

## Less cognitive conflict does not imply choice of the default option: Commentary on Kieslich and Hilbig (2014)

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### Abstract

Kieslich and Hilbig (2014) employ a mouse-tracking technique to measure decision conflict in social dilemmas. They report that defectors exhibit more conflict than do cooperators. They infer that cooperation thus is the reflexive, default behavior. We argue, however, that their analysis fails to discriminate between reflexive versus cognitively controlled behavioral responses. This is because cognitive conflict can emanate from resisting impulse successfully—or unsuccessfully.

Keywords: social dilemma, cooperation, intuition, cognitive conflict, self-control.

Kieslich and Hilbig (2014) use mouse-tracking to measure cognitive conflict in three different economic games—the prisoner’s dilemma, the chicken game, and the stag hunt game—each characterized by a social dilemma. They report that defection is associated with higher degrees of conflict than is cooperation, and they reason that this result is consistent with their prediction that the reflexive, “default” behavior is to cooperate.<sup>1</sup> We argue, however, that their specific result—and their paradigm, more generally—fails to discriminate between reflexive versus cognitively controlled behavioral responses. This is because cognitive conflict can emanate from resisting impulse successfully—or unsuccessfully.

Kieslich and Hilbig (2014) base their prediction on results arising from a controversial research program by Rand and colleagues (see e.g., Rand et al., 2012; Rand et al., 2014). The message in this program is succinctly conveyed in the title of the first paper, “Spontaneous giving and calculated greed” (Rand et al., 2012). However, as Kieslich and Hilbig (2014) note, the empirical pattern is contested (e.g., Tinghög et al., 2013; Lohse et al., 2014; Verkoeijen & Bouwmeester, 2014), and a recent re-examination of Rand et al. (2012) and Rand et al. (2014) reveals that the data sets contain no meaningful evidence for the notion that giving is “spontaneous” and greed “calculated” (Myrseth & Wollbrant, 2015). Efforts to shed further light on the cognitive processes behind

the decision to defect or cooperate are thus well placed.

Adopting the stated assumption that cooperation represents the reflexive, default behavior, Kieslich and Hilbig (2014) formulate the following prediction: cooperation should be associated with less cognitive conflict than should defection. Their line of reasoning is predicated on two tacit assumptions: (1) efforts to resist behavioral impulse involve more conflict than would no such efforts; and (2) efforts to resist impulse are successful. The former is unproblematic, but the latter is clearly not. Sometimes individuals succeed at self-control; other times they fail. Thus, cognitive conflict may emanate both from the successful and unsuccessful resistance to impulse. If we knew that conflict associated with successful self-control were stronger than that associated with self-control failure, then we could derive the prediction put forth by Kieslich and Hilbig (2014). However, we do not know this, and the alternative possibility—that unsuccessful resistance to impulse is associated with more conflict—seems equally plausible. In that event, and on the assumption that cooperation is the impulsive response, one might predict that cooperation is associated with more cognitive conflict.<sup>2</sup> The authors’ prediction, therefore, does not follow from their stated assumption; it might well be the opposite.

That said, Kieslich and Hilbig (2014) add to the literature by applying a measure of cognitive conflict hitherto not introduced in the study of social dilemmas. And they find that those who defect exhibit more conflict than do those who cooperate. Might we work the other way, and deduce from this which behavioral response—to defect or to cooperate—represents the default? Unfortunately, we cannot. Observing that defectors exhibit more conflict could mean (a) that cooperation is the default, and that successful self-control

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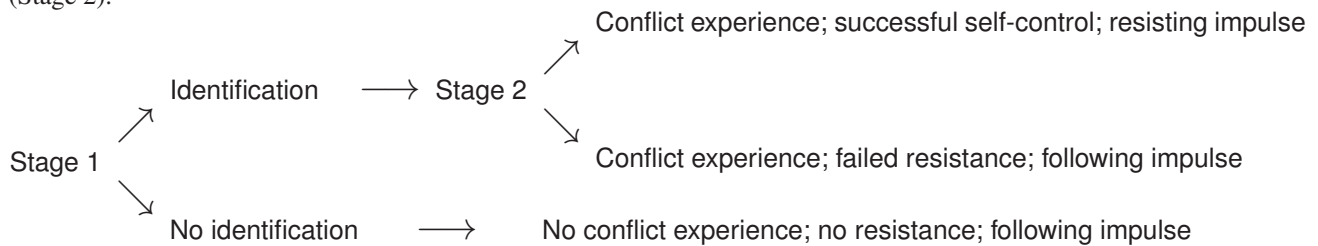
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<sup>1</sup>We recognize that this particular use of the term “default” can be confusing, as default behavior of course need not be inconsistent with a reasoned, controlled behavioral response. We use it here to mean the reflexive, initial behavioral proclivity, in keeping with the terminology adopted by Kieslich and Hilbig (2014).

<sup>2</sup>This prediction is contingent on the assumption that the difference in conflict more than offsets the low levels of conflict exhibited by those individuals who, without resisting (see Figure 1), act on the impulse to cooperate.

Figure 1: The two-stage model of self-control. The individual either identifies conflict or not (Stage 1). In the event of no identification, the individual exercises no restraint. In the event of identification, behavior depends on self-control strategies (Stage 2).



entails more conflict than does unsuccessful self-control, but it could also mean (b) that defection is the default, and self-control failure entails more conflict than does successful self-control. Neither possibility seems profoundly more plausible than the other.

A visualization of possible interpretations of differences in conflict might prove instructive. Myrseth and Fishbach (2009) present a two-stage model of self-control (see Figure 1 for an adaptation), which distinguishes between identification of self-control conflict, and the exercise of self-control. This framework has recently been applied to the study of pro-social behavior in economic games (e.g., Martinsson et al., 2012; Kocher et al., 2013; Martinsson et al., 2014), and it highlights when we would expect individuals to experience cognitive conflict. Crucially, when individuals fail to identify a self-control conflict, they will experience none, and will follow their impulse. However, they may also follow their impulse after having seen the conflict but failed in their efforts to resist. Hence, an observed behavior could be the result of three distinct cognitive scenarios: (1) absence of conflict identification, accompanied by no experience of conflict; (2) conflict identification, conflict experience, and successful self-control; or, (3) conflict identification, conflict experience, and failed resistance. Merely observing, then, that one of two behaviors is associated with more conflict, does not allow us to determine which is driven by impulse.

One might also consider whether the conclusions drawn by Kieslich and Hilbig (2014) are justified by the moderator, the Honesty-Humility factor of the HEXACO personality model (Ashton & Lee, 2007; Ashton et al., 2014). Unfortunately, they are not. Again Kieslich and Hilbig (2014) base their reasoning on an unnecessarily restrictive assumption: “*Dispositionally cooperative individuals should be particularly inclined to cooperate spontaneously and their decisions should be characterized by particularly strong conflict whenever they defect*” (p. 513). How do we know that disposition here captures spontaneous inclination as opposed to deliberative goal pursuit? Might it not be equally plausible that dispositionally cooperative individuals are characterized by the same spontaneous inclinations as others, but

differ in their deliberate pursuit of abstract goals? This second interpretation would also allow for the pattern observed by Kieslich and Hilbig, but it would change the meaning: we might observe among dispositionally cooperative individuals a stronger difference in cognitive conflict between defectors and cooperators because dispositionally cooperative individuals more likely would identify the self-control conflict between cooperation and defection. Higher observed levels of conflict associated with defection would then mean that self-control failure involves more conflict than does successful self-control.

Although Kieslich and Hilbig fail to discriminate between default versus cognitively controlled behavioral responses, they do provide evidence against four out of a total of six possible cognitive scenarios. As illustrated in Table 1, there might have been no difference in conflict between cooperators and defectors, and cooperation could have been associated with more conflict; the latter possibility could have resulted from cooperation as the default and self-control failure yielding more conflict than successful self-control, or from defection as the default and successful self-control yielding more conflict than self-control failure.<sup>3</sup> As for assigning merit to the two possibilities that both involve higher conflict associated with defection, we would have to determine how to interpret the moderator—whether it captures dispositional spontaneous inclination or deliberative goal-pursuit. If it captures the former, then we could conclude that the default is to cooperate (among the dispositionally cooperative) and that more conflict is associated with successful self-control in efforts to defect. But if it measures the latter, then we would conclude that the default is to defect, and that more conflict is associated with failed resistance to the impulse to defect.

We conclude that the predictions formulated by Kieslich and Hilbig (2014) are premature, as is the inference that their empirical results “support the idea that cooperation is the spontaneous and less conflicting response in social

<sup>3</sup>Indeed, self-report measures of experienced conflict from Kocher et al. (2013) and Martinsson et al. (2014) indicate that defectors in public good games experience less conflict than do conditional cooperators, defined according to the Fishbacher et al. (2001) taxonomy.

Table 1: More conflict for cooperators than defectors can be observed for both defaults; yellow cells indicate viable interpretations of empirical results from Kieslich and Hilbig (2014). First column indicates reasonable predictions on the assumption that cooperation represents the majority default, but see Footnote 2 for a qualification for bottom row scenarios.

Assumed self-control and its relation to conflict	Conflict by cognitive scenario: Assumed majority default	
	Cooperation	Defection
No self-control	No difference between <i>Cooperators</i> and <i>Defectors</i>	No difference between <i>Cooperators</i> and <i>Defectors</i>
More conflict with successful self-control	More conflict for <i>Defectors</i> than for <i>Cooperators</i>	More conflict for <i>Cooperators</i> than for <i>Defectors</i>
More conflict with self-control failure	More conflict for <i>Cooperators</i> than for <i>Defectors</i>	More conflict for <i>Defectors</i> than for <i>Cooperators</i>

dilemmas” (p. 519). While their results indeed have narrowed the possibility set, they do not allow us to discriminate between the two possible reflexive, default behaviors. Future research might clarify the meaning of cognitive conflict in economic games.

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