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Willpower needs tactical skill

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Abstract: In "Willpower with and without effort", G. Ainslie advances our understanding of self-control by theoretically unifying multiple forms of willpower. But one crucial question remains unanswered: How do agents pick the right forms of willpower in each situation? I argue that willpower requires *tactical skill*, which detects willpower-demanding contexts, selects context-appropriate tactics, and monitors their implementation. Research on tactical skill will significantly advance our understanding of willpower.

Self-control literature has recently shifted from explanations appealing to a unique resource (Baumeister et al., 1998) or process (like inhibition, Diamond, 2013), toward a recognition that self-control relies on a multiplicity of strategies and processes (Duckworth et al., 2016; Hennecke & Bürgler, 2020). Currently the challenge is finding unifying threads in this multiplicity (Inzlicht et al., 2020; Sripada, 2020). Ainslie's target article contributes to this trend toward a much-needed unification of the self-control literature. His account subsumes current willpower research onto the phenomena of suppression, resolve, and habit, and holds that suppression and resolve are complementary willpower tactics, whereas willpower-as-habit results from repeatedly successful resolve.

One key outstanding gap is explaining how agents can select among diverse willpower tactics and find appropriate tactics for each specific situation. This ability to choose the right tactics is crucial given the diversity of situations calling for self-regulation (from addiction to procrastination, from managing anger to trying to develop good habits). Here I argue that, given the multiplicity of willpower tactics and the plurality of regulation challenges, willpower exertion requires skillfully identifying, selecting, and monitoring the implementation of appropriate tactics for each particular context. This *tactical skill* (the skillful management of willpower tactics) is a central component of willpower that remains to be fully theorized and studied.

To illustrate how crucial tactical skill is for willpower, consider that the two tactic types Ainslie presents are themselves *families* of diverse strategies. On the one hand, suppression can take the various forms of response modulation (e.g. inhibiting one's urge to eat another cookie to limit calorie consumption), attentional deployment (e.g. distracting oneself from the package of cookies), or cognitive reappraisal (e.g. imagining the cookies are plastic models instead of real cookies) (Duckworth et al., 2016). These are all forms of suppression: strategies

for resisting temptations that gate out alternatives to the agent's intention without altering the valuations of the alternatives.

On the other hand, resolve (i.e. resisting temptation by representing the present situation as a test case for the fulfillment of a more abstract commitment or goal) can be instantiated in multiple psychological processes. These include forming implementation intentions (commitments that create an if-then link between a certain context and the performance of a certain behavior: Gollwitzer & Sheeran, 2006); instituting bright lines (unique, unambiguous rules that allow no motivated reinterpretations or exception-justifying rationalizations: Ainslie, 2001); and representing the situation using high-level, as opposed to low-level construals (i.e. describing objects and events abstractly, in ways that apply to multiple instances beyond the current one: Fujita et al., 2006, 2018). Additionally, it has been recently shown that a greater tendency toward forming detailed plans is associated with greater self-control (Ludwig et al., 2018; Sjåstad & Baumeister, 2018). This is also an instance of resolve: seeing the specific situation not in isolation but as a crucial step in a broader action pattern. These are not just different descriptions of the same phenomenon: they are different psychological processes. While the theorist can group them together as 'resolve', the agent must choose which specific strategy to implement when faced with a given temptation.

The great diversity of regulatory processes, and the need to select appropriately among them in diverse contexts, makes the ability to choose the right tactics necessary to reliably exert successful willpower. *Tactical skill* is the complex ability to (i) accurately detect when a willpower tactic is called for, (ii) identify appropriate tactics for the given context, and (iii) monitor tactic implementation, evaluating whether to maintain or stop the tactic, or whether to switch to a different one, as implementation unfolds. Tactically skillful agents display regulatory flexibility: the ability to adjust one's regulatory processes to the specific demands of the environment (Bonanno & Burton, 2013). Evidence that individual differences in tactical skill correlate with differences in long-term goal achievement has recently begun to emerge, both for emotion regulation and self-control (Bürgler et al., 2020; Southward et al., 2018).

Ainslie does acknowledge that specific tactics must also be selected. He claims this is done via calculations of the expected value of each tactic, and information-accumulation processes of drift diffusion and vicarious trial and error. While these are all good candidates for the subpersonal mechanisms underlying tactic selection, two dimensions remain under-defined. First, tactic management is a crucial dimension for finding individual differences in the policies and rules that govern reinforcement-learning and decision-making mechanisms. Such individual differences would amount to differences in value-based decision-making processes (Berkman et al., 2017). Methods for assessing these differences are yet to be created. These methods would assess differences not in how people discount larger-later rewards generally, but in how they assess the costs and the expected value of implementing one willpower tactic relative to another. While work on metacontrol has usefully identified individual differences in the balance between cognitive stability or flexibility, or model-free (habitual) vs. model-based (cognitively effortful) problem-solving (Boureau et al., 2015; Hommel, 2015), what remains to be studied is how we value and select among *different model-based strategies*, such as willpower tactics.

Secondly, the phenomenology of self-control can be more substantially studied. It is commonly stated that self-control is experienced as effortful, but it is reasonable to expect that not all tactics will be experienced as equally effortful in all contexts. In fact, the feeling of effort itself plays a role in decision-making by indicating the expected costs and benefits of a willpower tactic given past experience (Kurzban, 2016). As an affect-involving metacognitive state (Carruthers, 2020), agents can use feelings of effort to guide their tactical decision-making. Tactical skill would thus rely crucially on the ability to effectively integrate affect-involving metacognitive information into these decisions (Bermúdez, 2020). Studying such affective metacognitive processes should therefore shed light on how tactical skill works, and thereby on how effective willpower is reliably implemented.

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References

Ainslie, G. (2001). *Breakdown of will*. Cambridge University Press.

Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology*, *74*(5), 1252–1265.

Berkman, E. T., Hutcherson, C. A., Livingston, J. L., Kahn, L. E., & Inzlicht, M. (2017). Self-control as value-based choice. *Current Directions in Psychological Science*, *26*(5), 422–428.

Bermúdez, J. P. (2020). *The skill of self-control*. PsyArXiv. https://doi.org/10.31234/osf.io/7wz5v

Bonanno, G. A., & Burton, C. L. (2013). Regulatory Flexibility: An Individual Differences Perspective on Coping and Emotion Regulation. *Perspectives on Psychological Science*, *8*(6), 591–612. https://doi.org/10.1177/1745691613504116

Boureau, Y.-L., Sokol-Hessner, P., & Daw, N. D. (2015). Deciding How To Decide: Self-Control and Meta-Decision Making. *Trends in Cognitive Sciences*, *19*(11), 700–710. https://doi.org/10.1016/j.tics.2015.08.013

Bürgler, S., Hoyle, R. H., & Hennecke, M. (2020). Flexibility in Using Self-Regulatory Strategies to Manage Self-Control Conflicts: The Role of Metacognitive Knowledge, Strategy Repertoire, and Feedback Monitoring. *PsyArxiv*. https://doi.org/10.31234/osf.io/86h74

Carruthers, P. (2020). Explicit nonconceptual metacognition. *Philosophical Studies*. https://doi.org/10.1007/s11098-020-01557-1

Christensen, W., Sutton, J., & Mcilwain, D. J. F. (2016). Cognition in skilled action: Meshed control and the varieties of skill experience. *Mind and Language*, *31*(1), 37–66.

Diamond, A. (2013). Executive functions. *Annual Review of Psychology*, *64*, 135–168.

Duckworth, A. L., Gendler, T. S., & Gross, J. J. (2016). Situational strategies for self-control. *Perspectives on Psychological Science*, *11*(1), 35–55.

Fujita, K., Carnevale, J. J., & Trope, Y. (2018). Understanding self-control as a whole vs. Part dynamic. *Neuroethics*, *11*(3), 283–296.

Fujita, K., Trope, Y., Liberman, N., & Levin-Sagi, M. (2006). Construal levels and self-control. *Journal of Personality and Social Psychology*, *90*(3), 351–367. https://doi.org/10.1037/0022-3514.90.3.351

Gollwitzer, P. M., & Sheeran, P. (2006). Implementation intentions and goal achievement: A meta-analysis of effects and processes. *Advances in Experimental Social Psychology*, *38*, 69–119.

Hennecke, M., & Bürgler, S. (2020). Many roads lead to Rome: Self-regulatory strategies and their effects on self-control. *Social and Personality Psychology Compass*, *14*(6). https://doi.org/10.1111/spc3.12530

Hommel, B. (2015). Between persistence and flexibility: The yin and yang of action control. In *Advances in Motivation Science* (Vol. 2, pp. 33–67). Elsevier. https://doi.org/10.1016/bs.adms.2015.04.003

Inzlicht, M., Werner, K. M., Briskin, J. L., & Roberts, B. W. (2020). Integrating models of self-regulation. *Annual Review of Psychology*.

Kurzban, R. (2016). The sense of effort. *Current Opinion in Psychology*, *7*, 67–70. https://doi.org/10.1016/j.copsyc.2015.08.003

Ludwig, R. M., Srivastava, S., Berkman, E. T., & Donnellan, B. (2018). Planfulness: A process-focused construct of individual differences in goal achievement. *Collabra: Psychology*, *4*(1), 1–18.

Sjåstad, H., & Baumeister, R. F. (2018). The Future and the Will: Planning requires self-control, and ego depletion leads to planning aversion. *Journal of Experimental Social Psychology*, *76*, 127–141. https://doi.org/10.1016/j.jesp.2018.01.005

Southward, M. W., Altenburger, E. M., Moss, S. A., Cregg, D. R., & Cheavens, J. S. (2018). Flexible, yet firm: A model of healthy emotion regulation. *Journal of Social and Clinical Psychology*, *37*(4), 231–251.

Sripada, C. (2020). The atoms of self-control. *Noûs*.