



Handwriting vs. Typing: Exploring the Impact of Note-Taking Methods on Memory Retention



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Abstract

This study aims to evaluate how the mode of note taking influences memory retention. Understanding the relationship between note taking methods and short-term memory can benefit students in various ways, such as improving exam preparation, presentation skills, and overall learning strategies. By identifying which method leads to better memorization, this study seeks to inform students on how they can optimize their note taking strategies for enhanced academic performance. In the circumstance that our results find no significant difference between the two methods, we are looking to discuss how and when each method would be most effective.

Methodology

Characteristics:

- 34 participants in the study: 24 females and 10 males
- The participants were divided into 2 groups: the handwritten group and the typing group.
- Participants were randomly placed into either of the 2 groups, by characterizing their number on the list (1-34) as even or odd. Even numbers → handwritten, odd numbers → typing
- Words (generated through random word generator): Meeting, Institution, Swell, Scheme, Adventure, Road, Bind, Spread, Fire, and Auditor

Procedure:

Every participant was given the same description of the experiment as a script that was practiced by one of the study researchers. The participants all had time to either write or type the ten words that were verbally disclosed to them. Then, they had one minute to memorize all ten words. Once the minute was up, the participants played the dinosaur game for 3 minutes (distraction). Once the three minutes were up, the participants verbally recited the words back to us, in no particular order. At the end of the study, the participants received compensation in the form of candy as gratitude for being part of the study.

Questions

Which methods increase memory retention, a typed mechanism or handwritten mechanism?

Is there a significant difference in results between handwriting and typing?

What outstanding variables may influence the results?



Results

% Correct vs. % Incorrect Among Handwriting Participants

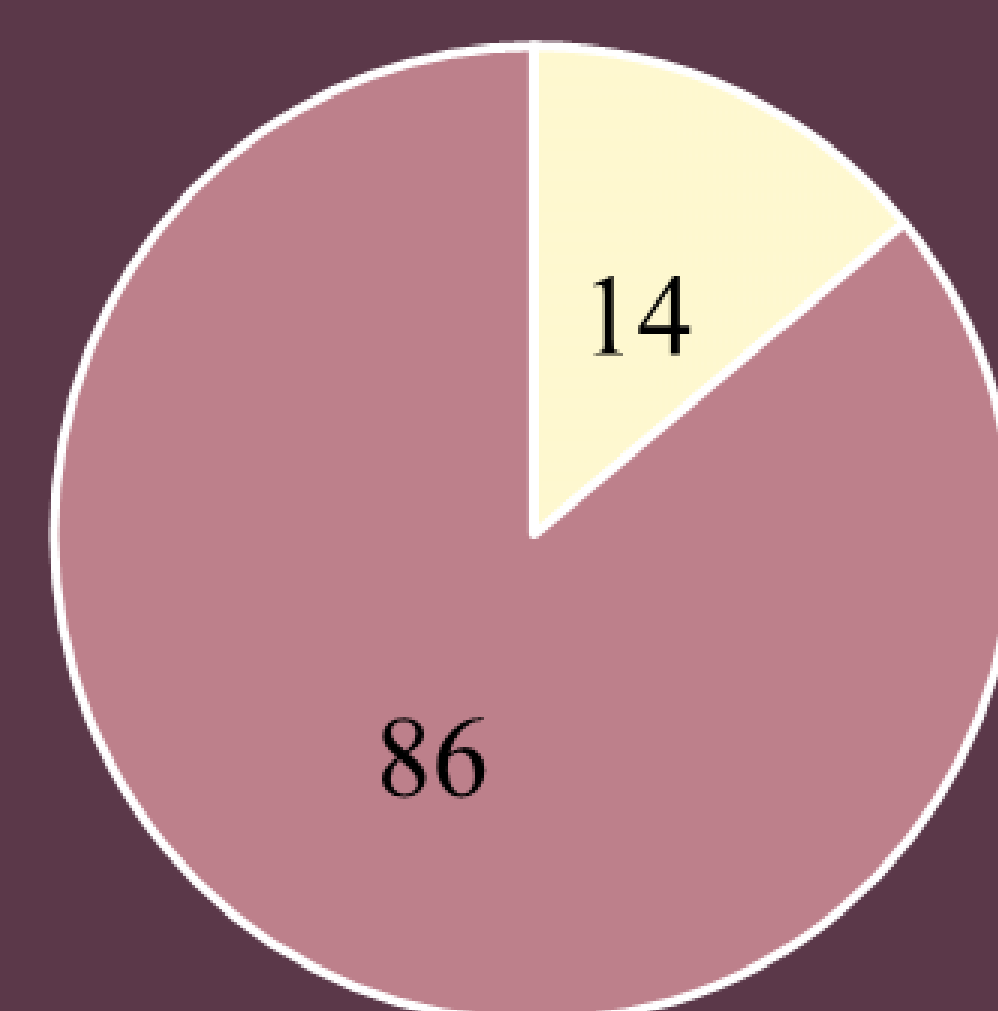


Figure 1. Among handwriting participants, 86% of the words were recalled correctly and 14% of the words were recalled incorrectly (Smoker et. al)

% Correct vs % Incorrect Among Typing Participants

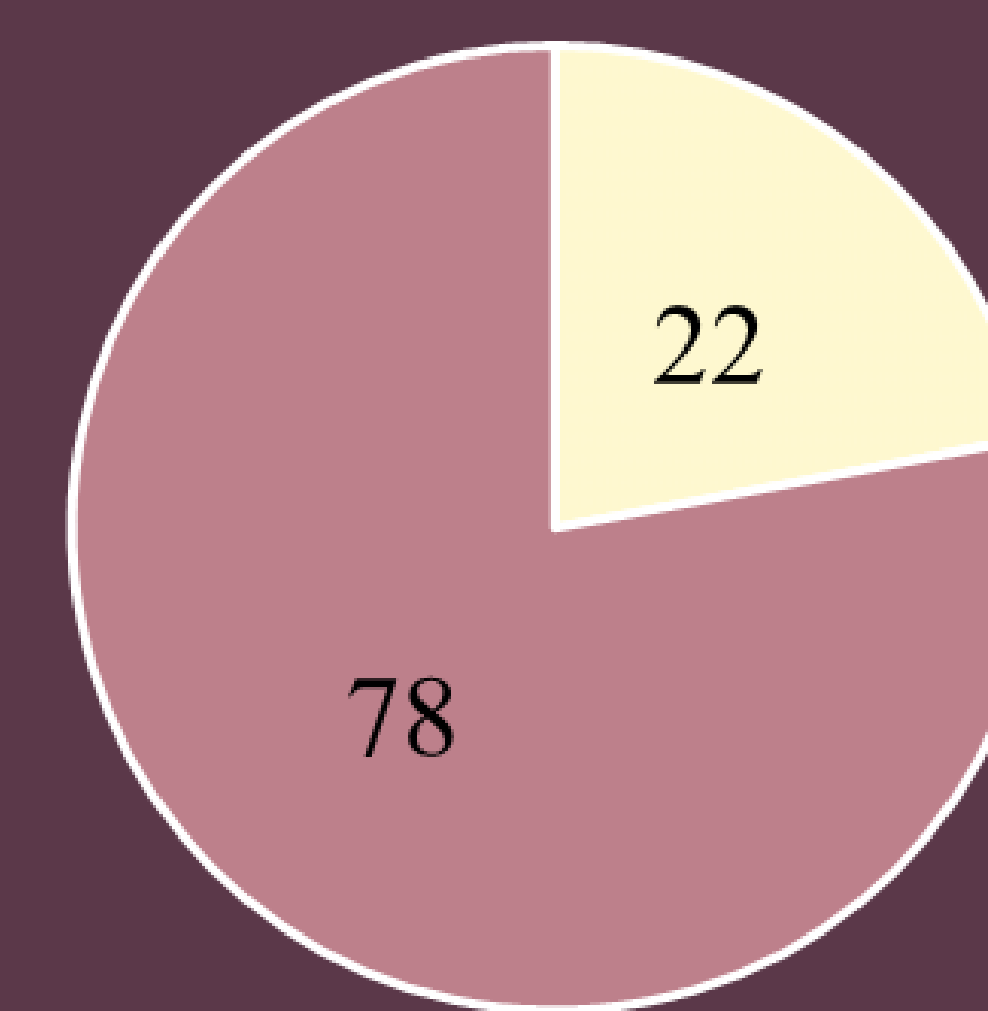


Figure 2. Among typing participants, 78% of the words were recalled correctly and 22% of the words were recalled incorrectly (Smoker et. al)

Distribution of Scores Among Written Participants

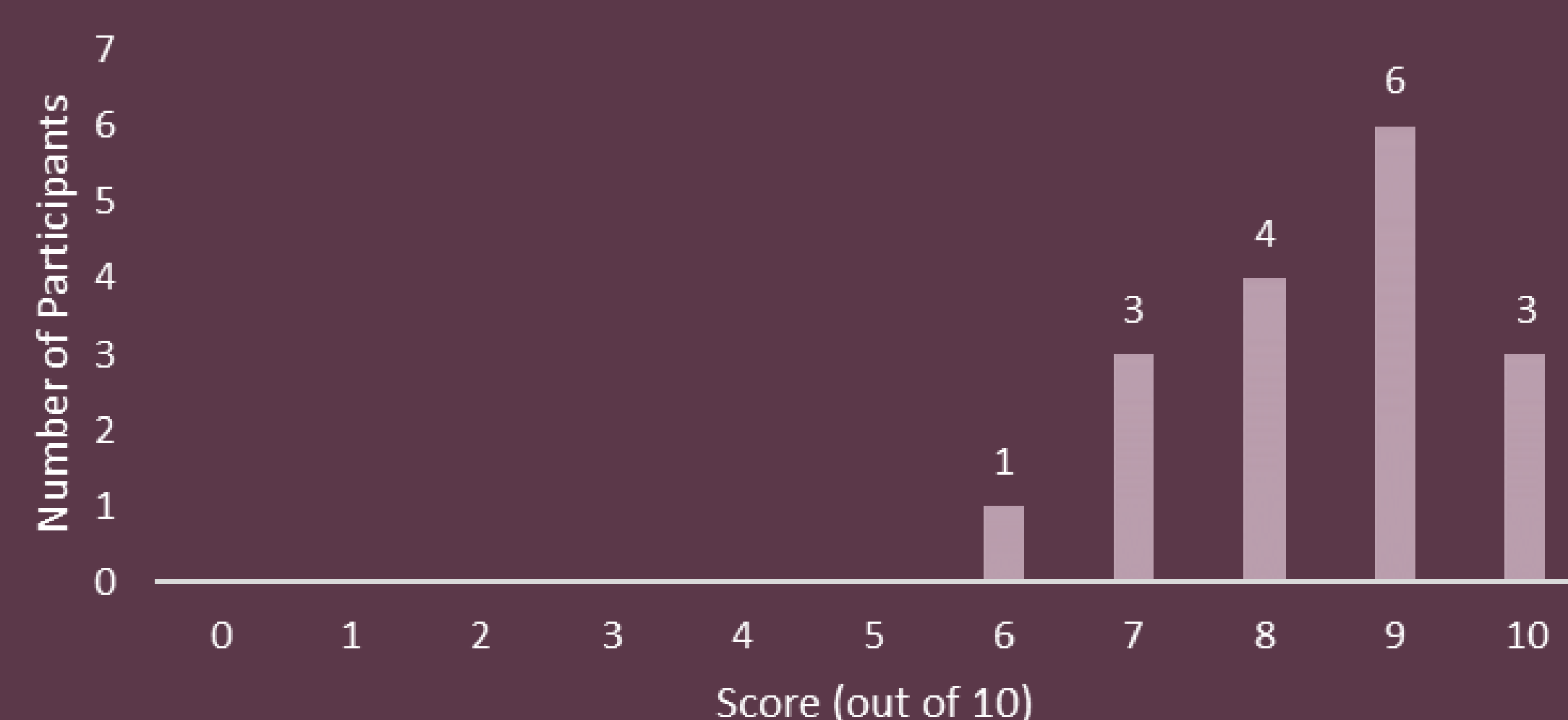


Figure 3. The scores obtained by the writing participants exhibit a normal distribution towards the higher range of values, with the majority of participants obtaining a 9 out of 10.

Distribution of Scores Among Typing Participants

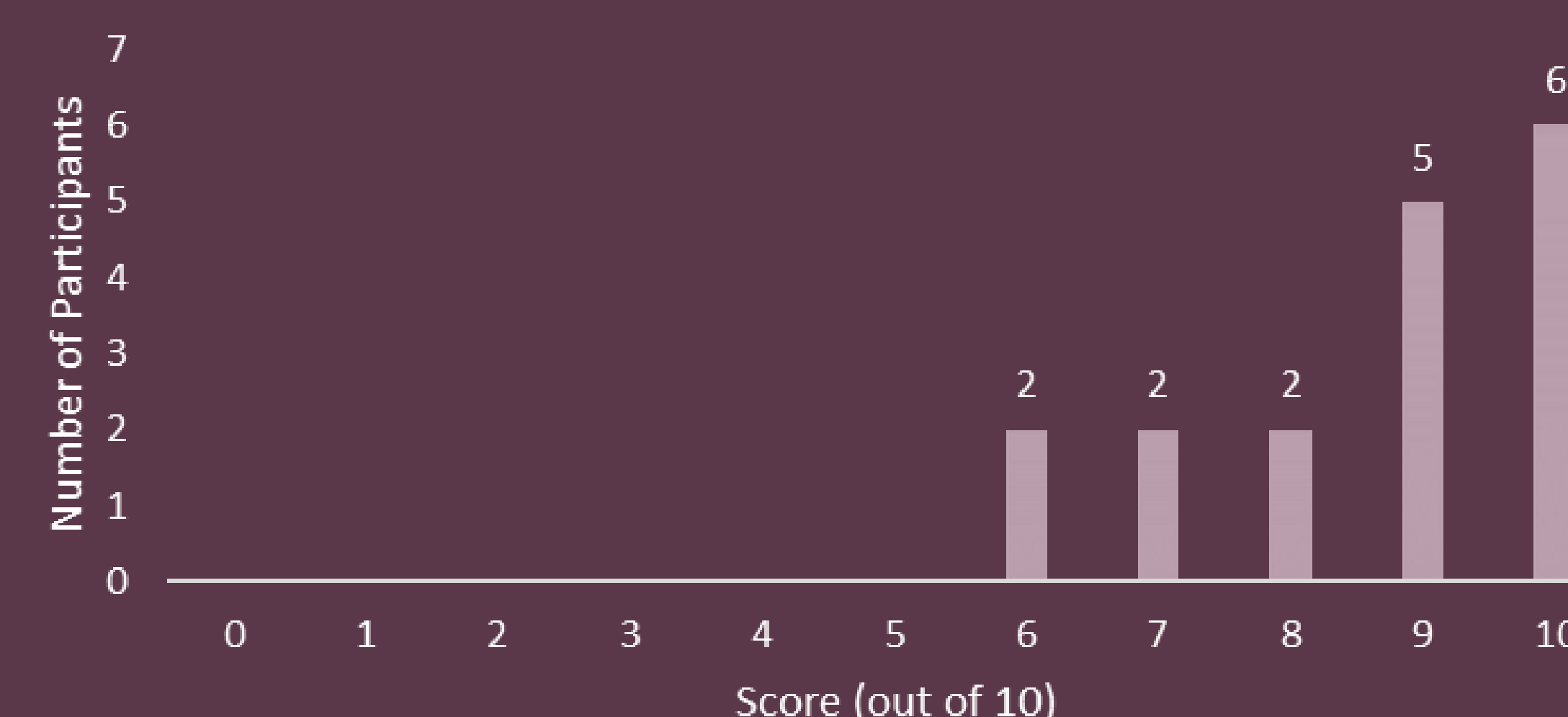


Figure 4. The scores obtained by the typing participants do not exhibit a normal distribution. Rather, they are skewed towards the extreme values 10 out of 10.

Conclusion

- The study found no significant difference in memory retention between handwriting (mean = 8.41) and typing (mean = 8.65), with a p-value = 0.601.
- Results align with previous research indicating no clear advantage for any specific note-taking method in factual or conceptual recall.
- Both methods proved effective, with most participants scoring 8 or higher, demonstrating the value of note-taking itself in enhancing memory.
- Typing may be preferable for tasks requiring speed or multitasking, while handwriting could support deeper cognitive processing.
- Our findings suggest students should select note-taking methods based on personal preferences and task demands.



References

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