

# SANNE DE WIT, PhD TRANSLATIONAL RESEARCH INTO ACTIONS AND HABITS IN ANIMALS AND HUMANS

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## TRANSLATIONAL RESEARCH INTO ACTIONS AND HABITS IN ANIMALS AND HUMANS

Humans and other animals are constantly making choices in a complex environment that offers multiple affordances and rewards. To deal with the burden of this complexity, evolution may have endowed us with the ability to automatise behaviours that in the past have consistently led to pleasant experiences (or to successful avoidance of unpleasant experiences). The advantage of such automatization may be that these choices require less cognitive effort and can be executed fast and efficiently. However, behavioral repetition has also been proposed to lead to the formation of habits that can be directly triggered by environmental cues regardless of whether the outcome of the behaviour currently constitutes a goal. In other words, habit formation may lead to reduced flexibility. To study the formation of inflexible habits, animal researchers have developed the outcome-devaluation paradigm. In the initial stage of this paradigm, animals are initially trained to perform a certain behaviour to earn a reward. Subsequently, that reward is devalued (e.g. food is devalued through satiation). After moderate training, animals have been shown to immediately reduce responding, but this ability to act in a goal-directed manner is compromised after more extensive training. Furthermore, lesioning research has provided evidence that the transition from goal-directed towards habitual control depends on dissociable neural pathways, in support of the dual-process view. During the past decade, human psychologists have attempted to translate the outcome-devaluation paradigm to study habits in humans. In the present talk, advances in this line of research will be discussed, as well as important challenges for future research.

**Sanne de Wit** is an Associate Professor at the Department of Clinical Psychology at the University of Amsterdam, where she leads the Habit Lab. She has a background in animal research, but currently specialises in translational research in humans. The Habit Lab combined experimental lab research into habits with neuroimaging and real-life studies of habit formation and behaviour change interventions. This work is conducted with funding from the Dutch Scientific Organisation ('NWO').