Introduction

- Previous research suggests that short-term memory (STM) can be affected by a person’s mood, fatigue, and rehearsal interference (Goldstein, 2011).
- However, no studies have examined the effects of memory performance feedback on STM and whether different personalities are susceptible to these feedback influences on STM.
- In this study, we explored the effects of feedback and personality on STM performance.

Hypothesis

1. Negative feedback will significantly hinder short-term memory performance for high-conscientious people.
2. Self-efficacy will be positively correlated with self-esteem, short-term memory performance, and emotional stability.

Method

Participants

- N = 87 (61 female) were recruited from the IUPUC campus and the surrounding community.
- Mean age = 25.3, SD = 9.5; range 18-58 years.

Procedure

- Participants were randomly assigned to 1 of 3 feedback conditions by means of rolling a die; 1 or 2 = negative; 3 or 4 = positive; 5 or 6 = no feedback.
- Pen and paper personality measures were administered.
- Simple letter span task (pre-test).
- Subjects received feedback or took a break.
- Simple letter span task (post-test).
- Debriefed participants.

Personality:

- 50 item International Personality Item Pool (IPIP) Big 5 Personality Assessment (Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness).
- 10 item Rosenberg Self-esteem assessment.

Results

Short-Term Memory Performance and Feedback

- Main effect of Feedback (pre/post-test) was marginally significant: F(1,84) = 4.13, p = .05, η^2 = .05.
- Interaction of Feedback and Time was not significant: F(2,84) = 1.13, p = .33, η^2 = .03.

Short-term Memory Performance and Personality

- Subjects’ change scores and conscientiousness were positively correlated, r(85) = .23, p < .05.
- Subjects’ pre-test scores and their self-evaluations (before feedback) were positively correlated, r(85) = .26, p < .05.
- Subjects’ self-evaluations (before feedback) and their self-efficacy were positively correlated, r(85) = .26, p < .05.

Post-Hoc Analyses

Short-Term Memory Performance and Sex Differences:

- Main effect of Feedback was significant: F(1,84) = 5.03, p = .01, η^2 = .11.
- Interaction of Feedback and Sex was significant: F(1,84) = 3.90, p = .02, η^2 = .09.

Conclusion

- Variability and large standard deviations on the STM performance scores may be affecting the initial data analyses, thus preventing a statistically significant difference from appearing. Therefore, I believe a larger sample size would be imperative for future studies.
- The use of positive or negative feedback doesn’t appear to alter subsequent test performance for everyone. However, it did affect males more than females in this study.
- Although sex effects were observed, this study didn’t have equivalent number of sexes, as that was not originally a hypothesis for the study.
- It is important to note that overall, males and females are far more similar than different.
- Correlations suggest that people can accurately evaluate their own short-term memory performance without receiving feedback.

References