



BACKGROUND

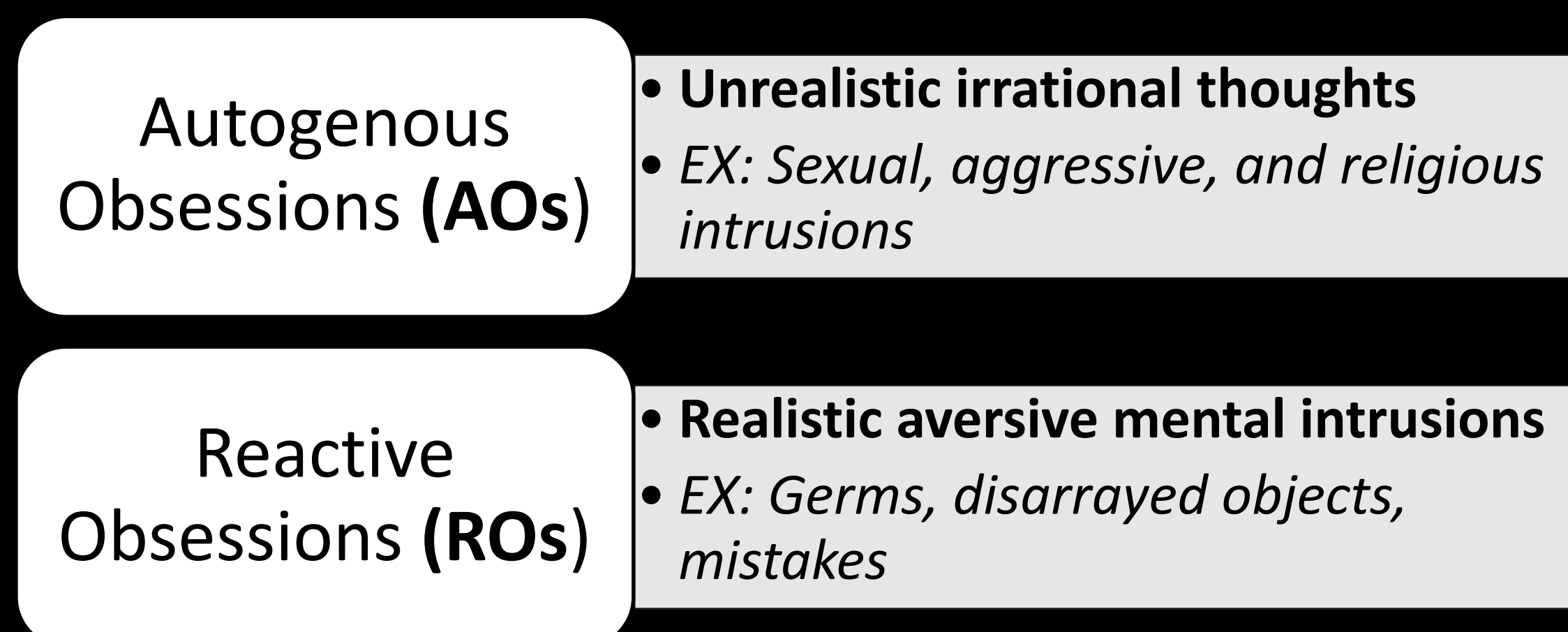
Obsessive Compulsive Disorder (OCD)

- Disorder that can cause distress to individuals through obsessions and compulsions

Obsessions

- Mentally intrusive thoughts/ideas that preoccupy the mind
- Typically, anxiety-provoking and illustrate threat appraisals and the reactions to them

Autogenous-Reactive obsession subtype model: (1)



Inhibitory control, N2, and EEG

- Excessive intrusive thoughts in OCD may reflect deficits in inhibitory control → captured through stop signal task
- Individuals with primarily AOs compared to ROs have shown worse inhibitory cognitive control⁽²⁾
- N2** component of event-related potential (ERP) in OCD patients exhibit larger amplitudes elicited by stop stimuli compared to controls⁽³⁾
- Stop-signal N2 is important to measure because it has been said to be an “early mechanism of inhibitory control”⁽³⁾
- Electroencephalogram (**EEG**) will allow us to measure neural indices during the stop signal task, specifically N2 ERP

OBJECTIVES

Understand how...

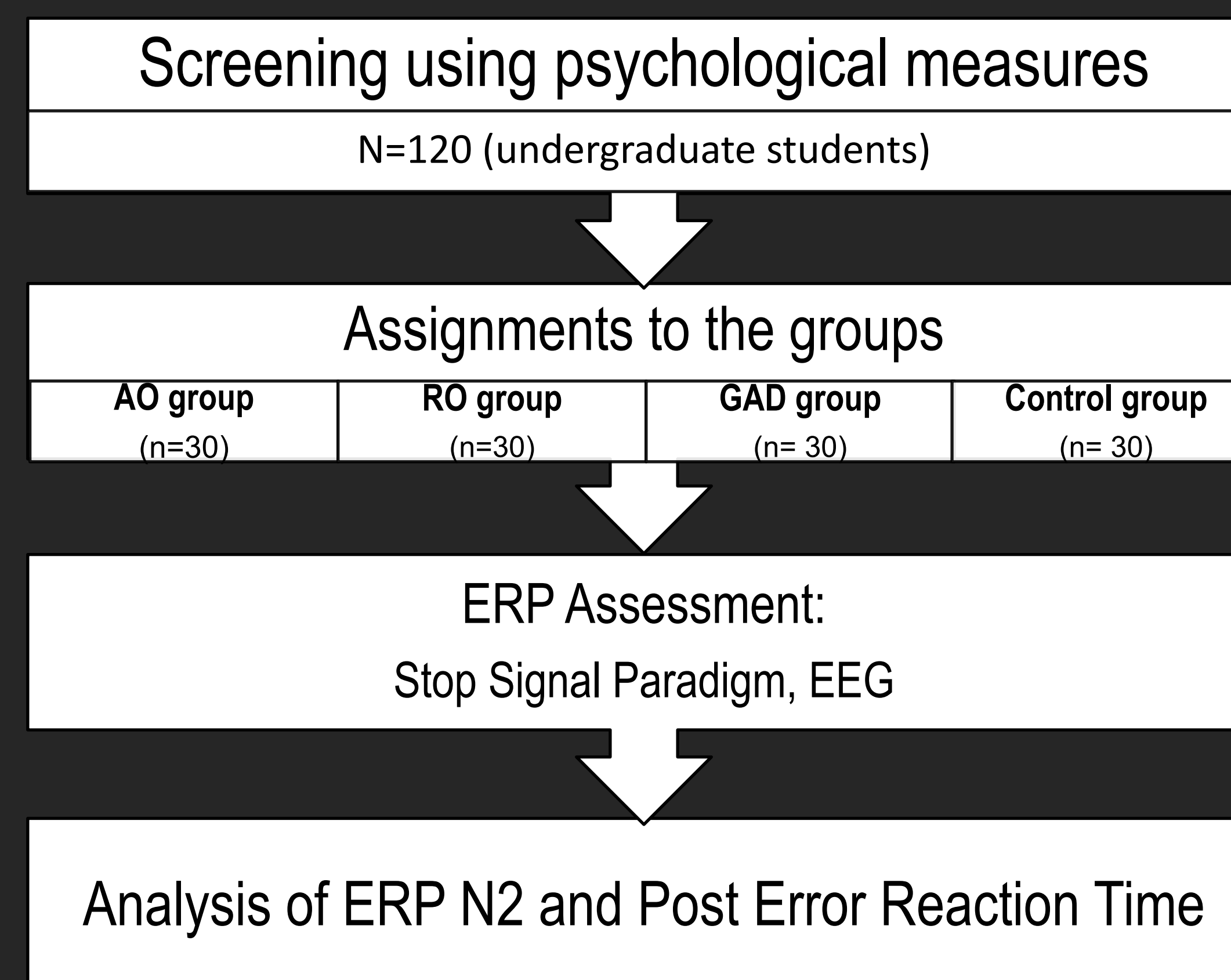
- OCD symptoms are represented within EEG and ERP signals using the stop signal paradigm
- AO and RO subtypes are presented within this paradigm

HYPOTHESIS

- AO subtype group, compared to the generalized anxiety disorder (GAD), AO, and control group, will reflect higher N2 amplitudes
- AO subtype group will reflect the largest SSRT showing deficits in response inhibition (RI)

*RI= executive function that allows one to hold back the urge to respond to a presented stimuli.

METHODOLOGY



STOP SIGNAL PARADIGM

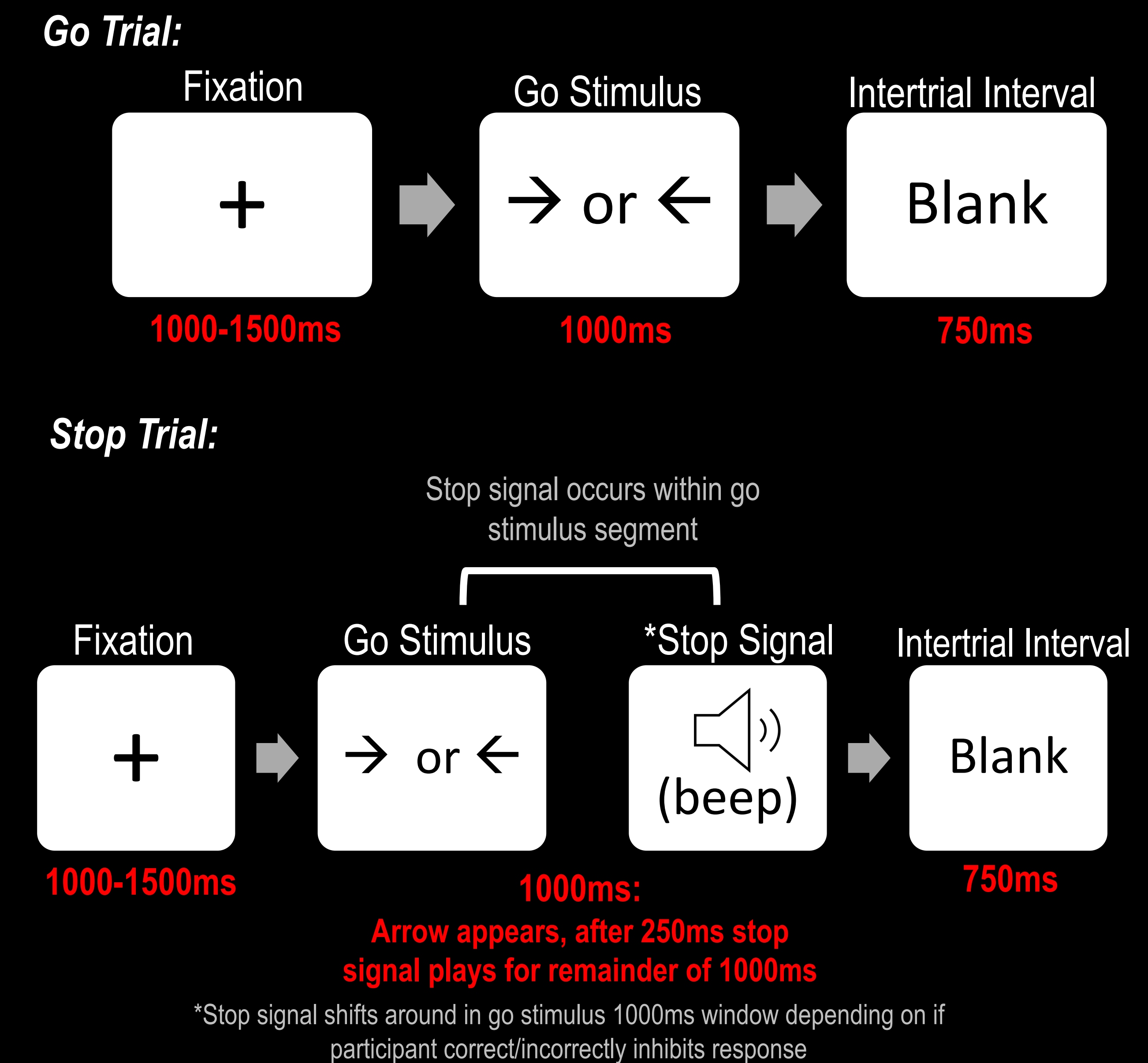
- Task which measures RI
- Involves withdrawal of motor response triggered by reaction signal
- Participants need to respond to “go trial” but need to inhibit (withhold response) to “stop trial” (a beep stimuli presented)
- Stop signal reaction times (SSRTs)= time it takes from stop signal (beep stimulus) to participant response time (clicking left/right arrow)

Figure 1.



*participants instructed to not wait for the beep sound before clicking arrow

TIMELINE OF STOP SIGNAL TASK



RESULTS

Due to the COVID-19 pandemic, the study has faced delay in data collection. It is planned to begin during late summer 2021 or early fall 2021.

DISCUSSION

- By examining behavioral inhibition and executive control through N2, and SSRTs, classifications of obsessions subtypes and OCD psychopathology can be better understood
- Pending results, specific clinical interventions could be utilized to address subtype related perceived threats
- Limitation:** clinical population will not be used
- Our study is unique in how it is the first of its kind to examine N2 for two subtypes (AO, RO) of OCD

REFERENCES

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