The Mozart Effect
A Review

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Abstract

- The Mozart Effect study was re-examined by Kristin M. Nantais and E. Glenn Schellenberg in an effort to test the prior widespread belief that listening to Mozart increases intelligence/performance.
- The hypothesis of the study was that listening to music composed by Mozart would indeed help participants score markedly higher on a spatial-temporal task (Nantais & Schellenberg 370).
- While there was a positive significant effect between Mozart and performance, there was additionally a positive significant effect between a narrated story and performance.
- The results of the experiment prove that it is not solely Mozart that increases performance, but the individual's preference as to what environment they complete any spatial-temporal task in.

Introduction

- A research study (Rauscher, Shaw, Ky, 1993, 1995) claimed that listening to Mozart helped with spatial-temporal abilities.
- Widespread belief in Mozart
- Pilots and Structural engineers see improvement in performance with music.
- Rauscher and her colleagues claim Mozart produces the "*Trion Model*"

Introduction

- When previously tested the effect seemed like a failure because of the experiments not being spatial tasks.
- Experiments will be a “Paper folding and Cutting task”

Methods

Participants:

- 84 undergraduates, 56 for experiment 1 and 28 for experiment 2

Procedure:

- Experiment 1: Participants in experimental listened to either Mozart or Schubert for 10 mins and then take their test. Participants in control sit in silence for 10 mins and before taking the test.
- Experiment 2: Participants listened to Mozart for the experimental session and this time the control is listening to a story instead of sitting in silence.

Experiment 1 - Results

- In Experiment 1 an ANOVA test was used in order to examine performance as a function of condition, musical piece and the testing order.
- From the study, it was concluded that the main effect was in the scores on the spatial-temporal task and the increase they had after listening to music versus sitting in silence.
- The within-subjects variance of this experiment was 20% and was accounted for by the differences between conditions.
- Performance improved from the first to the second session of this experiment.
- The Mozart effect, reported by Rauscher et al. (1993, 1995), was successfully replicated in a controlled lab setting.
- They also discovered that when a piece by Schubert was substituted for the Mozart piece; it resulted in an effect size of equal intensity..

Experiment 2- Results

- In experiment 2 the ANOVA examined for effects of the condition and testing order and revealed a reliable order effect.
- Performance improved from the first to second session.
- The testing order resulted in 14% of the within-subjects variance.
- In this experiment the main effect did not prove to be significant and did not interact with the testing order.
- Interestingly, the Mozart effect disappeared when compared to the control condition of a short story relative to the silence.
- This prompted for another analytical set to be conducted to test the hypothesis that performance would be affected by the listeners preference for Mozart or the short story.

Experiment 2 Results contd.

- In order to test the aforementioned hypothesis the participants recorded their preference for either Mozart or the short story.
    - 13 voted Mozart, 15 voted short story
- The results supported the argument that overall performance was better within the participants preferred condition.
- An ANOVA then tested for three factors (condition, testing order, and preference) to confirm that one's preference interacted with the condition (P = .0352)
    - The study concluded that those who preferred Mozart scored higher within the Mozart condition compared to the short story and vice versa.
- The preference of the listener accounted for 15% of the within-subjects variance.
- The study also showed that those who preferred Mozart actually scored marginally better across all conditions.

Discussion

- What can we infer from the results?

  -Pleasant stimuli vs Boring Stimuli

  -Music and Emotion

References

- Nantais, Kristin M., & Schellenberg, E. Glenn. (1999). The Mozart effect: An artifact of preference. *Psychological Science*, 10, 370-373.