A rich line of decision-making research is based on the distinction between goal-directed and habitual behavior (cite Dolan/Dayan). When pursuing goals, people “plan ahead” over a causal model of the world and select actions which are most likely to lead to goal fulfillment (cite?). For example, a dieter will turn down the slice of cake because he/she is pursuing the goal of weight loss. On the other hand, habits are stimulus-response patterns which get “stamped in” by reinforcement (cite). For example, a dieter may give in to a The difference between goals and habits is highlighted by studies in which rats are trained that pressing a lever releases food, and are then fed to satiation (cite). Normally rats will stop pressing the lever, because eating is no longer a relevant goal. But if they received extensive training, the rats will continue pressing the lever and ignore the released food. Pressing the lever was “stamped in” as a habit.

These systems, goal-directed and habitual, are often portrayed as competing for control of action selection (cite).