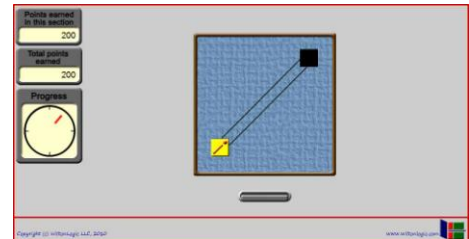


Module 2: Impulsivity

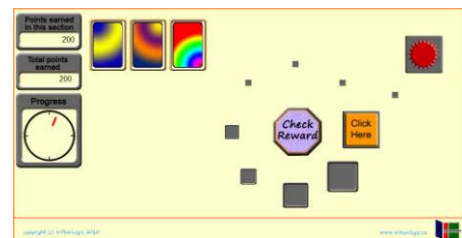
Stop-Signal Task

The Stop-Signal task is a method for testing inhibitory control mechanisms. The participant is shown a yellow square which moves across a space. The basic task is to touch within the blue area before the yellow square reaches its destination (here shown moving across the target area). However, on a minority of trials, there is an auditory signal, a whistle blowing, which tells the participant that they should withhold the response. The time between the start of the trial and the whistle can be varied from 50 to 350 msec. In general, the longer the delay, the more difficult it is to inhibit the response. Published research with similar procedures shows this difficulty in inhibition is particularly pronounced in individuals with impulse control disorders. Percent correct responses and reaction times under the various conditions are recorded, and regression analysis is used to estimate the time at which responses are correctly inhibited on 50% of trials.



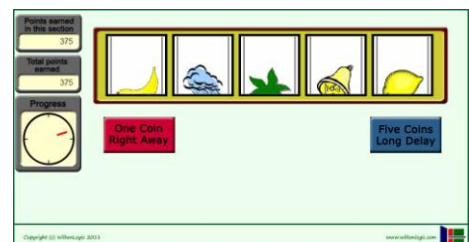
Variable Consecutive Number Test (VCN)

The variable consecutive number test assesses the propensity of a test participant to perform a series of acts to earn reward. In the test the participant touches locations in the outer ring of squares, progressing in a clockwise direction. At a time of their choosing, the participants should switch behavior and touch the central, pink location to open the three rainbow colored reward boxes. Up to a limit, the likelihood of all three boxes containing reward, and being considered a correct trial, increases the longer the participants keep stepping around the ring. The number of touches round the circle before checking the reward, and the time taken to make the first 8 responses, are recorded for each trial.



Delay of Reward Procedure (DOR)

The delay of reward task uses real delays and points rewards based on choosing to wait for one or five coins to appear in the display. The participants are shown four response buttons, each associated with a reward size and a delay, one coin right away, or five coins right away, or after a short or a long delay. Once they have experienced the outcome of choosing each option, they are presented with a sequence of pairs of buttons. In the picture the choice is between one reward delivered almost immediately, and signaled by a single coin appearing in one of the five windows, or five coins, which only appear after a



long wait (approx 40 seconds). The various options are presented in an intermingled fashion, to ensure all the programmed comparisons appear equally. The percentage choice of the delayed reward and the time to make a decision are recorded