

The Influence of Pandemic-Related Words on Cognitive Response Times

Overview

This repository hosts our research project exploring how pandemic-related words influence cognitive response times. Conducted during the pre-lockdown phase of COVID-19, this study leverages the Stroop effect to understand how emotional valence linked to pandemic terminology impacts mental processing speeds.

Objective

The primary goal of this study was to determine whether emotionally charged pandemic-related words would affect cognitive response times more significantly than neutral words, and to explore any differences in response based on gender.

Methodology

- **Design:** A within-subjects experimental design was utilized, employing the Emotional Stroop Task.
- **Participants:** 64 individuals recruited through social media, balanced for gender, participated in the study.
- **Materials:** Stimuli included 25 pandemic-related words and 25 neutral words, displayed in various colors.
- **Procedure:** Participants identified the color of words displayed on their screen, with the speed and accuracy of their responses recorded.

Key Findings

Gender	N	Mean	SD	SEM
Female	30	787.7	183.491	33.501
Male	34	806.09	185.623	31.834

Figure 2 Group Statistics & Independent Samples Test for Pandemic Reaction Times by Gender

	Levene's Test (F)	Sig.	t-test for Equality of Means	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI Lower	95% CI Upper
Pandemic_RT (Equal variances assumed)	0.003	0.958	-0.398	62	0.692	-18.388	46.248	-110.836	74.06
Pandemic_RT (Equal variances not assumed)			-0.398	61.18	0.692	-18.388	46.214	-110.793	74.016

Figure 3 Independent Samples Test

Variable	M	SD	SEM	N	95% CI Lower	95% CI Upper	t(63)	p
Neutral_RT	594.83	130.51	16.314	64				
Pandemic_RT	797.47	183.391	22.924	64				
Paired Difference (Neutral_RT - Pandemic_RT)	-202.641	227.696	28.462	64	-259.517	-145.764	-7.12	< .001

Figure 4 Descriptive Statistics and Paired Samples Test Results for Reaction Times

- **Increased Reaction Times:** Participants demonstrated significantly longer reaction times for pandemic-related words compared to neutral terms.
- **No Gender Difference:** The analysis revealed no significant differences in reaction times between male and female participants.
- **Emotional Valence:** The heightened emotional content of pandemic-related words likely increased cognitive load, affecting reaction times.

#Conclusion

Our findings suggest that the emotional context of words, intensified by global events such as a pandemic, can significantly impair cognitive processing speeds. This study contributes to understanding the cognitive impacts of emotional language, with implications for managing mental health and resilience in times of crisis. Future research should consider broader demographic variables and long-term effects.

#Appendix

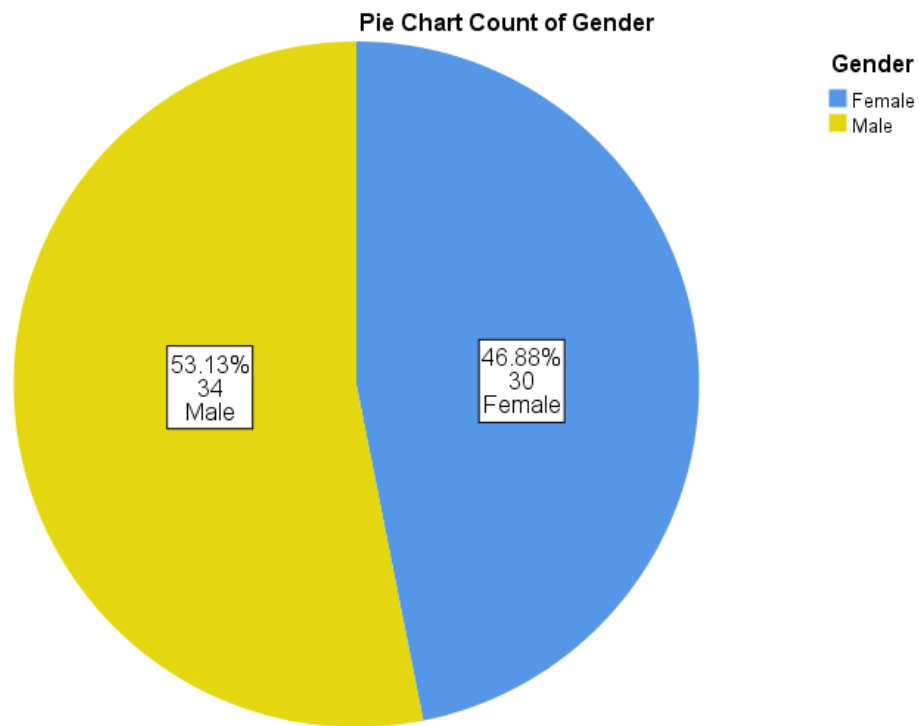


Figure 1 Gender distribution

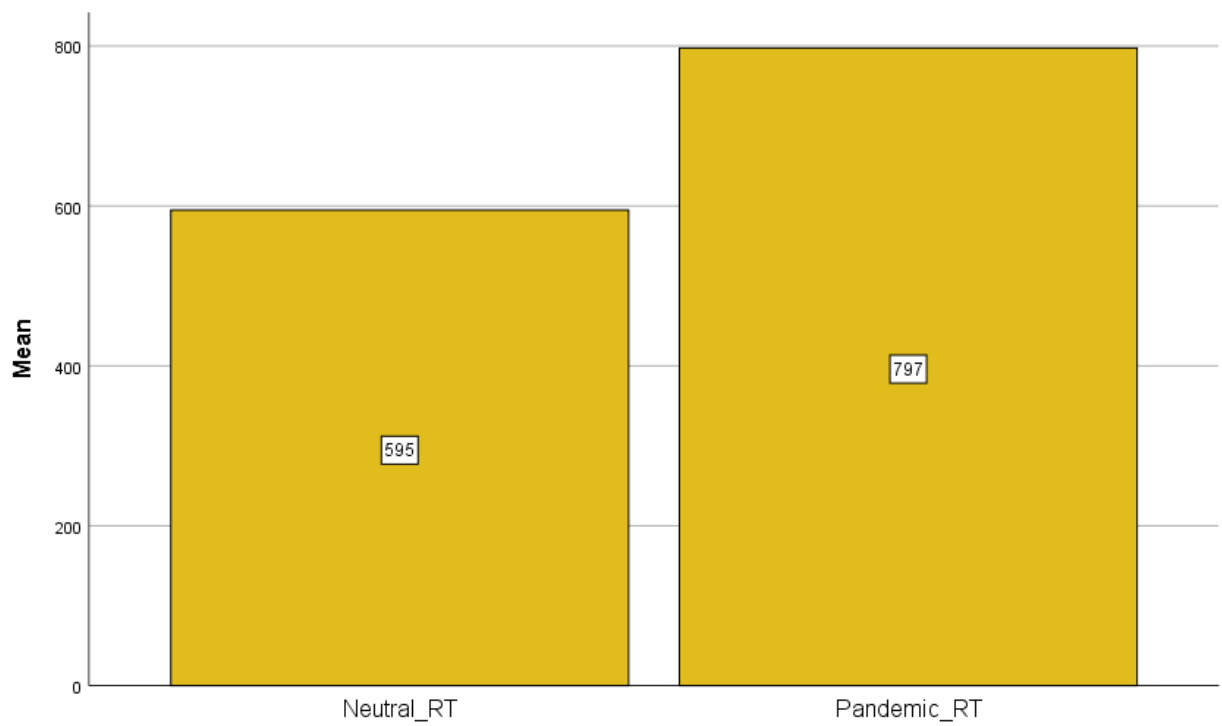


Figure 2 Mean Difference between Neutral RT and Pandemic RT

