Tutorial: 6 Delay Discounting Experiment

PSY310: Lab in Psychology

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GitHub link:
https://github.com/SmitinambiarAU/experiments.git

Introduction:

Delay Discounting Task is used in both psychology and neuroscience to study individual differences in impulsivity. The task itself increases an individual's willingness to wait for a larger reward rather than choosing a smaller and more immediate reward. There are various studies one of the studies of Reyonals about Dimensions of impulsive behavior: Personality and behavioral measures which shows individual differences such as the study about the relationship between self-reported impulsivity and behavior measures on performance which also includes delay discounting tasks Reynolds, B., Ortengren, A., Richards, J. B., & de Wit, H. (2006).

Method

Participants:

As a part of PSY 310 Lab in Psychology at Ahmedabad University there are four participants that are 20 years old a females.

Materials:

The experiment was performed on Psychopy software (2023.2.1) on a standard HP laptop. In a delay discounting experiment, participants choose between smaller rewards available immediately and larger rewards available after a delay, thereby investigating human preference for immediate gratification versus long-term benefits.

Procedure:

In the delay discounting experiment, the primary goal is to understand how individuals have choices between smaller rewards that are available immediately and larger rewards available after the delay. Thus, the layout and the set size (w,h) of the polygon as fixation is (0.05,0.05) and the position is displayed on the center of the screen. There would be an interpretation appearing on the screen as " GBP 30 after 7 days" and the allowed keys are 't' and 'l' indicating today and later respectively.

While performing the task/experiment the participant would observe a statement " GBP 30 after 7 days" and then press a key t or l which indicates today and later which shows whether the participant chose between smaller rewards or larger rewards.

Results:-

The estimated discounting value (k) is **0.000398515.**

Discussion:

The K value should be between 0.0 and 0.5. Yes, discounting value is an excellent marker to establish individual differences. Thus, in the experiment, if the K value is smaller then it means there is a lack of discounting and the participant prefers to delay rewards more than the rewards obtained today. Plus, it also shows lower impulsivity levels and higher K values the participant refers to immediate or today rewards more than the delay rewards. \
In this dealy discounting experiment, the K value is lower which turns out to be a lower level of impulsivity. Thus in conclusion the participant prefers delayed rewards more than today's rewards.

References:-

- Reynolds, B., Ortengren, A., Richards, J. B., & de Wit, H. (2006). Dimensions of impulsive behavior: Personality and behavioral measures. *Personality and Individual Differences, 40*(2), 305–315. https://doi.org/10.1016/j.paid.2005.03.024