

## Aging and Stereotyping Effects on Face-Name Memory

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## Introduction



### Stereotyping affects memory

- Self-stereotyping and stereotype threat
  - Automatic
  - Self-relevant
  - Important ability
- Attitudes towards aging pervasively negative
  - Especially memory
  - Belief in inevitable memory decline with age
  - Value memory & fear memory loss
- Older adults vulnerable to memory stereotyping
  - Beliefs may moderate stereotyping effects

Chasteen, Kang, & Remedios, 2012; Dark-Freudeman, West, & Viverito, 2006; Hess, Emory, & Queen, 2009; Hess, Hinson, & Hodges, 2008; Hummert, 2011; Lineweaver, Berger, & Hertzog, 2008; Popham & Hess, 2013



### Feedback and memory

- Mixed effects reported
  - Complex interaction with beliefs
- More influential for younger than older adults
- Positive feedback may be motivating
  - Especially with high memory self-efficacy
- Unknown effect of negative feedback

Levy, 1996; West, Dark-Freudeman, & Bagwell, 2009; West, Ebner, & Hastings, 2013; West, Welch, & Thom, 2001



### Memory self-efficacy

- Confidence in memory performance
- Correlated with memory performance
  - Meta-analysis  $r = .15$ , 95% CI:  $.13 - .17$
- Predicts memory performance
  - Longitudinally, 6 years later
  - Training self-efficacy improves memory
- Decreased by negative self-stereotyping
- Moderates self-stereotyping and feedback effects

Bandura, 1997; Beaudoin & Desrichard, 2011; Desrichard & Köpetz, 2005; West, Bagwell, & Dark-Freudeman, 2008



### The present study

- Extends previous research on self-stereotyping in domain of aging and memory
  - Performance feedback as mechanism for self-stereotyping effects
  - Role of personal beliefs in explaining responses to feedback



## The present study

- Positive, negative, and no feedback conditions
- Name memory outcome, relevant & challenging



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## Methods

### Participants

→ Extreme groups design

- 95 younger adults
  - 18 – 27 years old
  - $M = 19.2$ ,  $SD = 1.3$
  - 72.6% female
- 83 older adults
  - 68+ years old
  - $M = 73.8$ ,  $SD = 3.9$
  - 72.3% female

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## Overall design

### Mixed-model design

- 2 age (between: YA, OA)
- 3 feedback conditions (between: P, N, C)
- 2 name memory (within: recognition, recall)

### Phone screening

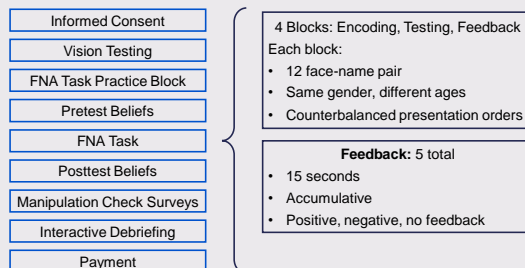
30 – 45 min.  
Health & demographics  
Baseline cognition

### Onsite interview

1.5 – 2 hrs.  
Face Name Association Task  
Beliefs measures

UF YA = Younger adults, OA = Older adults, P = Positive, N = Negative, C = Control

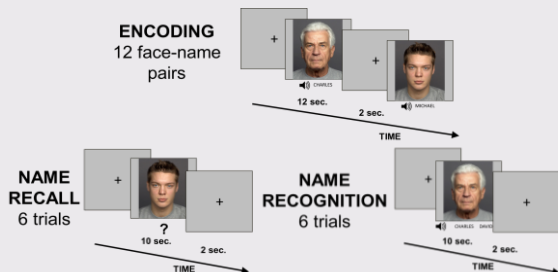
## Onsite interview procedure



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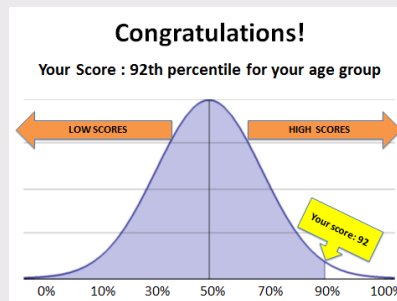
FNA = Face Name Association

## Face Name Association Task



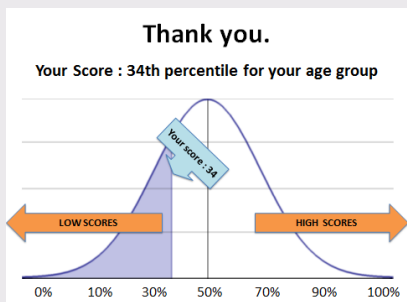
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## Example Positive Feedback



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### Example Negative Feedback



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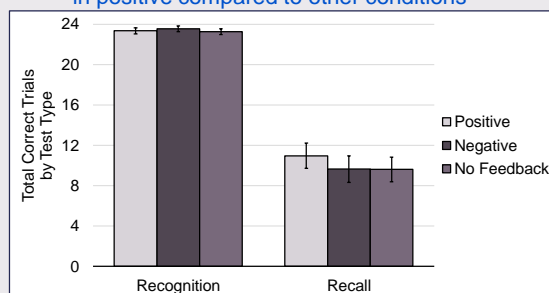
### Example No Feedback



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### Results

(Trend) Test type & feedback condition interaction:  
Name recognition similar across feedback conditions, yet trend towards better name recall in positive compared to other conditions

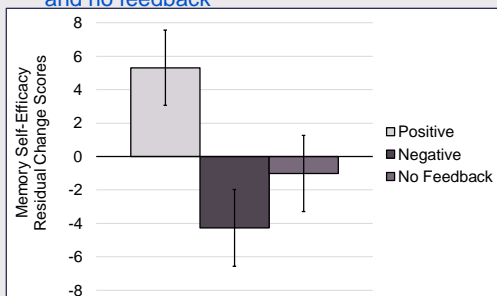


$F(2,172) = 2.79, p = .06, \eta_p^2 = .03$

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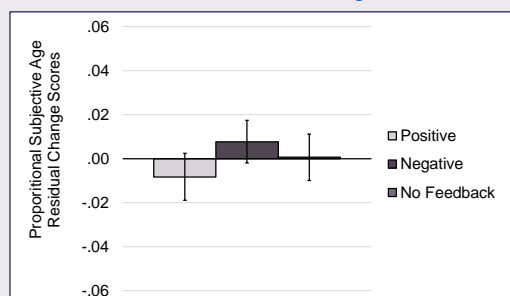
Feedback effect for memory self-efficacy change:  
Greater-than-average gains in positive feedback, significantly better than negative and no feedback



$F(2,172) = 18.11, p < .001, \eta_p^2 = .17$

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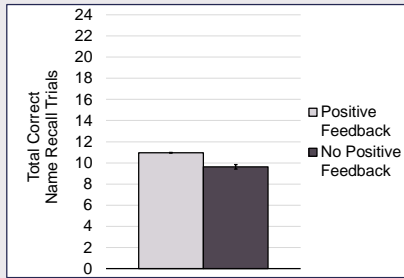
(Trend) Feedback effect for subjective age change:  
Pos. Ps feeling younger and Neg. Ps feeling older, relative to their actual age



$F(2,172) = 2.66, p = .07$

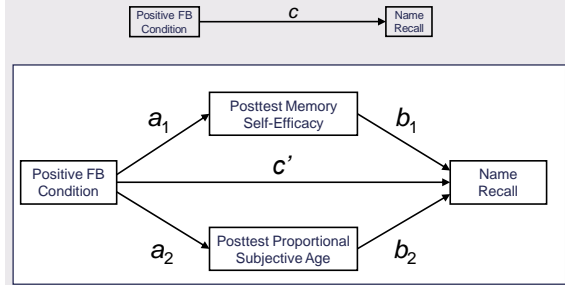
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Test type & positive feedback condition interaction:  
**Better performance for positive than no positive for name recall** but comparable performance between groups for name recognition



$F(1,174) = 5.37, p = .022, \eta_p^2 = .03$

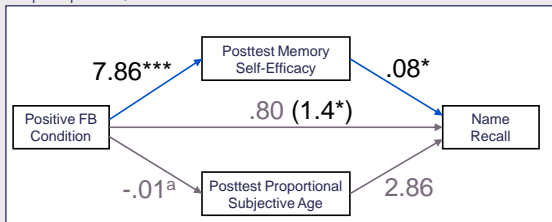
**Hypothesized model:** Indirect effects of positive FB on name recall through memory self-efficacy and subjective age



FB = Feedback. INDIRECT script, Preacher & Hayes, 2008

Indirect effect of positive feedback on name recall through memory self-efficacy:  
 Pos. FB → higher posttest MSE → better name recall

Total  $R^2 = .44, p < .001$   
 $a_1 \times b_1 = .62, BCCI .15 - 1.34$



<sup>a</sup>  $p < .10, *p < .05, **p < .01, ***p < .001$

BCCI = Bias corrected confidence interval. FB = Feedback. MSE = Memory self-efficacy. Pos = Positive

## Discussion

### Feedback and memory

- Better name recall with *positive feedback* compared to *no positive feedback*
  - Similar performance between negative feedback and no feedback
- Positive benefit of positive feedback
  - Via motivation, encouraging continued effort
  - Protection from negative self-appraisal
    - Comparable low memory evaluations in negative and no feedback conditions

### Feedback and beliefs

- Positive feedback improved memory self-efficacy
  - Greater-than-average gains
  - Sustained pretest to posttest, compared to decline in negative feedback condition
- Feeling younger relative to one's own age when receiving positive feedback

## Conclusion & Future Directions

- Feedback impacts performance & beliefs
  - Similar effects in younger and older adults
- Positive FB → Increased self-efficacy → Better name recall
- Negative self-appraisal?
- Training beliefs to promote resilience to stereotype threat effects

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FB = Feedback.

## Acknowledgements

### Thank you, research volunteers!

- Social Cognitive and Affective Development Lab
- Aging and Development Lab
- Supervising Committee
  - Natalie C. Ebner
  - James Shepperd
  - Robin West
- Jay & Michael Hughes, Kim Smith, Jordan Van Hall, Claudia
- Research Assistants
  - Jessica Alpizar
  - Nick Christodoulides
  - Matt Conway
  - Vicki DeJaco
- Research Assistants, cont.
  - Devarshi Desai
  - Katie Dillon
  - Danielle Dreher
  - Donovan Ellis
  - Samantha Janvier
  - Vlad Korenbilt
  - Ivette Lopez
  - Adam Mann
  - Rachel Metras
  - Nick O'Connor
  - Lindsay Patenaude
  - Ram Peesapati
  - Nicole Perez
  - Amber Schaefer

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