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The Effect of Positive Affect on Memory

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Introduction

The majority of positive affect research has been studied in relation to mental flexibility and creative thinking, with a smaller emphasis in the area of memory recall.

Studies have specifically looked at the influence of positive affect as it relates to the following: creative problem solving (e.g., Mikulincer, & Sheffi, 2000), problem solving and memory recall (Johnson, Mertz, & Robinson, 1987), improves recall of creative problem solving stimuli (Jones, 1997), improves recall of verbal and nonverbal information (Hanslmayr, Maier, & Spitzer, 2009), improves text processing and recall (Epigd, 2007), improved peripheral vision recall (Talarico, Berntsen, & Rubin, 2009), information retrieval (Ellis, Thomas, McFarland, & Lane, 1985), free recall (Hill, Van Bostel, Pond, Houx, & Jolles, 2005).

There is very little research on the effects of a positive mood and delayed memory recall, and none that specifically looks at delayed verbal memory recall.

We have designed our study to determine if a relationship between positive affect and memory recall exists, specifically related to delayed verbal memory recall.

Method

Subjects:

- The 58 subjects (male=25, female=33; age range: 18-31) were all raised in the United States and understand American humor.
- Subjects were volunteers recruited through a social networking website and a private university research participation website.
- The majority of volunteers (n=52) are undergraduate students attending a major private university.

Procedure:

- The study was conducted electronically, participants will complete the experiment online.
- Subjects were randomly assigned to either the experimental group or the control group. The experimental group watched a positive affect inducing video before proceeding to the memory test, while the control group was only administered the memory test.
- The participants were first asked to rate their current positive affect on a three-point category scale ranging from neutral to happy to very happy.
- The experimental group then proceeded to watch a series of humorous video clips that lasted a total of five minutes, which induced a positive affect. Subjects were again asked to rate their current positive affect on the three-point category scale, showing the change in positive affect before and after the video clips to show its effectiveness as a positive affect inducement.
- Participants then completed the memory word test, which is similar to the Rey Auditory Verbal Learning Test (RAVLT). In Trial 1 participants listened to a standardized pre-recorded word list consisting of simple nouns read two seconds apart. Then they clicked to the next screen where they were asked to recall and type as many of the 15 words as they could recall. Trials 2 and 3 of the memory word test were identical to Trial 1. Participants then completed the second memory test, which serves as memory interference for the initial memory test. They were asked to thoroughly read a narrative passage about 500 words in length, subjects were then asked to answer 10 questions generated from the text. Each of the 10 questions is on its own page and participants are unable to go back once a question is submitted. Subjects then were asked to recall as many of the 15 words from the initial memory word test in a free recall format.

- The participants were first asked to rate their current positive affect on a three point category scale, showing the change in positive affect before and after the video clips to show its effectiveness as a positive affect inducement.

- The electronic nature of this experiment did not allow for the control of distraction. Inducing a positive mood without using these specific clips may be more beneficial in future studies.

- The small sample size in the experimental and control groups. We had to throw out several of the data sets due to audio and video difficulties that occurred.

Results

- There was no significant difference found between the memory recall of the experimental group, who received the mood inducing stimuli, and the control group who received no mood inducing stimuli (t=.2082).

- There was a small effect size observed at .2206. There was a slight difference in the means as seen on table 1 and figure 1.

Discussion

- As there was no significant difference found between the experimental group and the control group (p<.05), the study shows that there is no direct benefit related to delayed memory recall in having a positive affect.

- Our results are not consistent with the current research in this area. Positive affect has been shown to have a positive influence upon free recall in looking specifically at creative problem solving (Hill, Van Bostel, Pond, Houx, & Jolles, 2005). Our experiment measured a unique area of memory that has not yet been fully studied, delayed memory recall, this may account for the inconsistency in the findings.

- Limitations:
  - Many participants commented after taking the study they felt the video was a distraction. Inducing a positive mood without using these specific clips may be more beneficial in future studies.
  - The small sample size in the experimental and control groups. We had to throw out several of the data sets due to audio and video difficulties that occurred.
  - The electronic nature of this experiment did not allow for the control of participants’ environment, which could have added distraction.

- In our experiment we sought to find out positive affects impact of verbal memory. We were not able to support this hypothesis in our experiment, which shows that positive affect as studied thus far does not directly influence delayed memory recall.