

## Halfhearted Creative Action: A Puzzle About Control

Shepherd's "Halfhearted Action and Control" (2017) opens with a case that rings all-too-familiar:

"It is 3 p.m. You are grading papers, as you must. But you don't really want to. It is sunny, and you want to be in the park. Your legs hurt, and you want to take a walk. You await an important e-mail, and you want to check for it. You both want to do something else, and you do not want to do the thing you are doing. You grade the papers intentionally. But you also grade them halfheartedly" (2017, p. 259).

What makes your grading halfhearted? Shepherd's answer is that you are halfhearted in virtue of weak overall *motivation* to grade and, as a result, diminished *control* over grading. Shepherd's account of halfhearted action is illuminating and plausible when applied to cases like grading or golfing, which benefit from attentional control (§1). Yet troubles arise when we consider halfhearted *creative* actions. Roughly, the problem is this: certain creative actions require us to *relinquish attentional control*. Because of this, *wholehearted* – and highly motivated – creative agents will display the diminished control that Shepherd takes to be a key signature of *halfhearted* action. I present phenomenological and neuroscientific evidence for the puzzle of halfhearted creative action and makes a novel empirical prediction on the basis of my discussion of halfhearted creativity (§2). I then sketch a unified account of halfhearted action, which expands Shepherd's original model by distinguishing between what I call "higher-order" and "first-order" control (§2).

### **§1: Shepherd on Halfhearted Action and Control**

Shepherd holds that halfhearted actions have three interrelated characteristics<sup>1</sup>. First, one is weakly *motivated* to perform the halfhearted action. Second, in virtue of one's weak motivation, one's exerts relatively little *control* over one's action. And third, weak motivation reduces control by interfering with one's *attention* to the action. Let's take these claims one-by-one.

Shepherd assumes that motivational strength (e.g. weak vs strong motivation) is a psychologically real phenomenon (Shepherd, 2017, pp. 260–264; cf. Clarke, 1994; Mele, 1998). I agree. Sometimes I am strongly motivated to grade, such as when the end is near and coffee is within reach. Other times I am weakly motivated to grade, just like in Shepherd's example. I am motivated to perform the same action in both cases: grading. Yet the manner in which I grade varies dramatically as a result of my motivational strength: I grade halfheartedly when my motivation is weak and wholeheartedly when my motivation is strong.

Shepherd focuses on the effects of weak motivation on control. Specifically, he argues that "weak... motivation compromise[s] control, primarily by impacting the normal functioning

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<sup>1</sup> Shepherd does not claim to offer "necessary and sufficient conditions for halfhearted action" (2017, 260). It may be best, then, to think of these three characteristics as belonging to paradigm cases of halfhearted action, rather than all possible cases.

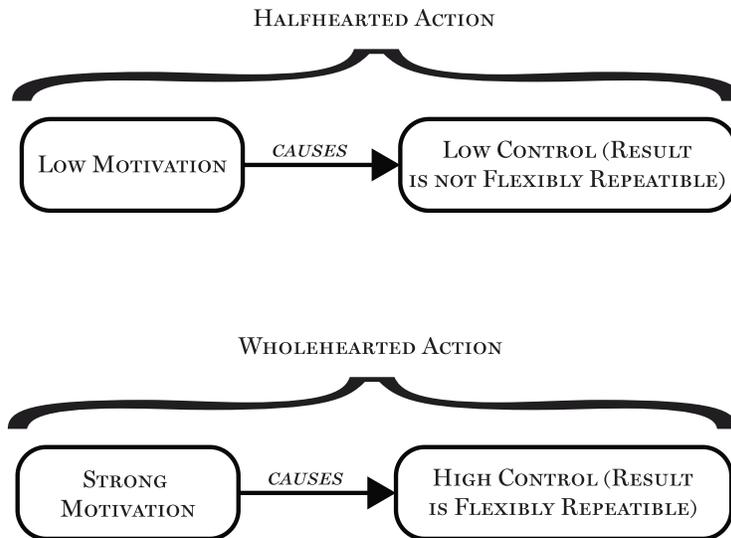
of attention” (2017, p. 267). Before we dig into the details of Shepherd’s account, it will be helpful to trace the connections between motivation, control, and attention intuitively. Suppose I’m weakly motivated to grade. Because of this, it will be difficult to keep my attention focused on the task at hand: instead, my mind will wander to the prospect of a walk in the park, an important email, and so on. Indeed, Shepherd cites empirical evidence that “when motivation is sapped, attention is prone to wander” (2017, p. 267)<sup>2</sup>. Because my attention wanders to other topics, my capacity to control how I grade will be impugned: it will be difficult to grade in a timely manner, for example, to pick up subtleties in my students’ arguments, and to tailor my comments to each paper. What makes my grading halfhearted is the connection between motivational strength, attention, and control: I’m weakly motivated to grade, which causes my attention to wander elsewhere, which compromises my control over how I grade.

Shepherd draws on his account of control (2014) to make these thoughts more precise. Shepherd focuses on how controlled actions are guided and analyzes guidance in terms of flexible repeatability. Guided action is repeatable, in that an agent can reliably bring about the end she is motivated to achieve. Guided action is also flexible, in that the agent can bring about her desired end in multiple circumstances, which differ in theoretically interesting ways. Shepherd uses golf to illustrate his account of guidance as flexible repeatability. Consider me, a terrible golfer. Sometimes I hit the ball onto the green but doing so is largely outside of my control. Why? For one, my ability to hit the ball in any particular direction is not repeatable: sometimes the ball will go straight, but usually, it will slice off into the woods or a bunker. Furthermore, whatever meager golf abilities I possess aren’t flexible. If circumstances differ in any theoretically interesting way – if I have to hit into the wind, the glare, or use a new club, for example – I have no clue how to adjust my swing to compensate for these changes. Unlike a skilled golfer, I cannot flexibly and repeatably hit a ball onto the green. Shepherd’s theory therefore implies (correctly) that the skilled golfer controls and guides her shot more than I do.

Shepherd holds that, *ceteris paribus*, halfhearted actions are less controlled than wholehearted ones: that is, they display less flexible repeatability (see Figure 1). Consider Nandu, an aspiring golfer who forces herself to practice when she doesn’t want to: her feet hurt, it’s been a long week, and she’d rather curl up with a good book. Nandu golfs but does so halfheartedly: she’s weakly motivated to golf and, as a result, is frequently distracted by thoughts of sneaking away from practice. Because Nandu is distracted, her swing is poorly controlled: she doesn’t reliably place the ball on the fairway – it often slices into trees and traps – and she doesn’t flexibly adjust her swing when the wind picks up. Halfhearted Nandu, in virtue of her weak motivation and distractedness, becomes a little more like me: a poor golfer with poor control over where I hit the ball. Similarly, when I grade halfheartedly, I am frequently distracted and thus have less control over grading; that is, I grade with less flexible repeatability. For example, my standards and reading times become less consistent (less repeatable) and it’s harder to flexibly adjust my grading scheme to unusual papers. Shepherd’s case of halfhearted action is both illuminating and intuitive when applied to cases like golfing and grading.

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<sup>2</sup> Although Shepherd does not cite the following papers, they support his hypothesis that weak motivational strength increases mind-wandering and thus impacts performance: Unsworth and McMillan, Seli et al. Seli et al.



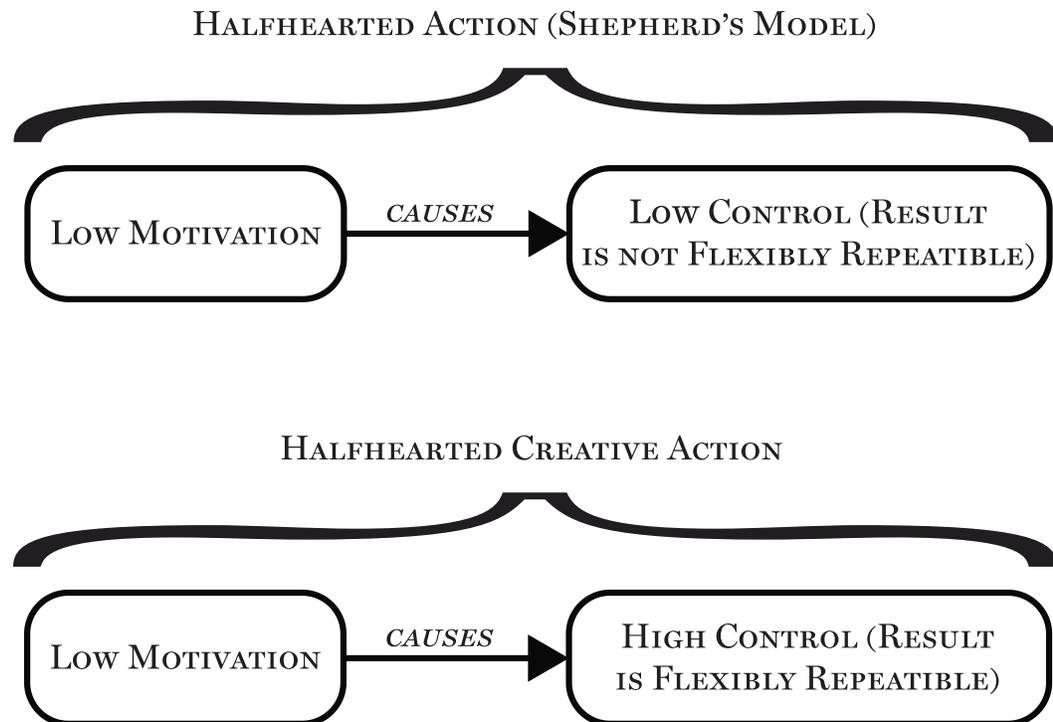
*Figure 1: Shepherd's Model of Halfhearted And Wholehearted Action*

## §2: Halfhearted Creative Actions

Shepherd's account of halfhearted action is illuminating and plausible when applied to actions that benefit from attentional control, such as grading and golf. Many actions are like this, but not all. Consider Katie, a (fictional) accomplished writer who is brainstorming ideas for her next book. She describes her practice as follows: "The key is to lose control. I don't want to guide my thoughts as they roam from topic to topic; that would lead me to be artistically stale. Rather, I just let my mind wander, let the ideas come to me." I will assume that Katie's brainstorming is an action: something Katie does, not something that happens to her. To deny this would be to exclude a core part of Katie's agency as a writer. Of course, Katie's capacity to lose control isn't *sufficient* for her to be her a good writer. She's also a harsh and focused editor. But the broad, uncontrolled, generation of ideas is a crucial part of Susan's creative process. Katie's brainstorming is likewise a paradigm case of what I'll call "creative action".

Creative action provides a test case for Shepherd's theory: for example, can he capture what it is for Katie to brainstorm wholeheartedly or halfheartedly? Shepherd should predict that Katie is wholehearted in virtue of a strong motivation to generate new ideas. This much seems correct. But Shepherd should also predict that Katie's strong motivation will increase her *attentional control* over writing. Phenomenologically, this prediction seems suspect. When Katie wholeheartedly throws herself into a piece, her strong motivation may well lead her to *lose* control, to let her attention wander between disconnected ideas. Halfhearted creative thinking may also have the opposite effect. Suppose Katie is weakly motivated to write – she'd rather binge-watch Netflix – and generates ideas halfheartedly. Her weak motivation might lead her to exert too much control over the creative process and, as a result, fall into stereotypes and worn tropes from her prior work. Creative actions pose a problem for Shepherd because they seem to reverse the normal relationship between halfhearted action and control. *Ceteris paribus*, halfhearted creative actions seem to exhibit *more* control than wholehearted ones

because the agent is *less* motivated to maintain a mode of uncontrolled attention (Figure 2). I'll now elaborate this phenomenological intuition in terms of Shepherd's account of control and the neuroscience of creativity.



*Figure 2: The Puzzle of Halfhearted Creative Action*

Shepherd's analysis of control as flexible repeatability illuminates one sense in which creative actions are uncontrolled. When Katie brainstorms, the ideas she produces will not be flexibly repeatable. The story she sketches today might have ended up totally different, with even a small change in her circumstances. Indeed, what Katie writes likely depend on a host of contingent circumstances: what authors she's reading for inspiration, where she's writing, the time of day, a conversation she overheard in the coffee shop, and so on. This lack of flexible repeatability does not make Katie a poor artist, in the way that my lack of flexible repeatability makes me a poor golfer. Rather, Katie is so creative largely because the ideas she generates are so variable. Likewise, I predict that when Katie writes wholeheartedly, her ideas will be more variable, less flexibly repeatable, and less controlled. In contrast, I predict that flexible repeatability is a marker of halfhearted creative action: when Katie has little motivation to write well, she will likely rehash stereotypes and ideas she's written about before. Since these ideas are obvious, halfhearted Katie would reliably come to them in varied circumstances. In this sense, Katie's ideas are flexibly repeatable. Again, it seems that the relationship between halfhearted creative action and control is the opposite of what Shepherd predicts.

Neuroscientific evidence supports one of the key premises in my argument: that creative idea *generation* involves weakened control (see Beaty, Benedek, Silvia, & Schacter, 2015 for a review). We'll need some background on the default and executive networks to

understand the relevant studies. Regions within the default network strongly activate when subjects are at rest (see Raichle et al., 2001; Shulman et al., 1997 for early and influential reviews) – for example, lying prone in a scanner – and when their minds are wandering (see Fox, Spreng, Ellamil, Andrews-Hanna, & Christoff, 2015 for a review). In contrast, the executive network undergirds our capacity for cognitive control, which paradigmatically involves the deliberate guidance of thought and action in accordance with one’s explicit goals (Corbetta & Shulman, 2002). Elsewhere, I’ve argued that a core function of the executive network is to focus the stream of thought, curtailing the tendency for one’s attention to wander from one topic to another (Andrews-Hanna, Irving, Fox, Spreng, & Christoff, 2018; Christoff, Irving, Fox, Spreng, & Andrews-Hanna, 2016; Irving, 2016; Irving & Thompson, 2018; McVay & Kane, 2010; Sripada, 2018).

Cognitive control is weakened, not only during mind-wandering, but also while artists generate creative ideas. One study examined professional poets during two stages of their creative process: first, while generating new poetry and second, while revising their work (Liu et al., 2015). During the generation stage, clusters of regions within the executive and default networks were anti-correlated. This is consistent with an intuitive idea: poets exert relatively weak control over their stream of thoughts while they first generate ideas, instead letting their minds wander where it will. While poets revised their work, in contrast, executive and default regions were positively correlated, suggesting that this stage of the cognitive process involves cognitive control. Another study found an analogous result with visual artist students who first sketched ideas for a book cover and then evaluated their ideas (Ellamil, Dobson, Beeman, & Christoff, 2012). Initial sketches were associated with activation of the default network and deactivation of the control network, consistent with my claim that idea generation requires weak cognitive control. In contrast, the default and control networks were both active when artists revised their ideas. These studies support a classic theory in the psychology of creativity: creative idea generation involves “blind variation” (Campbell, 1960; Simonton, 1999), a process whose outputs lack the kind of repeatability that Shepherd takes to constitute control.

In light of the foregoing empirical results, my discussion of halfhearted creative action leads to novel empirical predictions (Figure 3). I predict that motivational strength should be *inversely* correlated with cognitive control during creative idea generation: that is, as we *increase* rewards for generating creative ideas, executive activation should *decrease*. In contrast, motivational strength should be positively correlated with executive activation during creative idea evaluation, just as it likely is during mundane actions like grading. Shepherd is correct about the relationship between halfheartedness and control, but only for a subset of human actions: ones where agents try to control their thoughts, rather than set them free.

### §3: Creative Actions and Higher-Order Control

Shepherd’s model does not straightforwardly explain halfhearted *creative* action. Yet we can extend Shepherd’s theory to give a unified explanation of halfhearted creative and ordinary actions. My extension rests on a distinction between higher-order and first-order attentional control, which I’ll sketch here but hope to develop elsewhere.

To introduce the distinction between higher-order and first-order attentional control, think back to Katie’s brainstorming. We can cash out the idea that Katie’s attention is

uncontrolled in three ways. Phenomenologically, Katie does not seem to guide her attention towards any particular ideas, and instead lets her mind wander where it will. Neurally, Katie's executive network is deactivated, which allows her attention to wander from one idea to another. Action theoretically, the ideas Katie attends to are not flexibly repeatable. Katie's ideas vary substantially from one moment to the next, and across different circumstances. Let's say that Katie exerts little "first-order control" over the objects of her attention; instead, her mind wanders where it will.

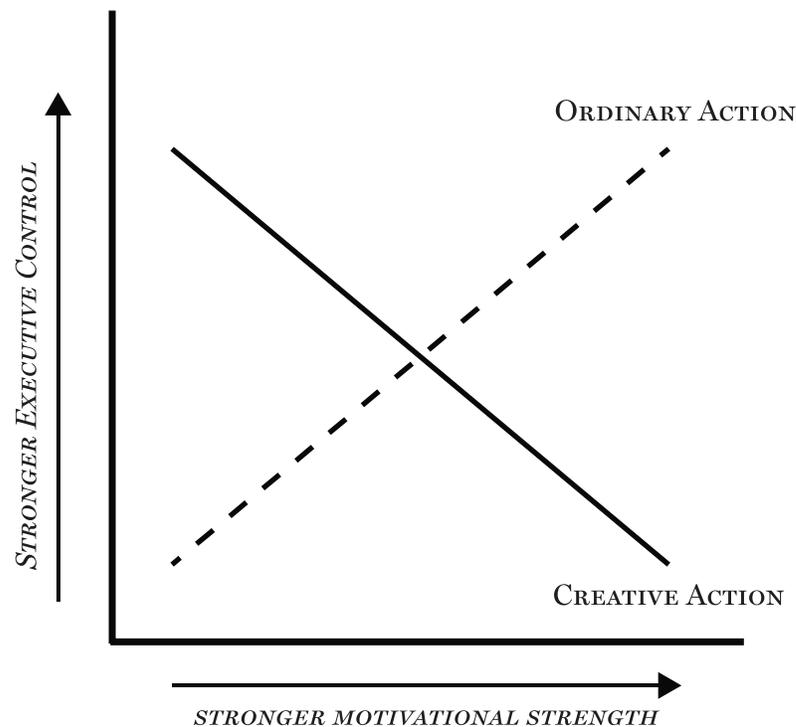
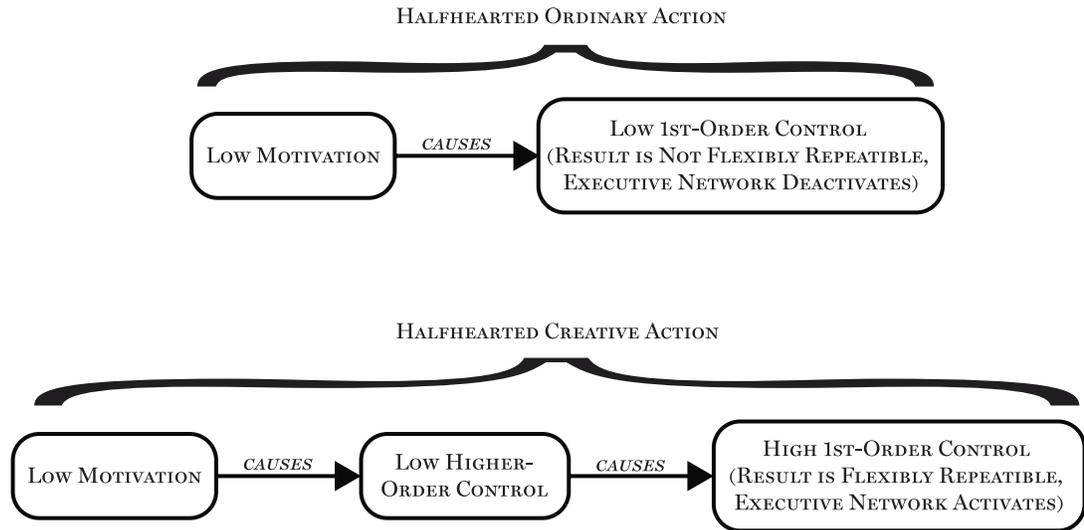


Figure 3: Empirical Prediction

Yet Katie exerts another kind of "higher-order" control over her thoughts: it's not an accident when Katie's attention roves hither and thither. As an accomplished poet, she can skillfully initiate and maintain a stream of unguided thoughts. She's *good* at losing control, letting her mind wander, and letting the ideas come to her. During these periods, Katie's control network deactivates. But this is not a knock on Katie's agency. Rather, this neural deactivation is evidence for Katie's capacity to actively dampen the control that would lead a lesser artist to produce stale, stereotyped, writing. Indeed, Katie can flexibly and repeatedly inhibit first-order control over her attention. Katie can perhaps sense when she's begun to guide her thoughts down old paths, disengage from this first-order control, and let her mind wander once more. Katie does not exert first-order control over the **objects** of her attention. But she exerts higher-order control over her **mode** of attention: specifically, she actively maintains a stream of thoughts that is free from first-order control and guidance.

With the distinction between first-order and higher-order control in hand, we can give a (partially) unified account of halfhearted action that maintains the spirit of Shepherd’s theory. Halfhearted action is weakly motivated and, as a result, poorly controlled in that the agent “approximates the content of her intention to a lower degree across [disparate] circumstances” (Shepherd, 2017, p. 267). Yet what counts as well or poorly controlled depends on whether one’s intention requires first-order or higher-order control (Figure 4).



*Figure 4: First vs. Higher-Order Control in Halfhearted Action*

One’s intentions while grading and golfing implicitly specify the first-order objects to which one should attend (Irving, 2016). Wholehearted, well-controlled, golfers and graders therefore exert more first-order control over the objects of their attention than halfhearted golfers and graders. In contrast, one’s intentions while generating a poem or book cover do not specify first-order objects to which one should attend; to do so would be to begin with preconceptions that could limit creativity. Rather, intentions in creative action specify that one should maintain a mode of attention with limited first-order control. Wholehearted, well-controlled, poets and artists therefore exert better higher-order control over this *mode* of wandering attention than halfhearted ones: *ceteris paribus*, wholehearted artists can inhibit first-order control and maintain mind-wandering more flexibly and repeatably.

We can give a unified analysis of halfhearted action if we squint and let the details blur. This unity tells us something interesting about action. Yet the disunity between halfhearted creative and ordinary actions is equally informative. This is a virtue of Shepherd’s “Halfhearted Action and Control”: Shepherd has carved out a topic rich enough that even the wrinkles are worth thinking through.

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