On the feeling of doing: Dysphoria and the implicit modulation of authorship ascription

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Abstract

The experience of authorship arises when we feel that observed effects (e.g., the onset of a light) are caused by our own actions (e.g., pushing a switch). This study tested whether dysphoric persons' authorship ascription can be modulated implicitly in a situation in which the exclusivity of the cause of effects is ambiguous. In line with the idea that depressed individuals' self-schemata include general views of uncontrollability, in a subliminal priming task we observed that dysphoric (compared with nondysphoric) participants experienced lower authorship of action effects when the self-concept was primed. Priming the potential effects of an action just prior to their occurrence, however, increased experiences of authorship in all participants and eliminated the effect of self-concept priming on dysphoric participants' authorship experiences. These findings suggest that the human mental system seized on a match between primed and actual action effect to establish a sense of authorship, even in a state of depression when persons have weak self-views of causing behavioral outcomes.

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Introduction

The experience of personal authorship arises when we feel that we are doing things. This feeling of causation emerges when the perception of an effect (e.g., onset of a light) corresponds with the effect that is expected to result from performing an action (e.g., pushing a switch). However, such causal analyses suffer from a fundamental uncertainty, as there is always the possibility that action-effects result from some other source. Furthermore, one cannot directly observe causal connections between one's own actions and effects. Thus, conscious causation is always an inference and never something directly observable. Recent work suggests that experienced authorship of events is biased by the mere thoughts we have about events just prior to their occurrence (Wegner, 2002; Wegner & Wheatley, 1999). This study explored the implicit modulation of...
authorship ascription by testing whether subliminal priming of self-schemata and action effects alter the experience of personal causation in dysphoric individuals when exclusivity of the cause of effects is ambiguous.

Spurred by Beck's (1967) depressive schema model and the reformulated learned helplessness model (Abramson, Seligman, & Teasdale, 1978), much social-cognitive research on depression has been guided by the idea that perceptions of personal control and causation differ between depressed and nondepressed individuals. These differences result from cognitive schemata that are triggered by self-referential processes (e.g., Bargh & Tota, 1988; Kuiper & MacDonald, 1982; Pyszczynski, Holt, & Greenberg, 1987). Thus, depressed and dysphoric people’s schemata automatically reveal their nature when the self-concept is activated, thereby expressing less perceived control and causation over action–effects. There are some data that speak to this suggestion. In a study by Alloy and Abramson (1979), dysphoric and nondepressed students engaged in a series of action/effect contingency trials in which their action (e.g., pressing a key or not) produces an effect (e.g., the onset of a light) by chance. After the task they were asked to estimate the overall degree of causing the outcome. Because participants were the sole cause of the events and the aggregated post-test measure of causation renders the judgment more self-referential (e.g., Fu, Koutstaal, Fu, Poon, & Cleare, 2005), the self-concept was likely to have been activated in all participants. Alloy and Abramson found that dysphoric individuals’ estimates of causation were lower than those of nondysphoric people (for a discussion of this effect see e.g., Ackermann & DeRubeis, 1991; Dobson & Franche, 1989).

The present work aimed to extend this research by testing whether dysphoric individuals experience less authorship when the self-concept is subliminally primed before the occurrence of an action effect in a situation in which the exclusivity of the cause of effects is ambiguous. Specifically, we experimentally varied the mere accessibility of the self-concept and, rather than an overall post-test measure of causation, asked participants on a trial-by-trial basis to indicate whether they themselves or another agent (i.e., the computer) caused an observed effect following their action. Recent research shows that subliminal exposure to first-person singular pronouns (e.g., “I”) primes self-schemata (Dijksterhuis, 2004; Mussweiler & Bodenhausen, 2002; Schubert & Häfner, 2003). In line with this research, we reasoned that self-primes trigger self-schemata of uncontrollability in dysphoric people, and that these general thoughts about uncontrollability decrease their experience of causing action effects.

Depressed and dysphoric individuals are likely to experience decreased authorship when there is no salient information about alternative causes for effects (cf. Weary & Gannon, 1996). Thus, if depressive self-schemata will decrease feelings of doing under conditions where causation is ambiguous, less ambiguity may attenuate this effect. Less ambiguity can be brought about by relevant information. One such salient piece of information is prior knowledge about action effects. A match between primed and observed effect information is a key source for grasping a sense of authorship (Aarts, Custers, & Wegener, 2005; Frith, Blakemore, & Wolpert, 2000; Pronin, Wegner, McCarthy, & Rodriguez, in press; Wegner & Wheatley, 1999). This basic role of effect information renders people prone to rely on it to establish personal feelings of causation. According to Wegner (2002, 2003), in such cases the mind can produce apparent mental causation: the experience of personally causing events that arises whenever our thoughts are inferred to cause these events—whether we truly caused them or not. Thus, the mere priming of the representation of action effects enhances the feeling that one causes the effect when it actually occurs.

Aarts et al. (2005) tested this idea. They designed a task in which the participant and the computer each move a single gray square. The two squares independently traverse in opposite directions on a rectangular path consisting of eight white tiles on a display. Participants’ task was to press a key to stop the movement of the squares. This action turned one of the eight white tiles black. In reality, the computer determined which of the tiles would turn black. However, from a participants’ perspective this black tile could represent the location of either the participants’ square or the computer’s square at the time they pressed stop. Thus, the task was devised in such a way that either the participant or the computer could have caused the square to stop on the observed position, rendering the exclusivity of the cause of effects ambiguous (cf. Wegner & Wheatley, 1999). Accordingly, the position of the black square could be conceived of as the possible effect resulting from participants’ action of pressing the stop key. The position of the black square was primed or not, just before participants stopped the movement. Because the position of the black square was determined by the computer, actual control over causing the stops was absent. Results showed that subliminal priming of the position substantially enhanced feeling of personally causing the square to stop. Further experimentation showed that...
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