

Structured Retrieval Practice (SRP) Intervention For Learning Medication Side-Effects Across the Lifespan

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Background

- Prior research has revealed age-related declines in paired-associate learning, which involves remembering a connection between two items (Naveh-Benjamin et al., 2007).
- Associative learning is particularly important in learning health-related information (e.g. remembering a medicine can cause harm when combined with a certain food).
- Older adults often take multiple prescription medications, many of which can pose significant health risks when combined with other substances (Qato et al., 2008)
- Prior research has found that structured retrieval practice (SRP) can significantly enhance long-term memory compared to passive strategies like rereading (Agarwal et al., 2021).
- **H1: Those in the SRP condition will successfully recall more medication-interaction and outcome pairs than the restudy condition, even after the 2-day delay**
- **H2: Younger adults will display better recall than the older adults.**

Participants

Younger Adults

- **N = 79 TCU Undergraduate Students**
(*M* = 19.04 years old, *SD* = 1.07 years old)
- Reread: *n* = 38 SRP: *n* = 41

Older Adults

- **N = 52 Older Adults from Community**
Must be 65+ years old, speak English and residing in US
(*M* = 67.84 years old, *SD* = 6.62 years old)
- Reread: *n* = 35 SRP: *n* = 17

Materials & Procedure

Study Instructions

In this experiment, we would like you to imagine that your doctor has prescribed you 8 new medications to treat several chronic conditions that you have. We would like you to learn about these medications so that you understand how to safely take your new medications.

Initial Study

- **8 Fictitious Medications and Interactions**
- **Randomized order**
- **Counterbalanced**

Drug Facts

Floragin

Warnings

- Side effects can include:
 - **Diarrhea** when used with **alcohol**

Learning Intervention (5 blocks)

SRP

Drug Facts

Floragin

Warnings

Side effects can include:

- _____ when used with _____

Correct answer (feedback) given after attempt

Restudy

Drug Facts

Floragin

Warnings

Side effects can include:

- Diarrhea when used with alcohol

Please type the **Warnings** for this medication below

Side effects can include:

_____ when used with _____

No feedback given

Immediate and Delayed Test

- **Randomized order**
- **Immediate test: 10 minute delay**
- **Delayed test: 2-day delay**

Drug Facts

Floragin

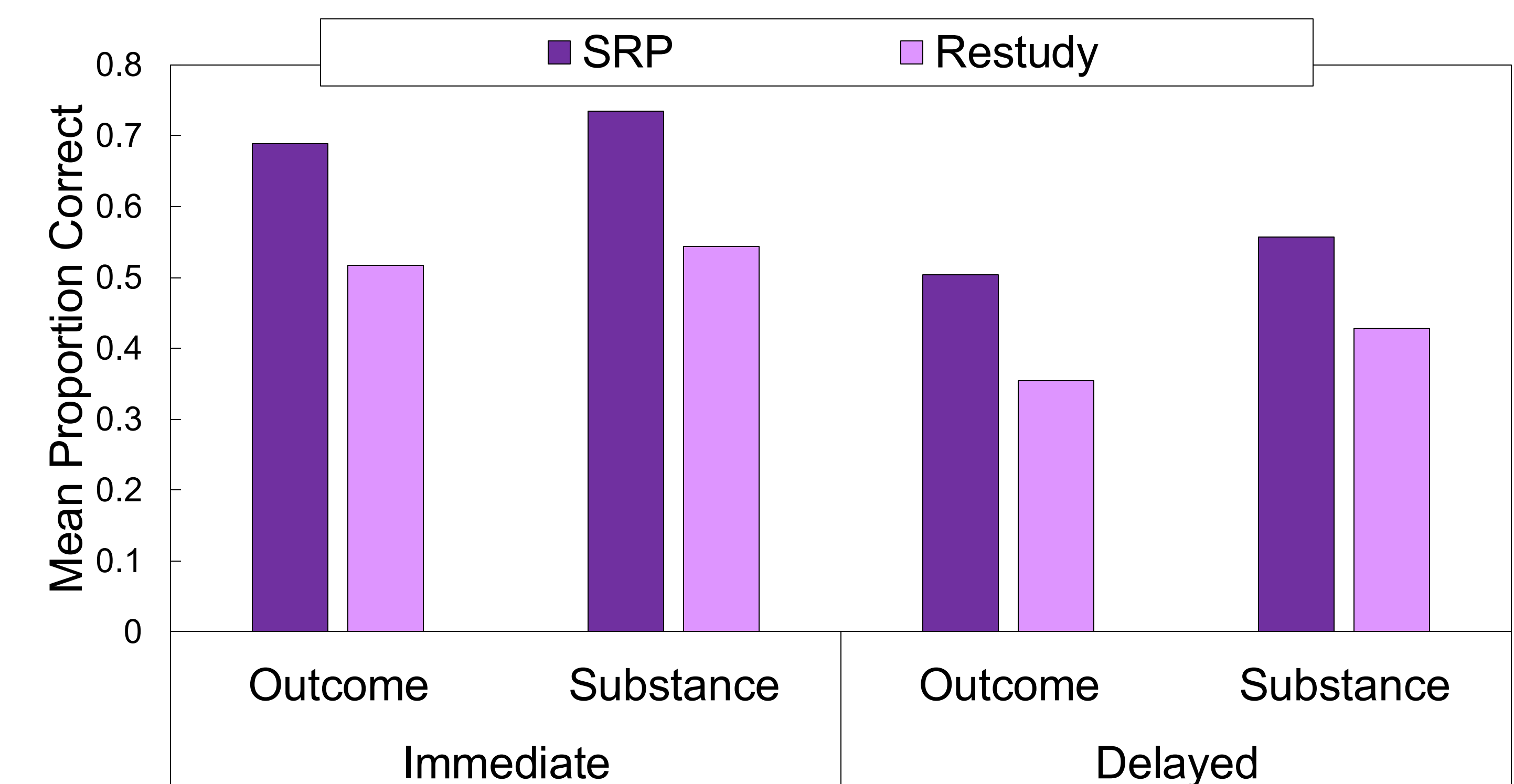
Warnings

Side effects can include:

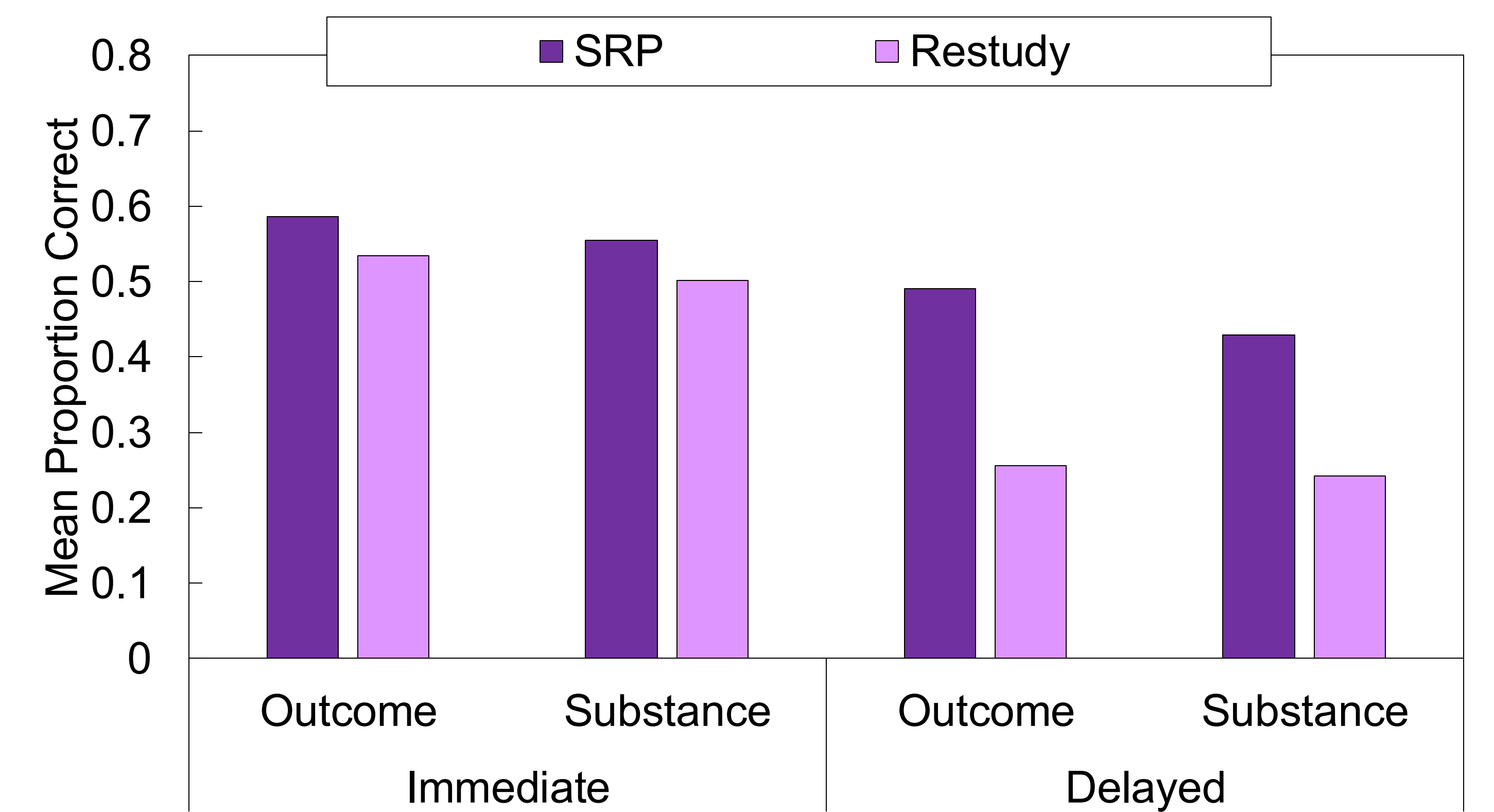
- _____ when used with _____

Results

Younger Adults



Older Adults



Conclusions

- Interim analyses revealed that, as hypothesized, those in the SRP condition outperformed those in the Restudy condition, regardless of age group and time.
- Data collection for the Older Adults is ongoing, so these conclusions should be considered preliminary
- Future work should include value-directed learning (i.e. manipulate symptom severity)