

# Motivation and control

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April 6, 2018

*I thank the organisers of the Brains Blog symposium for the opportunity to participate in a discussion of Josh Shepherd's excellent paper "Halfhearted action and control".*

**Abstract.** According to Shepherd (2017)<sup>1</sup>, an agent *S* is halfhearted to *A* or in *A*-ing iff *S* is overall weakly motivated to *A*. *S* may be weakly motivated to *A* with respect to *A*'s guidance. Guidance, in turn, can be understood in terms of control: if *S*'s motivation to *A* is weak, his *A*-ing is poorly controlled. Given weak motivation, performance of *A* across various circumstances will be worse than performance in similar circumstances where *S*'s motivation is strong.

In this short commentary on his paper, I propose to amend Shepherd's otherwise plausible account of halfhearted action on one subtle point: a halfhearted, i. e., weakly motivated agent does not *possess* less control in *A*-ing, as Shepherd claims. Rather, the agent *allocates* less control to *A*-ing. One implication of this is that the puzzle of halfhearted action discussed by Shepherd amounts to a special case of the puzzle of weakness of will.

According to Shepherd, "an agent is halfhearted with respect to an action *A* in virtue of weak overall motivation to *A*" (2017, p.260). In order to understand halfhearted action, then, it seems natural to try to understand motivation first. Shepherd builds on the existing literature in order to develop a conception of motivational strength that comes in various degrees. As this allows us to characterise motivation to *A* as stronger or weaker, it thereby allows us to characterise an agent as halfhearted with respect to *A*.

In order to explain why a given level of motivation is strong or weak, Shepherd suggests turning to "the chief functional roles of motivational states and processes for action" (p. 265). These are initiating, sustaining, and guiding action. That is, an agent's motivation to *A* might be weak, and thus halfhearted, in relation to the initiation, sustaining, and/or guidance of *A*. Focussing on the latter, Shepherd suggests that action guidance has a significant internal structure and that the dispositions that undergird the execution

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<sup>1</sup>Unless otherwise stated, all page numbers refer to Shepherd 2017.

of *A* may manifest in many ways (pp.265–6). Those dispositions may, at an abstract level, be grouped together in terms of the degree of control that the agent possesses over *A*. In short, an agent may be halfhearted with respect to *A* if they possess less control over *A* (p.266).

The question thus arises how the possession of less control, which is one functional expression of halfhearted action, is to be understood. As Shepherd stresses, halfhearted action is not simply action with less control. Clearly, one may act with little control without being halfhearted, e. g., when one is drunk. A fortiori, neither is it action with less control in virtue of properties of the motivational system. E. g., over-motivation may undermine action execution. Instead, halfhearted action is “*poorly controlled* in virtue of properties of the motivational system” (p.266, my emphasis), in whatever way that system may impair control.

Shepherd conceptualises control in terms of flexible repeatability. I. e., control over *A* is the ability to repeatedly perform *A* across various circumstances (Shepherd 2014). For instance, possessing control over hitting a hole-in-one is possessing the ability to, say, repeatedly hit a hole-in-one, even if weather conditions, location, golf equipment, etc., are different every time (cf. p.266).

In a case of halfhearted action, then, the agent’s action is poorly controlled. That is, in various circumstances in which her motivation is similar (that is, weak), the agent is less able to repeatedly hit a hole-in-one, compared to a set of circumstances in which her motivation is high. Shepherd draws on a range of empirical findings to argue that weak motivation compromises action control.

Let me now turn to a closer examination of the relationship between motivation and control. According to Shepherd, “one key functional upshot of halfhearted action is *possession* of less control” (p.270, my emphasis). This is not quite right – the key functional upshot in question is *allocation* of less control. Or so I shall argue in what follows.

That is, whilst a halfhearted agent may possess (more) control, she does not allocate it (all) to the task at hand. Consider the halfhearted golf player. She *could* regulate and guide her muscular movements better to hit a hole-in-one, yet she simply does not do it. As Shepherd stresses, this is likely to affect performance. Counterfactually, if the golf player were strongly motivated and thus not halfhearted, then she would employ more control. Whilst the golf player *possesses* control in both cases, she does not *allocate* it to the task at hand in the halfhearted case. Loosely speaking, the halfhearted agent does not make as much effort, even though she could. I shall give two arguments to support this view.

First, the empirical evidence, including the one Shepherd relies on, is consistent with my interpretation. Shepherd refers to experimental findings that increasing motivation enhances performance and, conversely, reduced motivation impairs performance (p.267). For instance, tasks that require sustained attention presumably weaken motivation because they are inherently effortful. Performance typically decreases over time, yet changing reward incentives – and thus motivation – can mitigate this effect.

Shepherd also reports several models which detail the relationship between motivation and action execution (p. 268). For instance, according to Kurzban and colleagues (2013), limited mental processes are allocated to tasks according to their respectively expected costs and benefits. Opportunity costs, which are the output of these cost-benefit computations, are experienced as effort or, over time, as fatigue. Manipulating motivation can affect performance.

Empirical evidence thus suggests that weak motivation leads to impaired performance. However, this does not amount to “halfhearted action [being] action under less control”, or “impaired control [being] a key functional signature of halfhearted action” (p. 269). It is equally plausible that motivation is but one factor affecting performance directly or indirectly.

Consider an analogy: a single stream feeds a lake. The water level of the lake depends on the amount of water carried by the stream. Hence, it is correct to say that less water carried by the stream causes, *ceteris paribus*, the water level of the lake to be lower. Still, it would be false to say that small amounts of influx amount to low lake water levels, or that they are a key functional signature of them. This is because the lake’s water level depends on many other factors, such as the amount of water that evaporates, the amount of precipitation, etc. In short, empirical evidence showing that one factor is causally relevant for a phenomenon does not yet indicate that this factor is a key signature of the phenomenon.

Moreover, the empirical evidence is consistent with my earlier claim that motivation affects allocation rather than possession of control. Increased motivation may enhance task performance because it affects the amount or degree of control invested into this task (Shenhav, Botvinick & Cohen 2013). For instance, on Kurzban et al.’s model, mental resources are limited and dynamically allocated (2013, p. 672).

In addition, agents may perform controlled actions in the absence of or contrary to their motivation. For instance, evidence from learning research shows that participants can learn a stimulus-response relationship even if attending to it is penalised and thus not motivated – in short, motivation and control can be dissociated (Braver 2015, e. g., ch. 3). Shepherd (pp. 269–70) argues that, even though some actions can be well controlled in the absence of motivation, motivation impairment still leads to diminished control. Whilst this point may well be true, it does not refute the claim that controlled actions can be carried out contrary to motivation, and thus that motivation and control are dissociable.

Second, I shall now argue by *reductio ad absurdum* that it is false that the halfhearted agent possesses less control over his action. Assume, for argument’s sake, that this is the case. Furthermore, assume with Shepherd that motivational strength comes in degrees and corresponds to degrees of control. Thus, if the agent’s motivation increases, he gains more control. Being strongly motivated to  $F$  thus amounts to possessing a greater degree control over one’s  $F$ -ing.

But this seems wrong. Consider two counterexamples: a cancer patient is strongly motivated to survive, an athlete is strongly motivated to defeat a rival. These agents presumably *allocate* as much control as they possess to surviving and to winning – they

are not halfhearted. Yet the maximum control they *possess* is limited. The cancer patient cannot control his tumours; the athlete does not possess control over her rival.

Note that this is entirely consistent with Shepherd's claim that the actions of patient and athlete will be more or less controlled, depending on their degree of motivation (pp. 269–70). Within the range of control available to them, they are *ceteris paribus* likely to *allocate* more control to surviving and winning, respectively, if they are strongly rather than weakly motivated. Yet the control they *possess* does not increase or decrease with motivation.

To summarise, I have suggested to amend Shepherd's account of halfhearted action as follows: an agent *S* is halfhearted in *A*-ing iff *S* is overall weakly motivated to *A*, and this in turn may amount to *S*'s *allocating* less control to her *A*-ing (rather than possessing less control over it).

Does this approach help us to address the puzzle of halfhearted action (pp. 271–3)? In a nutshell, the puzzle is that the halfhearted agent seems to intend to *A*, yet knowingly accepts that she fails to *A*. For instance, a halfhearted dancer seems to accept that she makes mistakes, even though she intends to perform her routine without mistakes. This appears incoherent.

This description implies that the halfhearted dancer knows that she needs to focus and make a great effort in order to dance flawlessly. That is, she knows that she must allocate maximum control to her dancing. Plausibly, she believes that she ought to do so. If she then fails to allocate the amount of control needed, i. e., if she fails to make as much effort as required, then she does not do what she believes she ought to do. This is so despite her believing that she could make the effort, and succeed. In short, the agent fulfils all conditions of weakness of the will, as commonly understood (Davidson 1980 [1970]). The puzzle of halfhearted action is then, on this view, a special case of the puzzle of weakness of will.

## References

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