2015

Too Tired to Think Outside the Box? An Analysis of Ego Depletion's Effects on Creativity

Stoni Butler  
_Ouachita Baptist University_

Jessie Little  
_Ouachita Baptist University_

Dustin Walter  
_Ouachita Baptist University_

B. Allyson Phillips  
_Ouachita Baptist University_

Follow this and additional works at: [http://scholarlycommons.obu.edu/scholars_day](http://scholarlycommons.obu.edu/scholars_day)

Part of the [Psychology Commons](http://scholarlycommons.obu.edu/scholars_day)

Recommended Citation

Butler, Stoni; Little, Jessie; Walter, Dustin; and Phillips, B. Allyson, "Too Tired to Think Outside the Box? An Analysis of Ego Depletion's Effects on Creativity" (2015). Scholars Day. 11.
[http://scholarlycommons.obu.edu/scholars_day/11](http://scholarlycommons.obu.edu/scholars_day/11)

This Poster is brought to you for free and open access by the Carl Goodson Honors Program at Scholarly Commons @ Ouachita. It has been accepted for inclusion in Scholars Day by an authorized administrator of Scholarly Commons @ Ouachita. For more information, please contact mortenson@obu.edu.
Too Tired to Think Outside the Box? An Analysis of Ego Depletion’s Effects on Creativity
Stoni Butler1, Jessie Little2, Dustin Walter3, and B. Allyson Phillips1
1Department of Psychology, 2Department of Biology, 3Department of Chemistry
Ouachita Baptist University, 410 Ouachita Street, Arkadelphia, AR 71988

Introduction

Recent research suggests that complex tasks that require self-control to complete, such as strenuous tests or complicated decisions, put a strain on the limited resource known as the ego. The ego is thought to be a kind of mental energy reserve that can be depleted with use. Previous studies have shown that, not only is it possible to deplete the ego, but this depletion leads to poorer performance on various later tasks involving skills such as decision making, cognitive extrapolation, reasoning, and self-control. Two models in particular have gained support recently: the resource model involving blood glucose and the trade-off model involving distribution of attention. Because both creativity and the ego are thought to be biologically based and because cognitive flexibility, which has been shown to be highly correlated with creativity, seems to require a fairly high level of processing like other processes on which ego depletion has been shown to have a negative effect, it is reasonable to suggest that ego depletion would cause a decrease in creativity as well.

Method

After completing the informed consent form, participants were given their packet of tasks. They were instructed to complete the packets in order and not to go back to a previous task after beginning the next one. Participants were randomly assigned to either the neutral or ego depletion condition.

<table>
<thead>
<tr>
<th>Participant Information</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of participants</td>
<td>184</td>
</tr>
<tr>
<td>Mean age (years)</td>
<td>20.17 ± 1.25</td>
</tr>
<tr>
<td>No. in neutral group</td>
<td>91</td>
</tr>
<tr>
<td>No. in ego-depleted group</td>
<td>93</td>
</tr>
</tbody>
</table>

Measures

Psychological Flexibility Questionnaire

Participants completed the Psychological Flexibility Questionnaire (Ben-Itzhak, Bluvenstein, & Maor, 2014) to assess baseline cognitive flexibility.

Neutral Task

Directions: Mark through the letter “e” anytime it appears.

Ego-Depletion Task

Directions: Mark through the letter “e” anytime it appears unless it is adjacent to another vowel or is only separated from another vowel by one letter.

Alternative Uses Task

After completing the neutral or ego depletion task, the Alternative Uses Task gave participants everyday objects such as a pencil and asked them to list as many alternative (different from given use) uses for that object as possible.

Results

- Results from the independent sample t-test showed that while the two groups were not significantly different from each other on psychological flexibility, they were not equivalent (p < .5). Therefore, psychological flexibility was included as a covariate in additional analyses.

![Graph 1: Analysis of Neutral vs. Ego-depletion groups with psychological flexibility as a covariate.](image)

- For the Alternative Uses Task, a one-way analysis of covariance (ANCOVA) shows there was no significant difference between the two groups (F(1, 181) = 2.46, p = .118).

![Graph 2: Histogram showing the distribution of scores for the Alternative Uses Task.](image)

Discussion

- This study acts as a preliminary investigation into a novel topic and provides a basic, adaptable approach for further research in this area.
- Future studies could address potential reasons for the lack of significance by imposing time limits, changing the method of ego depletion, and including more participants, among others.
- It would be particularly beneficial to change the ego depletion task to one that is more representative of a real life scenario, such as a standardized testing environment.
- Potential work force and educational applications: Employers could increase the complexity of given instructions to increase innovative thinking.

In the school system, standardized tests could ensure the creativity or essay portion is completed first.

References


