Go-No Go Tutorial

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Go-No Go Task Tutorial

This tutorial will demonstrate how the *gonogo* package is used. The package contains some helper functions alongside the main function, gonogo().

Go-No Go Task in Short

The Go-No Go Task is a widely used test to measure inhibitory control, a cognitive process that enables humans to cancel motor activity after its initiation. It requires the participant to perform an action given certain stimuli (Go stimuli), and inhibit that action under a different set of stimuli (No Go stimuli).

There are two parameters in the experimental design that are especially important: the length of each trial and the relative proportion of the Go and No-Go trials. Fortunately, both these parameters can be easily manipulated in the gonogo() function.

How to Use the gonogo() Function

The following code gives an example of how the gonogo() function can be used.

```
# Load package
library(gonogo)

# Run the Go-No Go Task and save the output in an object
p1_data <- gonogo(id = "my_name", # specify participant's name or id
                  n_trial = 10, # specify number of trials
                  stimuli = c("A", "X"), # specify Go and No Go stimuli (in that order)
                  inter = .7, # specify length of each trial
                  prb = c(.7, .3)) # specify the probability weights of Go and No Go
                                   # stimuli (in that order)
```

```
> print(p1_data)
        id response correct              SDT         rt stimulus
1  my_name    space       1              hit 0.50793219        A
2  my_name    space       1              hit 0.53480196        A
3  my_name    space       1              hit 0.51207781        A
4  my_name     none       0             miss         NA        A
5  my_name     none       1 correctrejection         NA        X
6  my_name     none       1 correctrejection         NA        X
7  my_name    space       0       falsealarm 0.02197695        X
8  my_name     none       1 correctrejection         NA        X
9  my_name     none       0             miss         NA        A
10 my_name     none       0             miss         NA        A
```

How to Read the Output

The gonogo() function returns a dataframe consisting of n_trial (number of trials) rows and six columns:

id = participant's name or id as specified *response* = response key used on the trial (space when participant responded, none when no response was given) *correct* = whether the response was correct or not (1=correct, 0=incorrect) *SDT* = responses categorised according to Signal Detection Theory *rt* = reaction time in seconds *stimulus* = the stimulus shown on the trial