**ABSTRACT**

The purpose of this study is to examine the way consumers form attitudes about products when they are ego depleted and when the quality of the advertisement differs between weak and strong arguments. We wanted to determine whether Need for Cognition (NFC) had any relationship with the participant’s attitude development and the level of depletion. Advertisement scripts were adapted from Darley and Smith (1990). Participants completed the NFC scale and a brief mood assessment. We found that participants rated the products in the strong argument condition more positively than those in the weak argument condition. We also found that self-reported NFC scores correlated with self-reported ego depletion scores. Ego depletion had no significant effects on the overall product rating.

**INTRODUCTION**

- Humans have restricted amounts of psychological resources available (Almond, 2013; Arber et al., 2017; Baumeister & Alquist, 2009).
- Ego depletion can reduce the resources one has available to regulate higher-order cognitive functions (Baumeister & Vohs, 2016; Haager et al., 2010; Swinney et al., 2015).
- The higher order functions that ego depletion affects also correspond to functions used in creating and preserving attitudes.
- “Attitude” is a person’s general assessment about a topic (Petty & Vanaman, 2003).
- Letter Crossing Task has been shown to induce ego depletion tasks that demand higher-order executive functioning (Marwane, Tice & Baumeister, 1994).
- Petty and Cacioppo (1999) created the Elaboration Likelihood Model (ELM) to determine how arguments are developed, changed, retained, strengthened, and weakened.
- The Elaboration Likelihood Model states that the more effort one puts into examining an argument, the more likely that they will develop a strong attitude.
- Reception of these arguments is dependent on their content, source, and audience (Westwood, 2015).
- Attitudes can be changed or accepted because of persuasiveness or strength of an argument (Sanders, 1997; Westwood, 2015).
- Manipulating the way a consumer views a product can be done through using various argument styles, for example a weak versus strong argument.
- When argument style is varied, the development of attitude can be affected (Petty & Cacioppo, 1984).
- Strong arguments contain objective statements and are rated higher than weak and subjective arguments because consumers know that the qualities of something are substantiated (Darley & Smith, 1995).
- Batra and Stayman (1990) found that those who saw weak arguments developed more unfavorable attitudes and more counterargumentative statements than who saw strong arguments.
- NFC is a predictor for how thoughtful a participant is likely to be when looking at a situation, which can be as simple as buying a product (Petty & Cacioppo, 1979).

**METHOD**

- Participants: 207 Amazon Turk Prime Workers
  - 136 women, 129 men, and 3 identifying as other
  - Between the ages of 18 and 64 (M = 32.82, SD = 6.13): Predominantly Caucasian (75.74%).

- Materials:
  - Letter Crossing Task
  - Reading an excerpt from “What the Dog Saw” by Malcolm Gladwell
  - Deleting the letter “e” every time it appeared

- Advertisements:
  - Recorded on an iPhone 7s and are less than 2 minutes in duration
  - Seven seven-ego depletion manipulation check (Marwane, Tice & Baumeister, 1994)
  - 18-item NFC scale (Petty & Cacioppo, 1984)
  - Categorized participants into Low, Medium, or High NFC

- Procedure:
  - Participants were recruited from Amazon Mechanical Turk
  - Granted their informed consent and product read instructions
  - Randomly assigned participants to an ego depletion condition
  - Ego Depletion (letter crossing) and No Ego Depletion (reading)
  - Participants were randomly assigned to listen to two advertisements of each argument style and product in a random order
  - Strong Blanket; Weak Blanket; Strong Scale
  - Participants rated the goodness, satisfaction, likelihood to purchase, and favorability of each product on 5-point scales
  - Participants were then instructed to complete a brief depletion assessment
  - Participants completed the NFC scale
  - Participants then filled out a demographic survey and were debriefed and compensated $75

**RESULTS**

- **Hypotheses**
  - Those who are high in need for cognition will be less susceptible to ego depletion than those who are low in need for cognition.
  - Those who are ego depleted will not differ in attitudes towards strong and weak argument scripts.
  - Those who are not ego depleted and hear a strong argument will respond more favorably to it than those who are given a weak argument.

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- **Scale Advertisements (Weak)**
  - Now you can have it all for only $29.95: Performance, high quality, durability, and much more. In this LODIS electric blanket you can sleep in comfort with unique safety features. The LODIS electric blanket has 14 built-in safety features including automatic cut-out. The price of the LODIS electric blanket is significantly below the going rates for similar electric blankets. The LODIS electric blanket has 14 built-in safety features including automatic cut-out. The price of the LODIS electric blanket is significantly below the going rates for similar electric blankets.

- **RESULTS**
  - **2x3 Between-Subjects ANOVA**
    - Ego depletion (Ego depletion, no ego depletion) and NFC condition (Low, Medium, High)
    - Depletion score is the sum of, excited, thoughtful, worn, calm, sad, and angry, with the first two reverse scored
    - No significant difference in depletion scores between the ego depletion condition (M = 25.46, SD = 5.86) and no ego depletion condition (M = 25.77, SD = 5.20), F(1, 268) = .002, p = .96
    - No significant interaction between ego depletion and NFC condition on depletion score; F(2, 26) = 1.207, p = .32
    - Significant main effect of NFC condition on depletion scores: F(2, 26) = 1.13, p = .002, η² = .05
    - The scores were in NFC (M = 23.77, SD = 10.78) reported feeling less exhausted than those with medium (M = 26.77, SD = 10.61) and low (M = 24.31, SD = 10.21) NFC scores.
    - The high NFC condition was significantly different from the medium (p < .001) and low (p < .001) NFC conditions, whereas low and medium conditions did not significantly differ from one another (p = .61)
  - **2x2x4 Factorial ANOVA for Mixed Groups**
    - Between Subjects
      - Ego Depletion (Ego depletion, no ego depletion)
      - NFC Condition (Low, Medium, High)
    - Within Subjects
      - Strength of Argument (Weak or Strong)
      - Rating Category (Goodness, Satisfactory, Favorability, Likelihood to Purchase)
    - Significant differences for product ratings by strength of arguments.
    - Ratings higher in strong argument (M = 2.92, SD = 1.93) than weak argument (M = 2.71, SD = 1.83) condition; F(1, 26) = 4.54, p = .04, η² = .15
    - All four categories were significantly different from each other (all p’s < .001) except for Goodness and Favorability (p < .05), see Figure 1.
    - Interactions between the four categories were significant (all p’s < .05).

**DISCUSSION**

- **Findings**
  - Ego depletion manipulation was not successful
  - Similar to previous studies (Batra & Stayman, 1990; Darley & Smith, 1990) ratings were higher overall for strong argument advertisements
  - Those who were high in NFC reported feeling less exhausted than those with medium and low NFC scores
  - To score high in NFC means one enjoys activities that require intensive thought. It is known that NFC enjoys the ego depletion task and did not exert as much mental energy as those with medium to low NFC scores.

**REFERENCES**

- <https://digitalcommons.georgiasouthern.edu/etd/25
- Test of the Selectivity Model in Advertising Response. Journal of Advertising, 24(4), 51-66

This project has been funded by an A. L. Palombi Student Research Grant.