

CORE STUDY #1: ANDRADE 2010 (DOODLING)

Aim

The objective of this study was to investigate whether doodling improves information processing by enhancing attentiveness or memory.

Background

Research indicates that divided attention hinders performance, but there is a suggestion that doodling could aid concentration. Wilson and Korn (2007) propose that doodling maintains arousal as it combines physical activity with thought. Andrade defines doodling as creating unrelated patterns or figures during a primary task.

Method

Participants

- The sample consisted of 40 participants from the Medical Research Council of the Applied Psychology Unit
- Opportunity sampling
- Mostly women
- Aged 18-55
- Received monetary compensation for their participation
- Each experimental condition included 20 participants, who were approached after completing a prior study and asked to spare 5 minutes for this one

Design

- Laboratory experiment
- Independent measures design
- Participants were randomly assigned to either the doodling or control group

Procedure

- All participants listened to a 2.5-minute monotonous telephone call about a party at a rate of 227 words per minute.
 - ↳ The independent variable was the presence or absence of doodling, and the dependent variable was performance in two recall tasks.
- Participants were situated in a quiet room during the study.
- Participants were informed that they would be tested on two tasks: the Monitoring task (names of partygoers) and the Recall task (names of places mentioned), with the test order counterbalanced.
- Correct responses included plausible mishearings, while entirely incorrect names were counted as false alarms.
- The final score was calculated as the number of correct names minus the number of false alarms.
- The phone call included 8 partygoer names and 8 mentioned places.
- Participants in the doodle group were provided with A4 sheets featuring alternating rows of squares and circles for shading while listening.
- Control group participants received lined paper.
- All participants listened at a comfortable volume, and a surprise recall task was conducted immediately after the call.

Results

- In the doodle group, participants shaded an average of 36.3 shapes, with a range of 3-110, while no control group participants spontaneously doodled. The average false alarm rate in the Recall task was 0.3 for both groups.

Monitoring Task Results

- ↳ Control group participants recalled an average of 7.1 names, with 5 false alarms.
- ↳ Doodle group participants recalled an average of 7.8 names, with 1 false alarm.

Overall Results

- ↳ Doodling participants recalled an average of 7.5 names and places, 29% more than the control group's mean (5.8). Even when excluding participants suspected of demand characteristics, doodlers had better recall.

Conclusions

- Doodling enhances concentration on the primary task, as doodling participants outperformed those solely listening. Doodlers excelled in both tasks, and two potential explanations exist: 1) doodling affects attention, or 2) doodling improves memory by encouraging deeper information processing. However, without a measure of daydreaming, distinguishing between these explanations is challenging. Measuring daydreaming could involve self-reports or brain scans to identify reduced cortex activation, associated with daydreaming.

Evaluation

A strength of this study is that it is highly replicable. This is because it was conducted in a controlled laboratory environment with standardized procedures such as using the same telephone recording and doodle sheet for each participant and conducting the experiment in the same dull room. This means another researcher can simply get another group of participants,

repeat the procedure exactly and compare and test the results for accuracy. This allows the findings of the study to be tested, therefore increasing the validity of the study.

Another strength of this study is that it is highly reliable. This is because the study was done with a standardized procedure which reduced boredom-induced daydreaming which increased the reliability of the study. The dependent variable was also operationalised. This increases the validity of the results of the study.

A weakness of this study is that it was subject to demand characteristics. This is because the study was conducted on participants who were from a psychology panel and therefore had knowledge of the experiment being conducted (not to mention that they had been recruited while they were leaving a similar experiment). Thus, it would have been easy for them to decipher the aim of the study and change their behaviour, reducing the validity of the study.

Another weakness of this study is that it had a limited sample. This is because it was done on people from a psychology panel of participants who were mainly women. This makes it difficult for the results to be generalised to other populations of people, reducing their validity.

Ethical Concerns:

Participants did not provide full informed consent for the recall task, which may have caused psychological distress. However, participants were debriefed and apologized to by the researchers.

Issues and Debates

- **Application to Everyday Life:** doodling may be beneficial when listening to lectures, as it appears to enhance attentiveness. Nonetheless, deliberate drawing during such situations may prove counterproductive.
- **Individual vs. Situational:** doodling's impact on recall suggests a situational influence on information processing. However, the variability in individual doodling styles highlights individual differences in doodling behaviour.