THE DEVELOPMENT AND ASSESSMENT OF STANDARDIZED PATTERNS IN THE STUDY OF MEMORY FOR PAIN

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Introduction

- Rainville (2004)
  Examined the short-term memory of thermal and pain sensitivity
  Although generally reliable, pain ratings become inaccurate even after short time delays
- Lefebvre and Keefe (2006)
  Examined the relation of catastrophizing to the recall of arthritic pain
  Higher levels of catastrophizing related to better accuracy in the recall of pain intensity and variability

Purpose

- Purpose
  To develop a valid and reliable measure of memory for pain

Initial Study Design

- 9 Pattern-trial with 4 weights
  Too complex
- Step-wise technique of increasing difficulty
  3-pattern x 2 weights
  5-pattern x 3 weights
  9-pattern x 3 weights

Methods

- Subjects
  30 undergraduate students
  21 females, 9 males
  Ages 18-23
  67% Caucasian, 30% African-American, 3% Other

- Materials
  Forgione-Barber device
  3, 5, 9 Trial Patterns

Forgione-Barber Device
Methods—3-trial Procedure

Methods—5-trial Procedure

Methods—9-trial Procedure

Results: Gender Differences

- Significant main effect of gender ($F(1, 29)=6.24$, $p<0.05$).

![Graph showing gender differences and results](image-url)
Kappa Values

- Percent correct after accounting for chance
  - 3-Trial: 0.80, very high agreement
  - 5-Trial: 0.80, very high agreement
  - 9-Trial: 0.61, moderate agreement

Results

- One-Way ANOVA and Tukey’s HSD Post-hoc comparisons

Results: Total Percent Correct

- Main effect of Percent Correct between groups, \((F(2, 29)=10.029, p<0.01)\)
  - Significant difference between 3-Trial and 9-Trial.
  - Significant difference between 5-Trial and 9-Trial.
Results: Percent Correct for Pattern 1
- Significant main effect of percent correct of Pattern 1 ($F(2, 29) = 3.704, p < 0.05$)
- Significant between 3-trial and 9-Trial
- No significant differences between 3-Trial and 5-Trial or the 5-Trial and 9-Trial

Results: Percent Correct for Pattern 2
- Significant main effect of percent correct ($F(2, 29) = 5.7, p < 0.01$) for pattern 2
- Significant difference of percent correct between 3-Trial and 9-Trial for Pattern 2

Results: Percent Correct for Patterns 3, 4, 5
- No significant main effects or differences between trials for patterns 3, 4, or 5
Discussion

- Males better than Females
- 3-Trial and 5-Trial designs provide best levels of agreement
- 5-trial is best for future studies—and are the best 5 patterns
  - Maintains very good agreement without sacrificing diversity

Best Method: 5-Trial

Discussion

- Opportunities for Improvement
  - 3-trial Inconsistency
  - Finger Inconsistency
  - Increase Diversity

- Future Directions
  - Memory Research
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