follow-up research:

Professor Terrie Moffitt and colleagues' recent paper *"A gradient of childhood self-control predicts health, wealth, and public safety"* is another hammer blow highlighting the crucial importance of self-control for a great swathe of health & wellbeing outcomes. The paper's abstract reads *"Policy-makers are considering large-scale programs aimed at self-control to improve citizens' health and wealth and reduce crime. Experimental and economic studies suggest such programs could reap benefits. Yet, is self-control important for the health, wealth, and public safety of the population? Following a cohort of 1,000 children from birth to the age of 32 y, we show that childhood self-control predicts physical health, substance dependence, personal finances, and criminal offending outcomes, following a gradient of self-control. Effects of children's self-control could be disentangled from their intelligence and social class as well as from mistakes they made as adolescents. In another cohort of 500 sibling-pairs, the sibling with lower self-control had poorer outcomes, despite shared family background. Interventions addressing self-control might reduce a panoply of societal costs, save taxpayers money, and promote prosperity."*

The excellent British Psychological Society Research Digest commented on 17th May *"Psychologists have provided a dramatic demonstration of how a person's childhood levels of self-control are linked with outcomes later on in their life. This is important because unlike other traits that are associated with life outcomes – including cleverness, tallness, and beauty – lots of research suggests that self-control is readily amenable to improvement through training. Terrie Moffitt and her team assessed the self-control of 1000 New Zealand children at the ages of 3, 5, 7, 9 and 11 and then interviewed them when they'd reached the age of 32. The striking finding was that the study participants with poor childhood self-control were more likely in adulthood to have children of their own in a one-parent situation, more likely to have credit and health problems and more likely to have been convicted of a criminal offence, even after factoring out the effects of intelligence and social class ... To flesh out some examples, the top fifth of the sample in terms of childhood self-control had rates of serious adult health problems at 11 per cent versus 27 per cent for the bottom fifth of the sample. The crime rates in adulthood were 13 per cent for those high in childhood self-control versus 43 per cent for those with low childhood self-control. The relationship with adult outcomes held across the full-range of childhood self-control scores. In other words, there doesn't appear to be a level of self-control beyond which no more benefits are gleaned ... Because the link between childhood self-control and adult outcomes held across the full range of self-control scores, the researchers further recommended introducing universal, rather than targeted, intervention programmes – doing so would help reduce stigma, they said, and could provide benefits even to those who already score highly in self-control. This study chimes with Walter Mischel's findings when he tracked down the participants from his classic marshmallow research. Those young children who were better able to resist the allure of a cookie or marshmallow grew into teenagers with fewer disciplinary problems and better school results."*

Happily this very important Moffitt et al article is freely readable in full text. See too the helpful diagrams/slides illustrating the study's key outcomes and further useful detail accessible on Moffitt and Caspi's excellent joint website. This theme links well too with the blog post I wrote last month on *"Goal setting & goal achievement"*. I'd now like to write about some of the work from a whole series of other researchers that reinforces Terrie Moffitt's findings on the many benefits of higher self-control for children, adolescents and adults. In a further handout I'd also like ***[Cont.]***

to touch briefly on a few potential downsides of high self-control. Additionally I want to explore how one can assess this very important character strength & – crucially – how one can develop it.

Walter Mischel and the 'marshmallow tests':

Self-control & self-discipline are at the foundation of what it takes to be an effective human being. To give just one eye-opening example, without self-control & the ability to delay gratification we would never have developed agriculture – the planting of smaller amounts of potential food (that I could eat now) so that I can harvest much larger amounts of food later. This future-orientated arithmetic was famously explored by Walter Mischel & colleagues in the "marshmallow tests" studying the ability of 4 year olds to resist eating a wanted treat now in order to get more of them later. His paper *"'Willpower' over the life span: decomposing self-regulation"* describes over 40 years of follow-up studies building on this ground-breaking 1960's work. Of his extensive published research, one of the papers I particularly like is *"A hot/cool-system analysis of delay of gratification: dynamics of willpower"* with its abstract stating *"A 2-system framework is proposed for understanding the processes that enable--and undermine--self-control or "willpower" as exemplified in the delay of gratification paradigm. A cool, cognitive "know" system and a hot, emotional "go" system are postulated. The cool system is cognitive, emotionally neutral, contemplative, flexible, integrated, coherent, spatiotemporal, slow, episodic, and strategic. It is the seat of self-regulation and self-control. The hot system is the basis of emotionality, fears as well as passions--impulsive and reflexive ... The balance between the hot and cool systems is determined by stress, developmental level, and the individual's self-regulatory dynamics. The interactions between these systems allow explanation of findings on willpower from 3 decades of research".*

As a psychotherapist I also appreciate Mischel's insights into how developing better self-control & emotion regulation can ease the damage produced by excessive "rejection hypersensitivity" – the territory of borderline personality disorder and insecure childhood parental attachment. See *"Regulating the interpersonal self: strategic self-regulation for coping with rejection sensitivity"* and *"Rejection sensitivity and executive control: Joint predictors of borderline personality features"*. For an easily digestible overview of Walter Mischel's work, see Jonah Lehrer's 2009 New Yorker article (page 26 of the May 18 edition) – *"Don't! Why children who are patient prosper"* and the subsequent question & answer sequence. Mischel's findings on the great benefits associated with "willpower" and self-regulation for future work, social, and health outcomes very much chime with Terrie Moffitt's more recent research findings.

Angela Duckworth and the importance of 'grit':

Angela Duckworth wrote a companion paper – *"The significance of self-control"* – to the recent Terrie Moffitt research. She pointed out that *"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".* So there is clearly an awful lot of choice when looking for other researchers whose work reinforces Terrie Moffitt's findings on the many benefits of higher self-control for children, adolescents and adults. One such researcher is Angela Duckworth herself. One of her earlier papers – *"Self-discipline outdoes IQ in predicting academic performance of adolescents"* – reported that, in studies on 13 year old students *" ... self-discipline measured by self-report, parent report, teacher report, and monetary choice questionnaires in the fall predicted final grades, school attendance, standardized achievement-test scores, and selection into a competitive high school program the following spring. In a replication ... self-discipline measured in the fall accounted for more than twice as much variance as IQ in final grades, high school selection, school attendance, hours spent doing homework, hours spent watching television (inversely), and the time of day students began their homework ... These findings suggest a major reason for students falling short of their intellectual potential: their failure to exercise self-discipline".* Mm ... much the same could be said of many adults. As Thomas Edison commented *"Genius is* ***[Cont.]***

1% inspiration and 99% perspiration". Angela Duckworth has subsequently focused particularly on *"Grit: perseverance and passion for long-term goals".* Full text copies of her excellent research publications are freely downloadable from her University of Pennsylvania web pages.

conscientiousness, better life expectancy, mental function & wellbeing:

At a basic, very physical level, self-control significantly affects how long we live. Kern and Friedman's meta-analysis *"Do conscientious individuals live longer? A quantitative review"* found that *"Higher levels of conscientiousness were significantly and positively related to longevity ... Associations were strongest for the achievement (persistent, industrious) and order (organized, disciplined) facets of conscientiousness. Conclusion: Results strongly support the importance of conscientiousness-related traits to health across the life span."* Some studies have highlighted conscientiousness as the personality trait most connected with improved survival rates – see, for example, the 2008 papers *"Personality and all-cause mortality among older adults dwelling in a Japanese community"* and *"Personality predictors of longevity: Activity, emotional stability, and conscientiousness"*. There is even Wilson et al's study *"Conscientiousness and the incidence of Alzheimer Disease and mild cognitive impairment"* showing that *" ... a high conscientiousness score (90th percentile) was associated with an 89% reduction in risk of Alzheimer disease compared with a low score (10th percentile). Results were not substantially changed by controlling for other personality traits, activity patterns, vascular conditions, or other risk factors. Conscientiousness was also associated with decreased incidence of mild cognitive impairment and reduced cognitive decline."* And at the other end of the physical benefit/psychological benefit spectrum, Howell noted in his paper *"Flourishing: achievement-related correlates of students' well-being"* that students with elevated emotional, psychological, and social well-being *" ... were less likely to adopt an entity view of ability or to procrastinate and were more likely to endorse mastery-approach goals, to report high self-control, and to report high grades. Results are cast in terms of possible accounts of the relationship between well-being and achievement-related functioning."*

building self-control and keeping it in balance:

So does an exploration of the effects of high self-control only involve a triumphal account of the many benefits? Well, mostly this does seem to be the case. Terrie Moffitt and colleagues were very clear that in their longterm follow-up study of New Zealand children *"The relationship with adult outcomes held across the full-range of childhood self-control scores. In other words, there doesn't appear to be a level of self-control beyond which no more benefits are gleaned ... Because the link between childhood self-control and adult outcomes held across the full range of self-control scores, the researchers further recommended introducing universal, rather than targeted, intervention programmes – doing so would help reduce stigma, they said, and could provide benefits even to those who already score highly in self-control".* However in a further handout *"Self-control, conscientiousness ... possible adverse effects"* I'll look at some potential costs (happily they are mostly quite limited). I'll then look too at how to build self-control.

For direct links to all mentioned research references, see www.stressedtozest.com blog posts on 14.06 & 15.06.11. See too the associated posts on 16.06 & 17.06 and the companion handouts "Self-control, conscientiousness, grit, emotion regulation, willpower – possible adverse effects" & *"Self-control, conscientiousness, grit, emotion regulation … how to assess it & how to build it".*

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