2-1-2015

Aging and stereotyping effects on face-name memory

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The Foundation for The Gator Nation

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, Emery, & 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, & Thorn, 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

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

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	Onsite interview
30 – 45 min.	1.5 – 2 hrs.
Health & demographics	Face Name Association Task
Baseline cognition	Beliefs measures

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

Onsite interview procedure

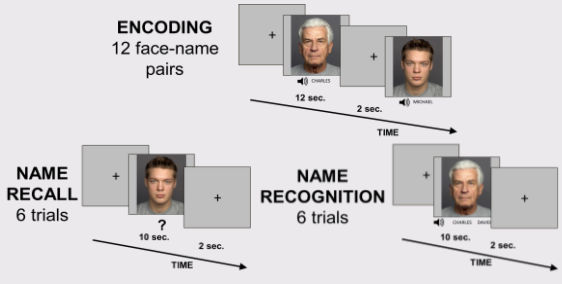
- Informed Consent
- Vision Testing
- FNA Task Practice Block
- Pretest Beliefs
- FNA Task
- Posttest Beliefs
- Manipulation Check Surveys
- Interactive Debriefing
- Payment

4 Blocks: Encoding, Testing, Feedback
Each block:
- 12 face-name pair
- Same gender, different ages
- Counterbalanced presentation orders

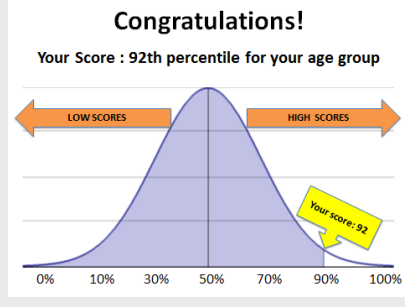
Feedback: 5 total
- 15 seconds
- Accumulative
- Positive, negative, no feedback

FNA = Face Name Association

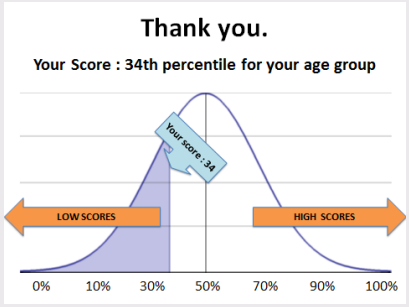
Face Name Association Task



Example Positive Feedback



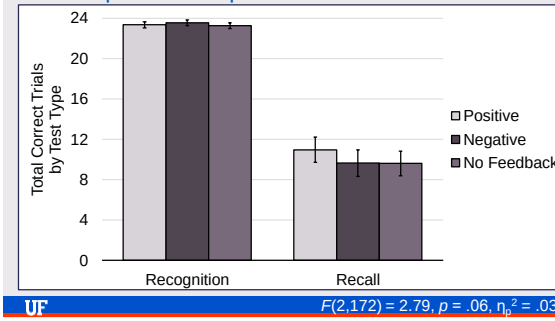
Example Negative Feedback



Example No Feedback

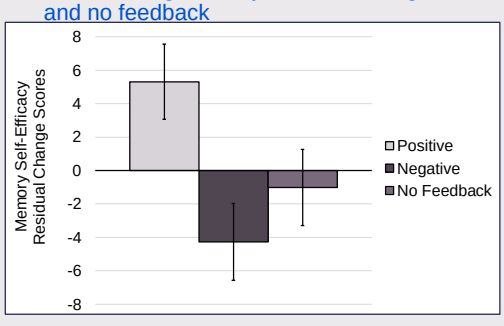
Results

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



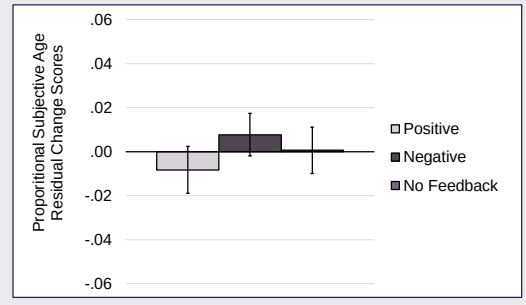
$F(2,172) = 2.79$, $p = .06$, $\eta_p^2 = .03$

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



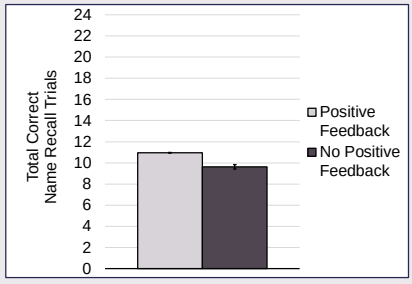
$F(2,172) = 18.11$, $p < .001$, $\eta_p^2 = .17$

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



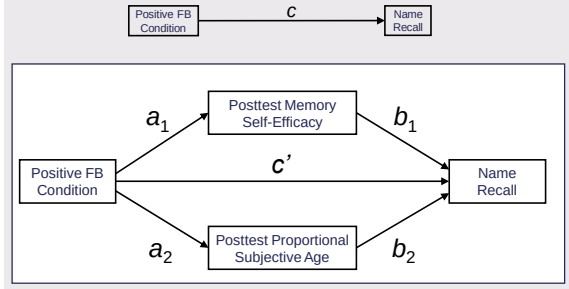
Pos. = Positive condition, Neg. = Negative condition, Ps = Participants. $F(2,172) = 2.66$, $p = .07$

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



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

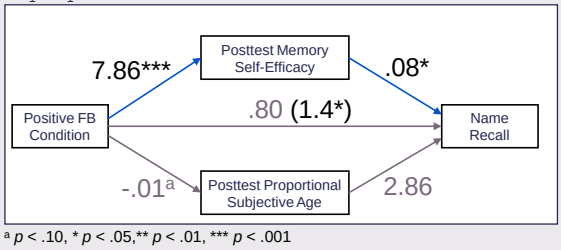
Hypothesized model: Indirect effects of positive FB on name recall through memory self-efficacy and subjective age



UF 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



[a] $p < .10$, * $p < .05$,** $p < .01$, *** $p < .001$

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

Discussion

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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

UF *West et al., 2009*

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

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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

UF 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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