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Decisions, decisions, decisions ...

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We all make numerous decisions everyday; unconsciously or consciously, sometimes doing it automatically with little effort or thinking and yet, at other times, we agonize for hours over another. Why do we make these choices – be it from deciding what to have for lunch or whether to say yes to that job offer halfway round the world. Sometimes we make choices on our own, and at other times, the choice is made for us. Exercising control (by making choices) is adaptive and now, a new study, which will be published in an upcoming issue of *Psychological Science*, a journal of the Association for Psychological Science, suggests that the opportunity to exercise control may be adaptive because it activates the areas of the brain associated with rewards.

"Everything we do involves making choices, even if we don't think very much about it. For example, just moving your leg to walk in one direction or another is a choice – however, you might not appreciate that you are choosing this action, unless someone were to stop you from moving that leg. We often take for granted all of the choices we make, until they are taken away," says Mauricio Delgado at Rutgers University, who co-wrote the article along with post-doctoral fellow, Lauren Leotti.

In conducting their experiment, Leotti and Delgado used a simple task in which participants were presented with different cues – the choice and no choice cues. The choice cue represented an opportunity for choice, where participants could pick two options, and the no choice cue represented a condition where the computer would choose for them. In both the choice and no-choice conditions, participants had the

opportunity to win money, though the outcomes were not actually contingent on their responses. Nonetheless, participants tended to perceive control over the outcomes when they were given the opportunity to exercise choice.

According to Leotti, the study demonstrated that the opportunity for a sense of control relayed by the choice cues (compared to no choice cues) recruits reward related brain circuitry. "It makes sense that we would evolve to find choice rewarding, since the perception of control is so adaptive. If we didn't feel that we were capable of effectively acting on our environment to achieve our desired goals, there would be little incentive to face even the slightest challenge," says Leotti.

The research into the perception of control is especially relevant from a social aspect as it is important and valuable to psychological well-being. "It is at the crux of so many psychiatric disorders such as anxiety disorders, eating disorders and substance abuse," says Delgado who hopes to continue this line of research by investigating contextual influences on the value of choice in the near future. Furthermore, by understanding the neural bases of perception of control, it may be possible to target effective therapeutic treatments focusing on choice valuation and treat disruptions to perceived control, the root of many behavioral disorders.

So the next time you are faced with making a decision; from something as simple as choosing a blue or black tie for a business meeting to something as complex as putting down a deposit for a house (near your parents no less)…ask yourself – who's in control?

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