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Intolerance of uncertainty modulates the insensitivity to reinforcer devaluation found in an avoidance task

The reinforcer devaluation paradigm has been regarded as a canonical paradigm to detect habit-like behavior in animal and human instrumental learning. Though less studied, avoidance situations set a scenario where habit-like behavior may be of great experimental and clinical interest. On the other hand, proactive intolerance of uncertainty has been shown as a factor facilitating responses in uncertain situations. Thus, avoidance situations in which uncertainty is favoured, may be taken as a relevant paradigm to examine the role of intolerance of uncertainty as a facilitatory factor for habit-like behavior to occur. In our experiment we used a free-operant discriminative avoidance procedure to implement a devaluation paradigm. Participants learned to avoid an aversive noise presented either to the right or to the left ear by pressing two different keys. After a devaluation phase where the volume of one of the noises was reduced, they went through a test phase identical to the avoidance phase except for the fact that the noise was never administered. Sensitivity to reinforcer devaluation was examined by comparing the response rate to the cue associated to the devalued reinforcer with that to the cue associated to the still aversive reinforcer. The results showed that intolerance of uncertainty was positively associated to insensitivity to reinforcer devaluation. Finally, we discuss the theoretical and clinical implications of the habit-like behavior obtained in our avoidance procedure.