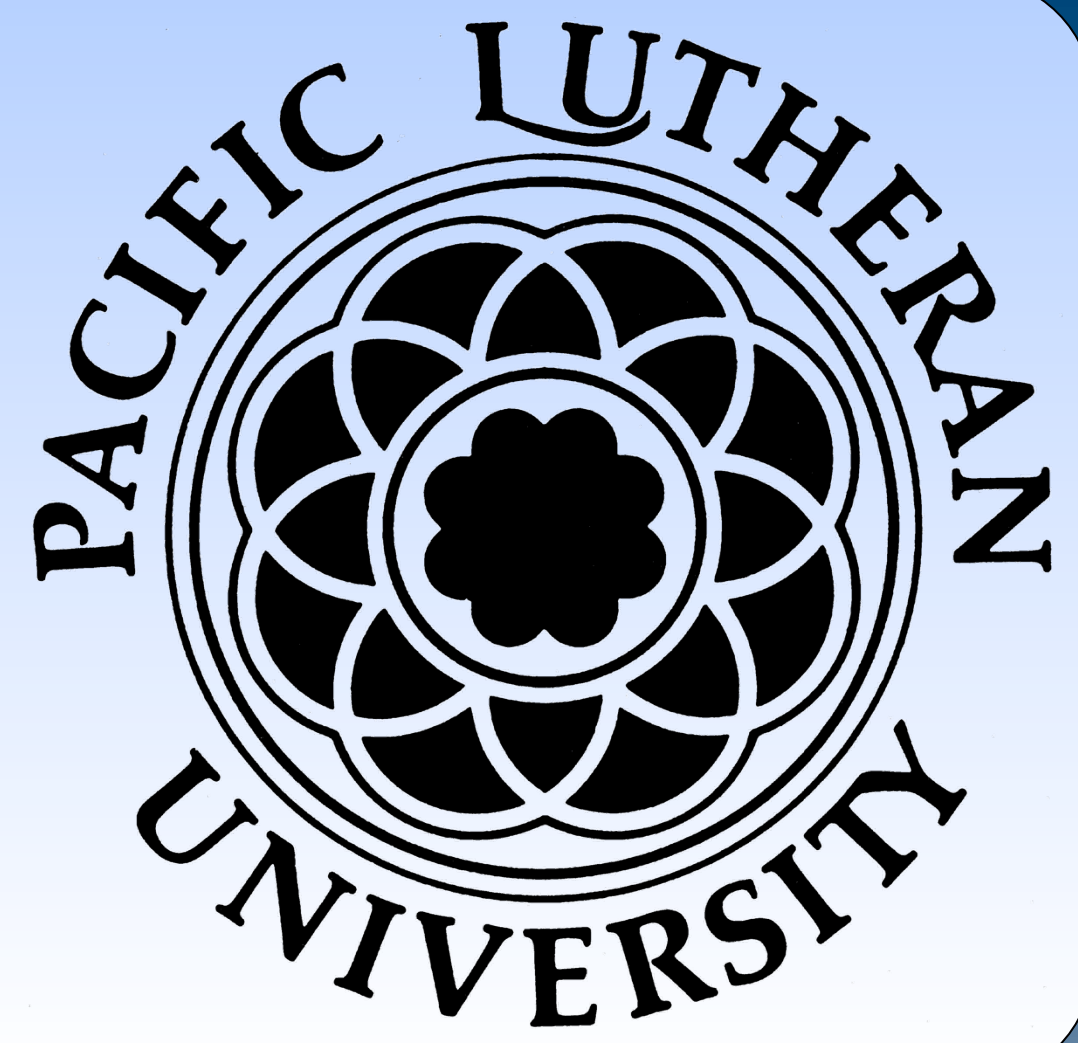


Replenishing Mental Capacity: Interaction of Ego-Depletion & Humor

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Introduction

What We Know

According to past research, the capacity to control ourselves is defined by our own restrictions (Maruven & Baumeister, 2000; Maruven, Tice, & Baumeister, 1998). These restrictions are a direct consequence of self-control drawing on a fixed and limited resource, akin to strength or energy. After an act of self-control, the resource becomes permanently depleted, leaving the individual in a state of ego-depletion. Therefore, performance on a subsequent self-control task will be impaired because of lack of resources (Martijn, Alberts, Merckelbach, Havermans, Huijts, & de Vries, 2007).

Consequently, more current research shows that ego-depletion causes a significant impairment in tasks unrelated to self-control such as the Stroop task (Job, Dweck, & Walton, 2010) and skill-based sports (McEwan, Martin Ginis, & Bray, 2013).

Present Study

In the current paper, we focus on ways to overcome the effects of ego-depletion through humor. The literature on ego depletion varies in its tasks and dependent variables. Past studies successfully counteracted ego depletion through distraction (Alberts, Martijn, Greb, Merckelbach, & de Vries, 2008), priming (Martijn et al., 2007), and exposure to nature (Chow, & Lau, 2014).

Humor is very widespread, and penetrates our society daily. We are often bombarded with images from sitcoms, stand-up comics, and (hopefully) our workplace is filled with laughter from co-workers. But humor is a factor that has little to no research done in regards to ego depletion, which surprising because humor has many benefits. The benefits of humor are vast, and some of these benefits have been linked to ego depletion, but still, no research has been done to determine if there is a direct link between humor and ego depletion.

In the present study, the interaction between humor and ego depletion is being investigated. The main thing we are investigating is if humor can replenish a person if there is ego depletion. Participants were first given a cognitive task, consisting of writing down a list of animals (Alberts et al., 2008), then participants watched a short video, and then a second cognitive task, which measured persistence.

Hypotheses

- 1) Humor will have longer persistence compared to no humor.
- 2) No ego depletion will have longer persistence than ego depletion.
- 3) Humor will have a stronger affect on ego depletion as opposed to no ego depletion.

Method

Participants

- The sample consisted of 44 students from a medium-sized comprehensive university in the Pacific Northwest.
- The sample consisted of students taking various psychology courses in the university recruited from the psychology participant pool.
- The participants ranged between the ages of 18 and 23, ($M = 19.82$, $SD = 01.35$). The sample consisted of 44 participants, 70.45% were women (31/44) and 29.45% were men (13/44).

Materials

Ego-Depletion Task. The participants were given a task that designed to deplete their ego or allowed it to remain intact. The instructions were to think of zoo animals and there was space on their worksheet to list the animals (Alberts, et al. 2008). The ego-depleted group was also instructed not to think about the “white bear” and every time that they did they needed to mark down an “X.”

Videos. Participants were shown one of two videos, one humorous and one not. Each video consisted of audio with information about anglerfish, which was played over visual clips of anglerfish. Each video was just under two minutes and had similar information. Some of the content included in both videos was the ways in which anglerfish lure other fish in order to eat them, disguise themselves with part of the ocean, and how male and female anglerfish reproduce.

Final Puzzle. A puzzle that involves cutting a paper into a certain pattern to meet the requirements given in the instructions was given to every participant. For the puzzle, figure 1, the participants were instructed to draw, with a pencil, how the square could be cut in order to have four pieces of paper, all the same size and shape, and all bearing one beast and one castle, refer to figure 2 for complete solution.

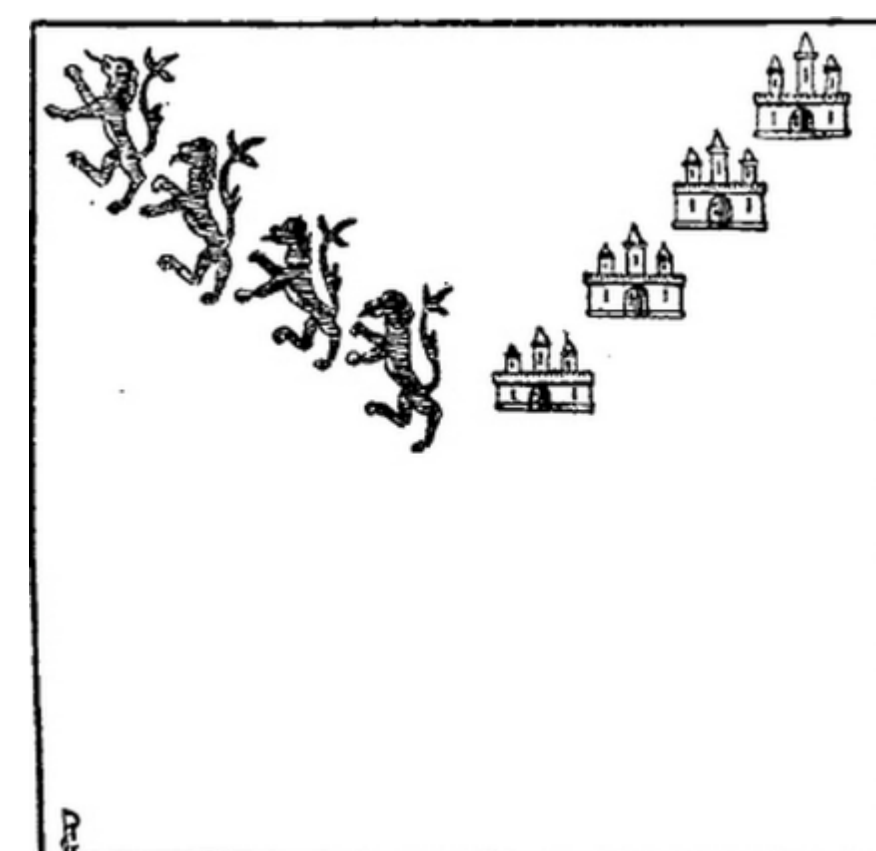


Figure 1. Final task

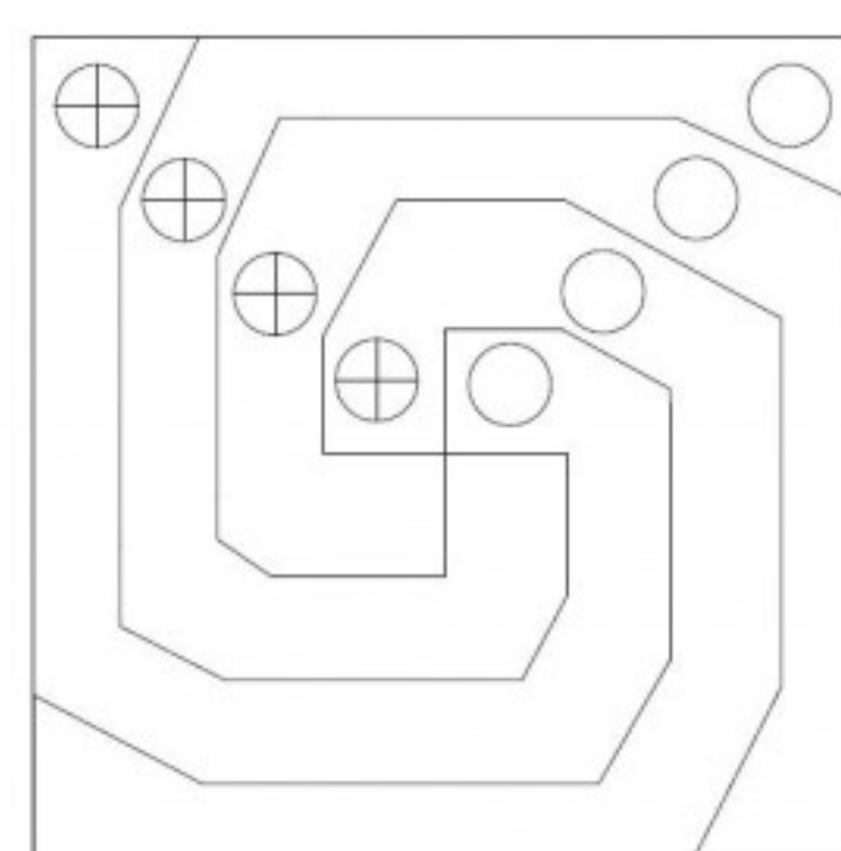


Figure 2. Final task solution

Procedure

Participants arrived to the lab, oral and written consent was given, and the individual then signed for consent. Then, half of the participants were given the ego-depletion task, which was proven to work in past research (Alberts et al., 2007), while the other half was given a simplified version of the task. After 4 minutes, the participants were then shown a short video, either humorous or not.

After the video was watched, every participant was asked to work on a difficult puzzle. The participants were told they could stop whenever they felt they could no longer continue. They had 15 minutes, at most, to work on the puzzle. They were told that they could stop working on the difficult puzzle at anytime, and the time they spent working on the puzzle was recorded.

After completion of the study, participants were asked to fill out a questionnaire about what they thought the study's subject was in order to assure they did not have preconceptions about what the experiment was trying to uncover. Participants were then given an oral debriefing.

Results

A 2 (ego depletion: ego-depleted or not ego-depleted) X 2 (humor: humorous video or non-humorous video) independent measures ANOVA was conducted on persistence, in seconds, of a difficult puzzle. There was no significant interaction or main effect. Refer to table 1 for means and standard deviations.

Table 1

Means (Standard Deviations) of X Scores, by Depletion and Humor Conditions

Depletion	Humor		Non-Humor		Overall	
	n	M(SD)	n	M(SD)	n	M(SD)
Ego-Depletion	13	414.62(288.47)	10	565.00(303.87)	23	489.81(61.14)
Non-Ego-Depletion	10	491.20(288.76)	11	448.55(288.97)	21	469.87(63.83)
Overall	23	452.91(61.45)	21	506.77(63.83)		

Note. Lowest score possible =0 seconds, Highest score possible =900 seconds spent working on final task.

Another interesting finding was that those in the ego-depleted group had been significantly more tired than those in the non-depleted group before the first task was given. After the depletion task, there was no significant difference found in tiredness between the two groups, signifying that the ego-depletion task had not depleted the ego, while the non-depletion task may have.

There was also significant evidence found that the experimenter conducting the experiment had an effect on the time the participant spend on the final task.

$$F(2, 44) = 9.46, p < .05$$
$$F(1, 44) = 131.22, p < .05$$
$$F(2, 44) = 18.93, p < .05$$

Conclusions

In conclusion we must reject our hypothesis that humor would help to restore the ego. There was not enough significant data to support our hypothesis. One reasoning behind this is that in previous studies humor had been found to be a helpful tool in several issues such as anxiety, counseling, and stress.

Originally we believed that because of its usefulness in other situations humor could be another tool in replenishing the ego. The issue with humor being a “tool” is that a tool is often used in addition to another method. In our study humor was the sole method in the attempt to replenish the ego and therefore, the effect was not as significant as it was found to be in other studies.

Another reasoning that may have effected our study was the time allowed for the ego to be restored. Each video; humorous or not, was around two-minutes. This two minutes may have not been enough time for humor to take an effect and therefore a difference would not have been found. In a future study, allowing for a longer time for humor to take effect (watching a longer video) may allow for a significant effect to take place.

Also as previous stated in results, those who were in the ego-depleted group did not seem to actually have been ego-depleted which is a major issue in the fact that we had believed they had been as we used a method which had statistical evidence for having depleted the ego.

Future Research Directions

- Ensure that the ego has been depleted
- Search for other methods which may replenish the ego
- Manipulation check to ensure that the “funny” videos were indeed seen as humorous
- Use the same experimenter throughout all experiments

References

- Alberts, H. J., Martijn, C., Nievelstein, F., Jansen, A., & de Vries, N. K. (2008). Distracting the Self: Shifting Attention Prevents Ego Depletion. *Self and Identity*, 7, 322-334. doi:DOI: 10.1080/15298860801987583
- Chow, J. T., & Lau, S. (2014). Nature gives us strength: Exposure to nature counteracts ego-depletion. *The Journal of Social Psychology*, 155(1), 70-85. doi:DOI: 10.1080/00224545.2014.972310
- Job, V., Dweck, C. S., & Walton, G. M. (2010). Ego Depletion--Is it all in your head? Implicit theories about willpower affect self-regulation. *Psychological Science*, 21(11), 1686-1693. doi:DOI: 10.1177/0956797610384745
- Martijn, C., Alberts, H. J., Merckelbach, H., Havermans, R., Huijts, A., & de Vries, N. K. (2007). Overcoming ego depletion: The influence of exemplar priming on self-control performance. *European Journal of Social Psychology*, 37, 231-238. doi:DOI: 10.1002/ejsp.350
- Maruven, M., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle? *Psychological Bulletin*, 126, 247-259.
- Maruven, M., Tice, D. M., & Baumeister, R. F. (1998). Self-control as limited resource: Regulatory depletion patterns. *Journal of Experimental and Social Psychology*, 74, 774-789.
- McEwan, D., Martin Ginis, K. A., & Bray, S. R. (2013). The Effects of depleted self-control strength on skill-based task performance. *Journal of Sport & Exercise Psychology*, 35, 239-249.