

Persistence and reorientation: Persistence and dissolution of goal-related cognitive sets

The adoption of a goal or task is accompanied by a focusing of attention on goal- or task-related information. Two components of this focusing can be distinguished: (1) cognitive resonance for relevant information is increased, and (2) processing of irrelevant information is suppressed. Cognitive focusing is typically deactivated when the goal is achieved or the task has been performed successfully. But what happens to a goal-related attentional set when goal pursuit has definitely failed? In a first set of experiments, cognitive resonance for goal-related information after experimentally induced failure was investigated. In a first phase of the experiments, participants received positive or negative feedback in a complex labyrinth task (Experiment 1) or in a number of synonym tasks (Experiment 2). In a second phase of the experiments, automatic attentional capture for stimuli relating to the previous labyrinth or synonym tasks was measured by presenting these stimuli as distractors in a word-naming task. Interference effects of the distractors were increased after failure in both experiments. In a second set of experiments, inhibition of task-irrelevant information was analyzed during a failure episode. In a first study, participants had to work on a solvable or unsolvable labyrinth task while being exposed to acoustic distractor words (Experiment 3). Inhibition of irrelevant information was measured continuously during the labyrinth task by presenting the distractors as stimuli in a secondary color-naming task. Again, interference effects of the distractors increased during the unsolvable labyrinth but not during the solvable task. Two additional experiments investigated whether previously suppressed irrelevant information is disinhibited after failure (Experiments 4 and 5). Participants had to work on a set of concept identification tasks. While performing these tasks, cognitive accessibility of the different object features was measured by presenting their names as word stimuli in a secondary color-naming task. Rejecting a feature in the concept identification task led to an inhibition of the corresponding feature. By giving partially invalid feedback, it was possible to reject all possible features of the task. In this situation, the solution strategy of subjects failed as a whole and previously inhibited features became accessible again. In sum, the experiments support the hypothesis that mechanisms of a preferred processing of relevant information and a blocking out of irrelevant information are differentially affected by failure. An increased cognitive resonance for goal-related information persists even after a definite failure of goal pursuit. This perseverance of sensitivity to goal-related information guarantees that possible future opportunities for a successful goal pursuit will not be overlooked. On the other hand, an inhibition of irrelevant information is not maintained in the face of failure. The experience of repeated unsuccessful attempts to reach a goal induces an open, defocalized mode of information processing that is functional for a reorientation after failure.

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