

# Gender And Age Biases On Perceived Intelligence

Tristin Agtarap, Michael Donnelly, April Kortz, Elizabeth Bonghi, & Nikki Honzel

## ABSTRACT

This study addressed the correlation between gender and age within perceived intelligence. The study took place at Carroll College and consisted of 45 female general psychology students. Previous research suggests that underlying gender and age biases influence how people judge the intelligence of others. Pictures of different male and females, both old and young were presented with short essays. Students were then asked a variety of questions regarding the authors intelligence on a 5 point Likert scale. The study found a main effect of males being rated more intelligent than females. In addition old females were consistently rated lower on intelligence than any other group. An explanation for the findings can be explained through cultural biases, environmental upbringing, or societal norms. Future research should examine differences between male and female participants when rating intelligence. Furthermore, future research should address why older females are rated least intelligent. This is important because the variables involved in age and how it affects perceptions of intelligence has not been studied previously to the best of our knowledge.

## BACKGROUND

- Previous studies have hypothesized that attractive men, both young and old, would be rated more intelligent and more favorable in comparison to unattractive men (Chia, Allred, Grossnickle, & Lee 1998).
- Study by Kaplan (1978) suggests that young attractive female authors judged by *male* authors were rated significantly more intelligent in comparison to being judged by *female* authors as significantly less intelligent.
- Previous studies have shown that attractive people are rated to be more intelligent than less attractive people (Satochi, 2011).

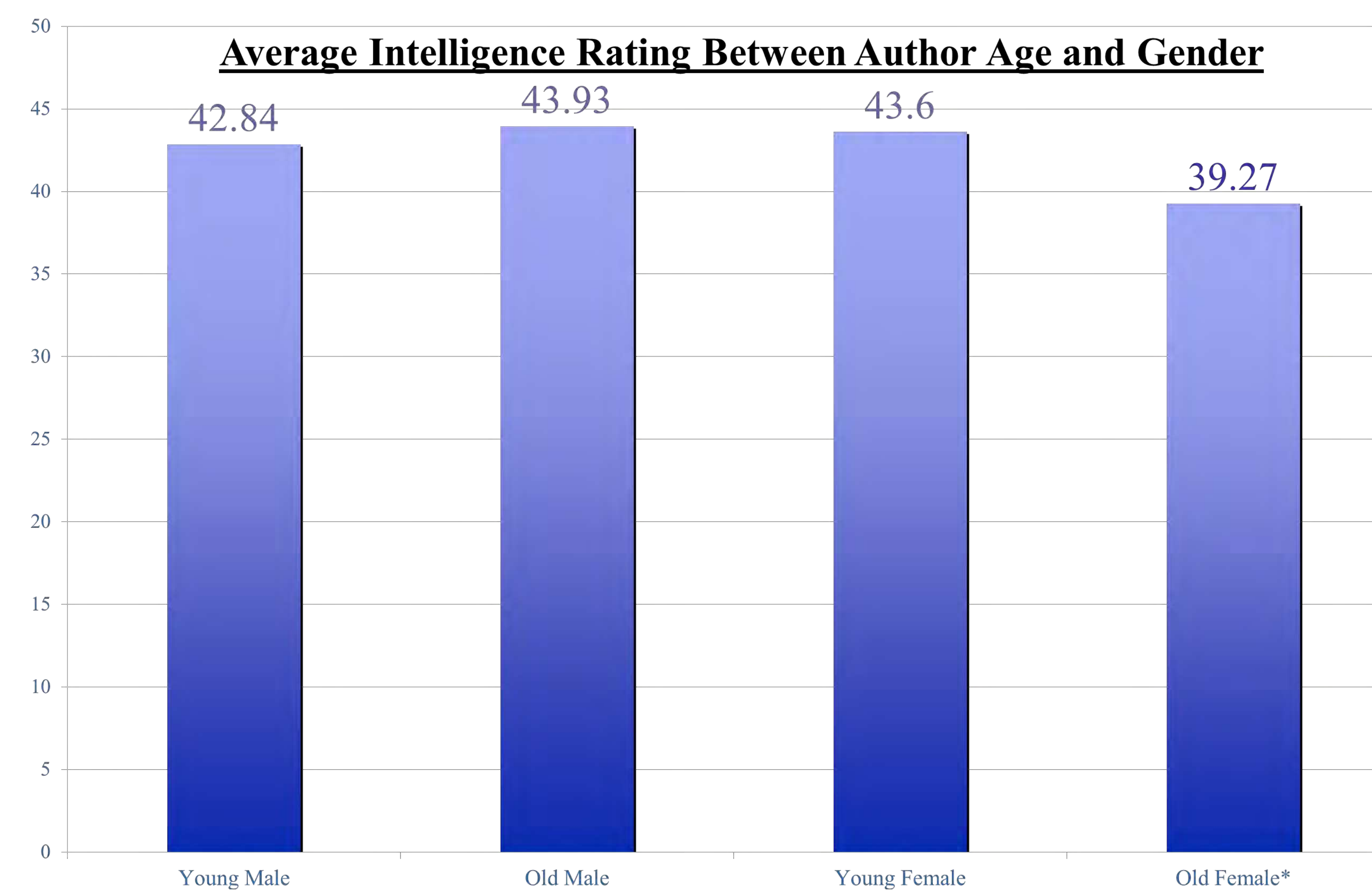
Types of intelligence used in the Author Intelligence Questionnaire (AIQ):

- Intrapersonal Intelligence:** Ability to understand and discern one's own feelings and intentions
- Linguistic Intelligence:** Having a mastery of language. Ability to effectively manipulate language
- Logical Intelligence:** Ability to reason deductively and to think logically
- Overall Intelligence:** Universality of intelligence



## Hypothesis

- **Older male authors will be rated more intelligent than any other condition.**
- **Female participants will rate female authors more critically, therefore, less intelligent than male authors.**



## METHODS

### Participants:

- 55 undergraduates, one excluded due to incomplete data, nine excluded from current analysis.
- Final total was 45 participants (females)

### Equipment:

- 12 questions on a 5-point Likert scale (1-strongly disagree, 3-neutral, 5-strongly agree)
- Four essays with four different pictures of authors (young male, young female, old male, old female)

### Stimuli and Procedures:

- Participants read four essays of various topics accompanied by an author photo - each essay/photo was randomized.
- After each essay participants were given a 5-point questionnaire.

## RESULTS

2 Age (young, old) X 2 Gender (Male, Female) repeated measures ANOVA

- Males were rated higher on intelligence than females ( $p = 0.046$ ).
- This was mediated by an Age X Gender variables,  $p=0.008$ .
- Females rated intelligence of old females significantly lower than any other condition.
- No significant differences were found between any of the other intelligence ratings.

## Conclusions

- Male authors were rated higher than female authors
- Old female author rated much lower than any other author.
- These results likely happened because of social stereotypes that say male intelligence is higher female intelligence.
- It is a bit of a mystery as to why older females were rated significantly lower than any other condition.
- Future studies could examine in depth what factors cause the older female to be rated less intelligent.

## References

- Chia, R. C., Allred, L., Grossnickle, W. F., & Lee, G. W. (1998). Effects of Attractiveness and Gender on the Perception of Achievement-Related Variables. *Journal Of Social Psychology, 138*(4), 471-477.
- Kanazawa, Satoshi. (2011). Intelligence and physical attractiveness. *Intelligence, 39*(1), 7-14.
- Kaplan, R.M. (1978). Is beauty talent? Sex interaction in the attractiveness halo effect. *Sex Roles, 4*(2), 195-204.
- Zebrowitz, L., Hall, J., Murphy, N., Rhodes, G. (2002). Looking smart and looking good: Facial cues to intelligence and their origins. *Personality and social psychology bulletin, 28*(2), 238-249.

## ABSTRACT

The purpose of this study was to investigate whether the phenomenon of “ego depletion” is real and, if so, if simple lab manipulations would consistently induce depleted states that have measurable impacts on laboratory tasks. Participants were undergraduates at Carroll College exclusively drawn from the General Psychology Course. Participants wrote a 15 minute story about themselves and then played the game operation. There were two conditions. In the first, participants had to write their stories whilst avoiding the letters A and N. This is the depletion condition because these are common letters and therefore it required cognitive effort on the part of the participants. In the second, participants performed the same task but without using the letters X or Z. This was the control because these are uncommon letters thus the writing should not require strenuous cognitive effort. Next all participants played operation where the researcher timed and rated them for accuracy. It was hypothesized that individuals’ who under go the depletion condition will perform significantly worse on the game in comparison to individuals who were in the control group.

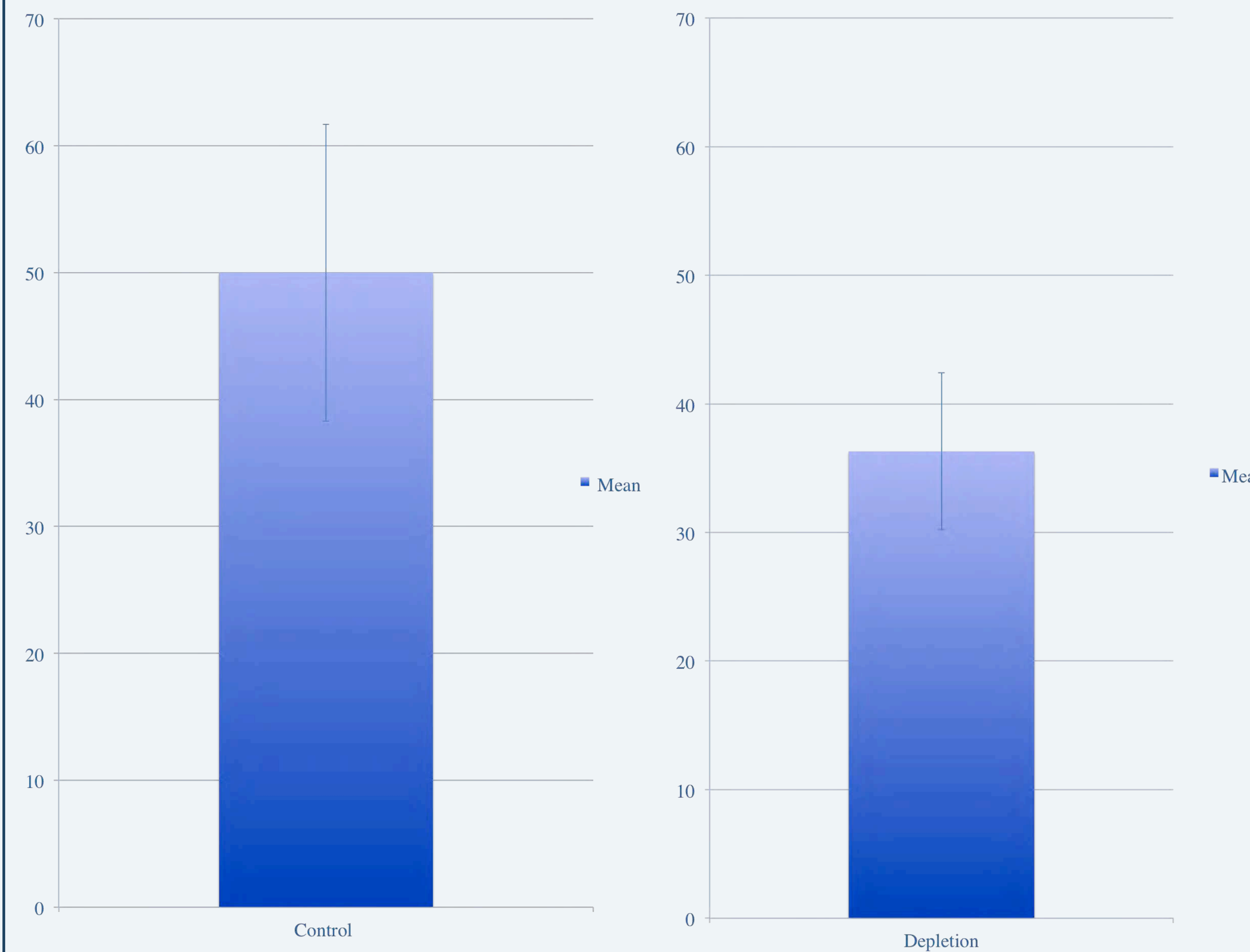
## BACKGROUND

- Ego depletion refers to the idea that self-control draws upon limited pool of mental resources that can be used up.
  - When the energy for mental activity is low, self-control is typically impaired, which would be considered a state of ego depletion.
- A 2010 meta analysis (Hagger et al.) of 198 independent tests found the effect significant with a moderate to large effect size ( $d = .6$ )
- In 2016, a major study (Hagger et al.) (2141 participants) failed to find any evidence for ego depletion.
- Replication difficulties have also emerged for 5 additional protocols of the basic ego depletion effect

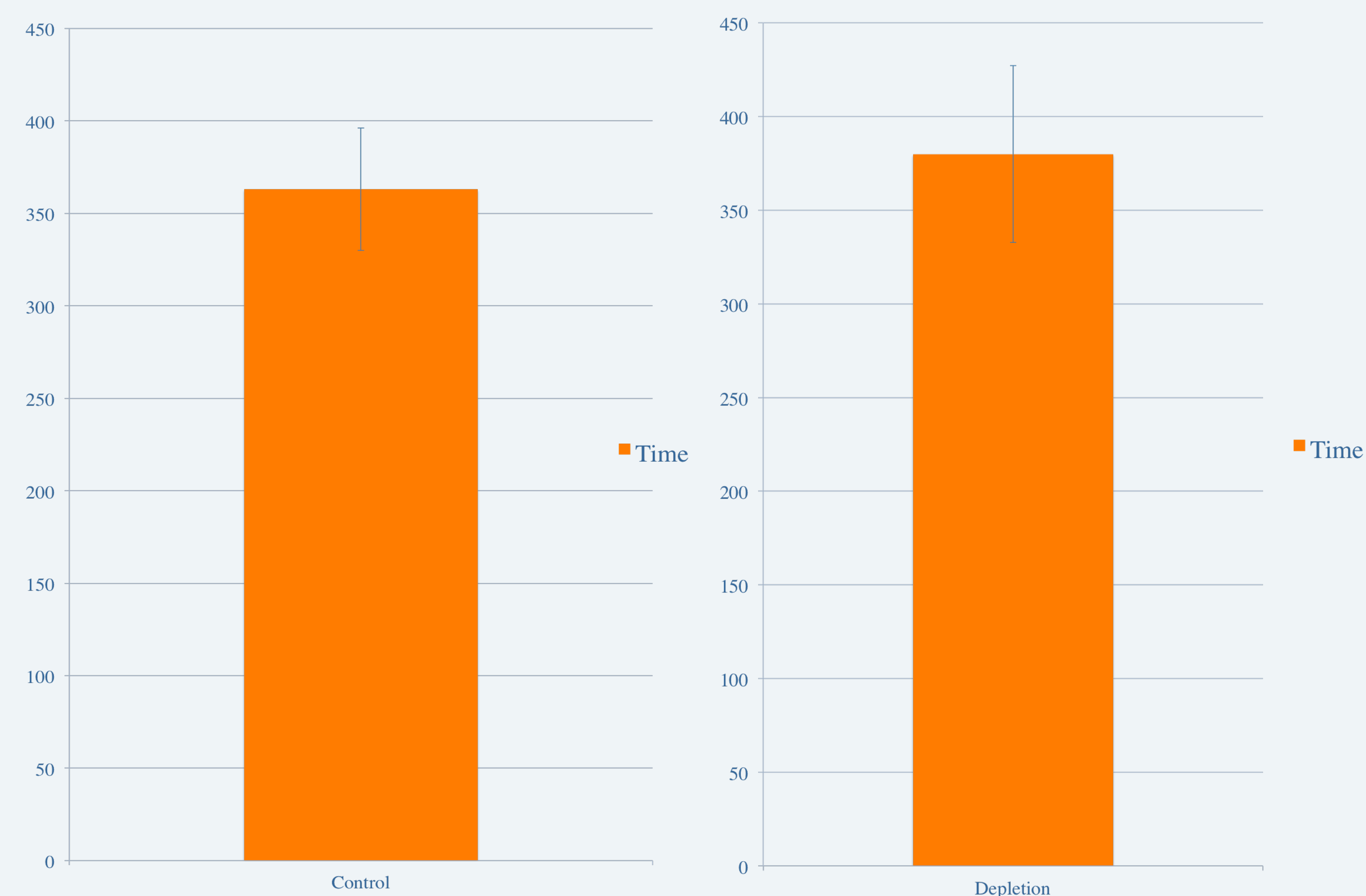
## Hypotheses

- Individuals in the control group would complete the task with fewer mistakes and at a faster pace
- Individuals in the depletion group would complete the task with more mistakes and at a slower pace

Number of Errors Made By Condition



Average Number Of Seconds To Complete Game



## METHODS

### Participants:

- 28 undergraduate’s from Carroll College
- # 12 Control, # 16 Depletion

### Equipment:

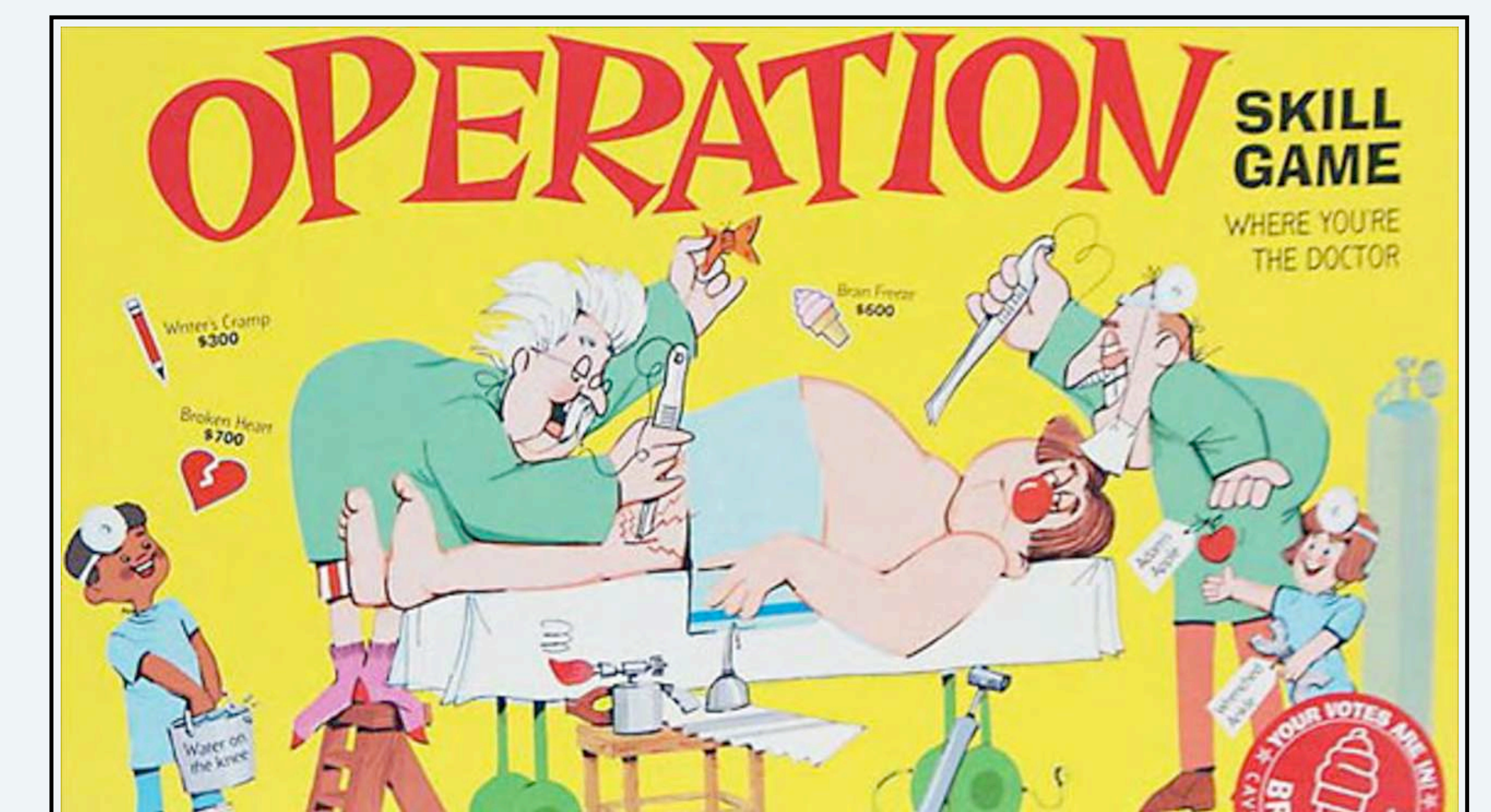
- Board game Operation
- Blank piece of paper & pen/pencil

### Procedures:

- Wrote for 15 minutes
- Played the game operation
  - Had 7 minutes to complete the game
  - Researches measured accuracy of performance and time to complete

## RESULTS

- The hypothesis, that people in the depletion condition ( $M = 36.3$ ,  $SD = 12.2$ ) would make more mistakes than those in the control condition ( $M = 50$ ,  $SD = 23.4$ ) was not supported;  $t(23)=2.01$ ,  $p = .0544$ ; Cohen’s  $d = .73$ .
- Although, as is evident, this difference approached significance in the opposite direction predicted from the original depletion literature.
- The second hypothesis, that people in the depletion condition ( $M = 380$  seconds,  $SD = 94.3$ ) would take longer to complete the board game Operation than those in the control condition ( $M = 363$  seconds,  $SD = 66.1$ ) was also not supported;  $t(23)=0.534$ ,  $p = 0.607$ ; Cohen’s  $d = .208$ . This difference did not approach significance.



## References

- Hagger, M., et al. (2010). Ego depletion and the strength model of self-control: A meta-analysis. *Psychological Bulletin*, 136, 495-525.
- Hagger, M. S., et al. (2016). A multilab preregistered replication of the ego-depletion effect. *Perspectives on Psychological Science*, 11, 546-573.