Feedback on ‘Need for Speed? The role of perceptual speed in generalised visual comparison’

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## Overview

This study examines the relationship between perceptual speed and visual comparison ability, using a sample of 122 participants who completed a perceptual speed task and two visual comparison tasks. The research found a significant positive correlation between perceptual speed and visual comparison performance, which remained reliable after adjusting for age. This feedback provides a detailed evaluation of the study’s strengths and areas for improvement.

## Detailed Evaluation

### Abstract and title (4.5/5)

The title “Need for Speed? The role of perceptual speed in generalised visual comparison” is catchy and effectively conveys the study’s focus. While I personally prefer more descriptive titles (e.g., “Perceptual Speed is Associated with Visual Comparison”), the chosen title is appropriate if that’s your preference.

The abstract is well-structured and provides a concise overview of the study’s purpose, methods, findings, and conclusion. However, it slightly oversells the design by claiming to explore the “role” of perceptual speed, which suggests causality. Given the correlational nature of the study, it would be more accurate to describe it as examining the “relationship” between perceptual speed and visual comparison ability.

### Introduction (20/25)

Strengths: - Clear justification for the research topic - Demonstrates a strong rationale based on relevant literature and theory - Evidence of critical evaluation and synthesis of background information - Effective examination of Varga and Hamburger’s (2014) tri-dimensional model

Areas for improvement: - Could further emphasize the theoretical implications of finding (or not finding) similarities between perceptual speed and visual comparison tasks - More explicit discussion of how this study fits into the broader research context

### Method (17/20)

Strengths: - Design, data, and R scripts available on OSF - Inclusion of power analysis - Clear visual aids for describing the design

Areas for improvement: - Pre-register future studies on OSF - Clarify the rationale for choosing r = .3 in the power analysis - Reconsider the timing of the intrinsic motivation scale - Be cautious about excluding participants after data collection - Strengthen the rationale for using 30-second trials over 20-second trials - Correct the mischaracterization of the study as a “within-subject design”

### Results (18/20)

Strengths: - Appropriate analytic strategy - Clear and accurate presentation of results - Competent data analysis

Areas for improvement: - Include raw data and full data with excluded participants - Provide scripts used for data cleaning, with documentation for column names - Include the 20-second and 30-second trial data from the pilot study - Add confidence intervals to your analyses

### Discussion (17/20)

Strengths: - Effectively relates results to previous research - Explores the meaning of findings - Well-considered limitations - Logical future research directions

Areas for improvement: - Further clarify the correlational nature of the findings and its limitations in understanding causality - Reconsider the speculative argument about hiring practices in forensic analysis - Provide a more nuanced discussion of how perceptual speed might interact with other factors in professional settings

### Formatting, clarity & referencing (9/10)

Strengths: - Adherence to APA 7th edition formatting - Clear and logical writing - Appropriate use of references and citations

Areas for improvement: - Conduct a thorough proofread to ensure consistent formatting throughout the thesis

## Overall Assessment

This honors project demonstrates strong research skills, clear writing, and a solid understanding of the topic. You have effectively conducted and reported a meaningful study in the field of visual comparison and perceptual speed. The main areas for improvement lie in:

1. More careful interpretation of correlational findings
2. Strengthening methodological decisions and their rationales
3. Providing more comprehensive data and analysis scripts

These improvements would further enhance what is already a commendable piece of research. Your work contributes valuable insights to the understanding of perceptual speed and visual comparison ability, and sets a strong foundation for future research in this area.