

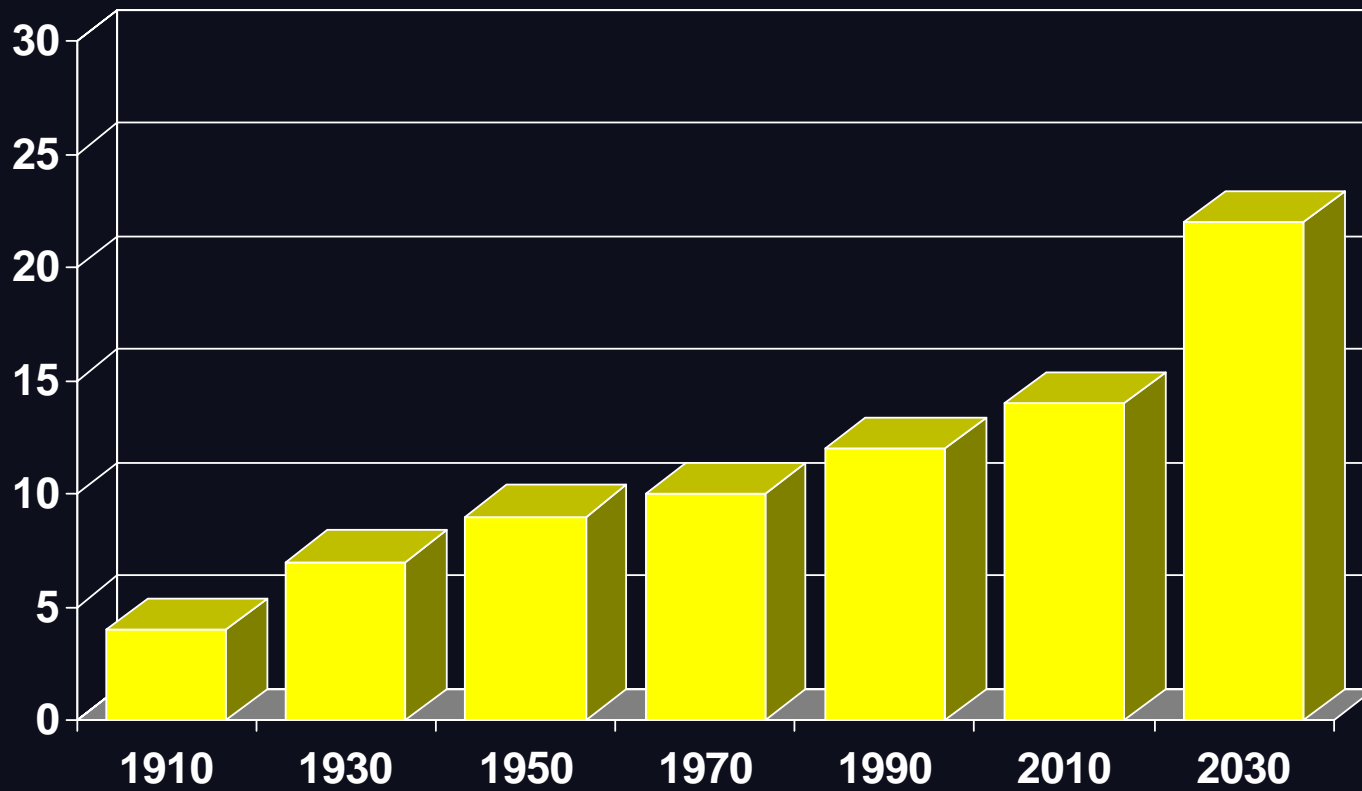
Growing old or living long: Take your pick



Henry and Bryna David Lecture
National Academies of Science
November 14, 2006

Laura L. Carstensen
Professor of Psychology
Director, Stanford Center on Longevity

Percentage of the United States Population Over the Age of 65



The New York Times Magazine

JANUARY 26, 2006 / SECTION 2

**Church
And State**
How the
Wall Came
Tumbling
Down
By Jeffrey
Rosen

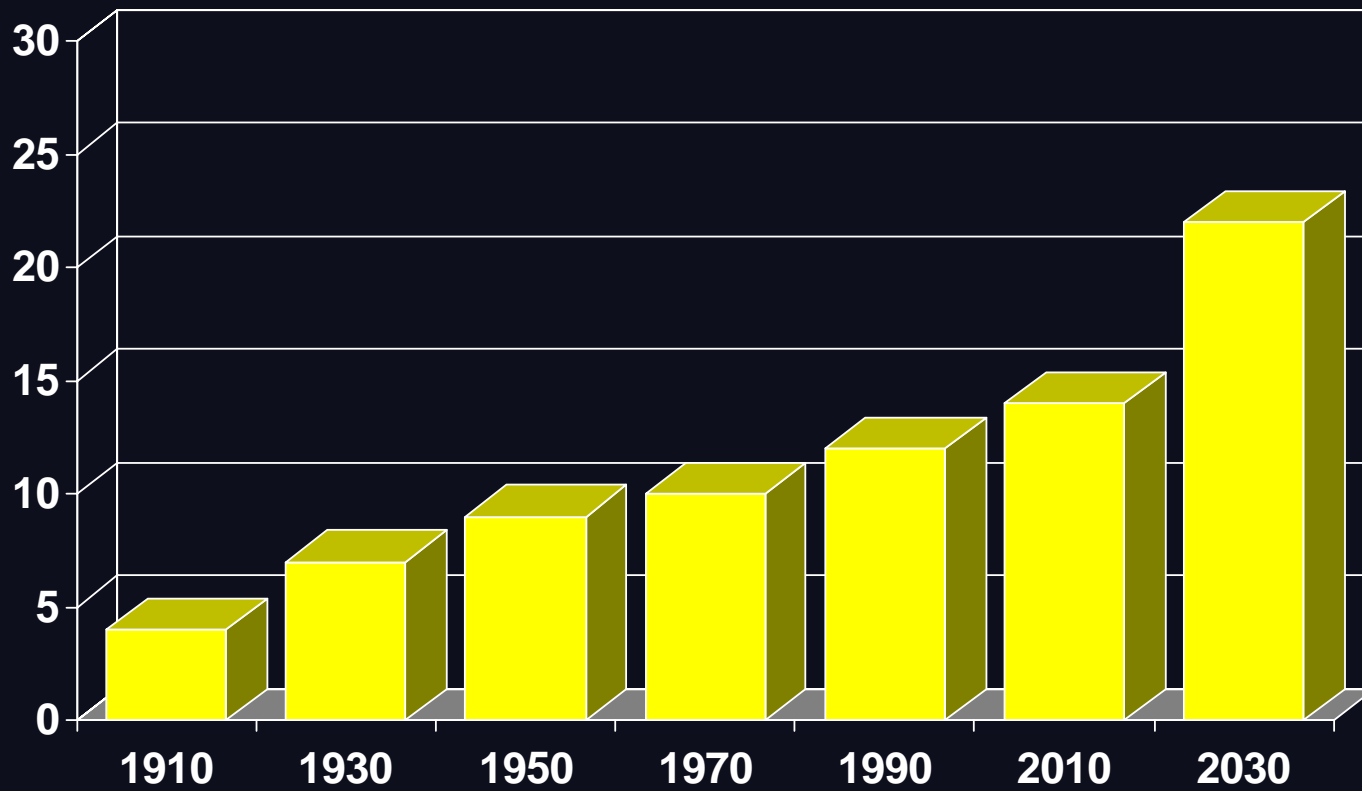
Racing Toward **Immortality**

(Or at Least Your 150th Birthday)

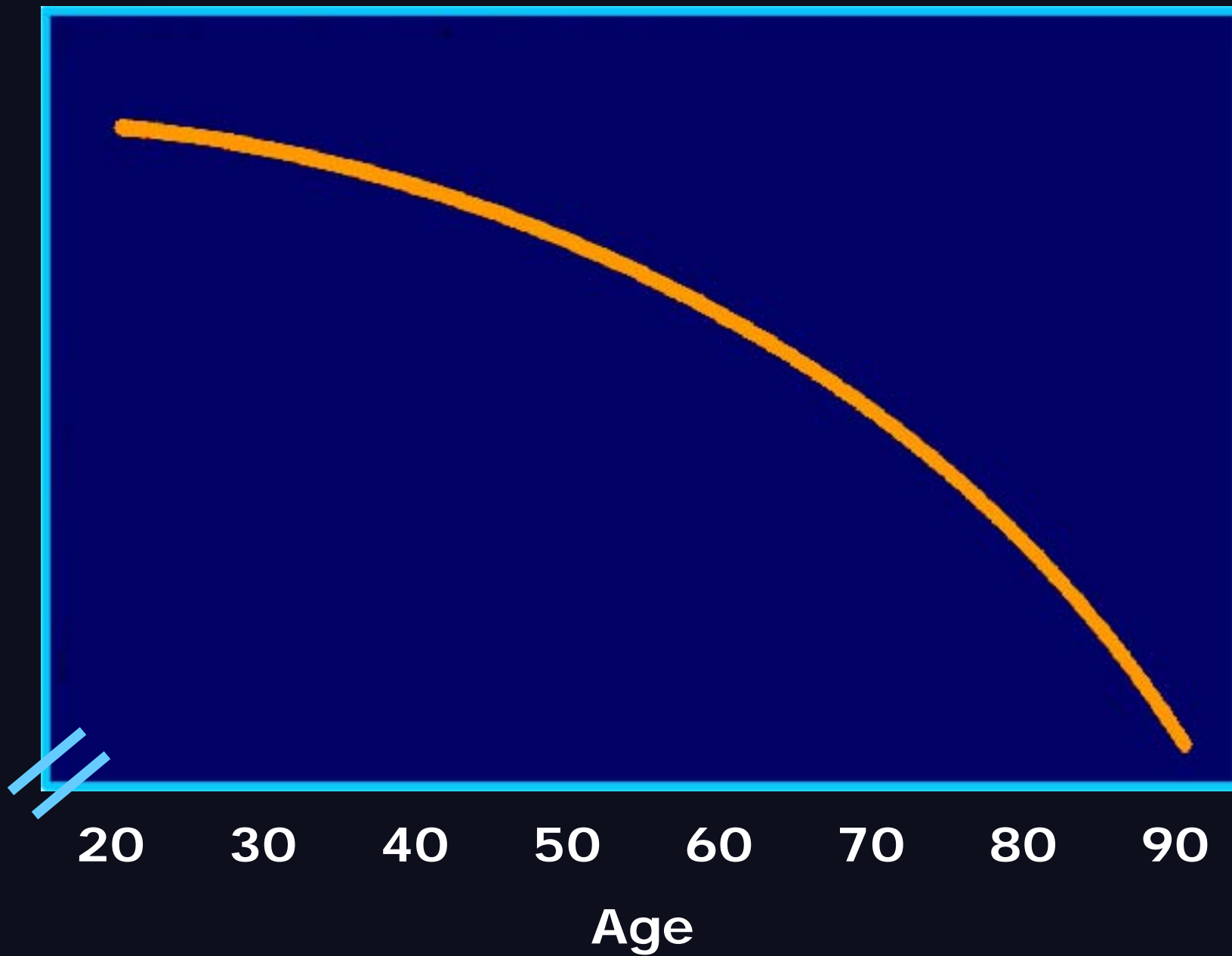
The spectacular — and
scary — promise of
embryonic-cell research.
By Stephen S. Hall

McEnroe's Midlife Tantrum • Bad-Girl Art • Mary Tyler Moore's Imaginary Friend

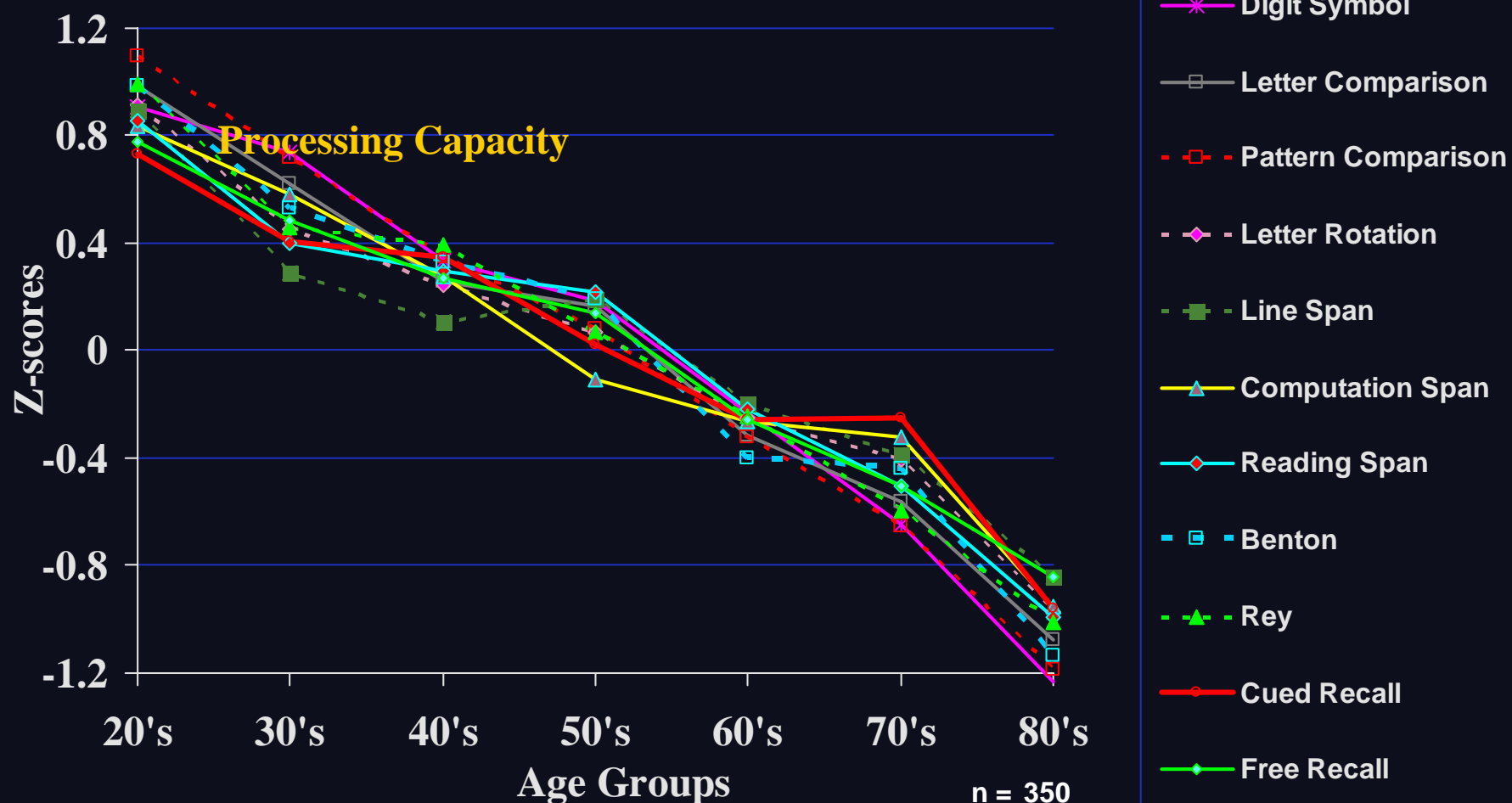
Percentage of the United States Population Over the Age of 65



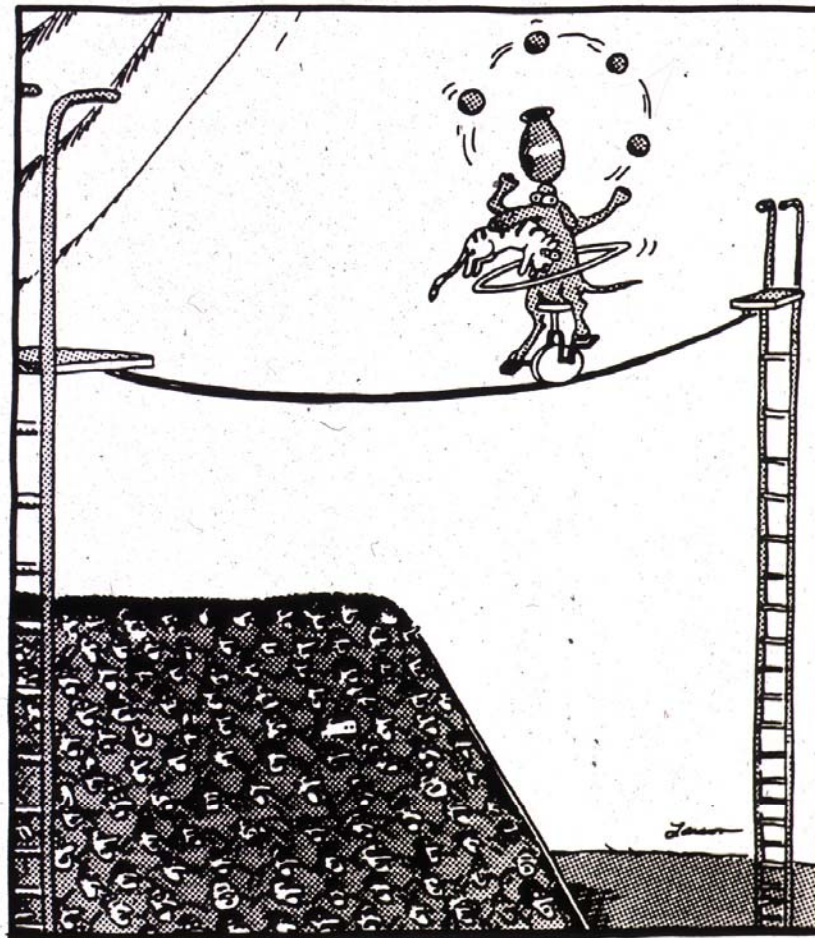
Any variable you like



The Aging Mind

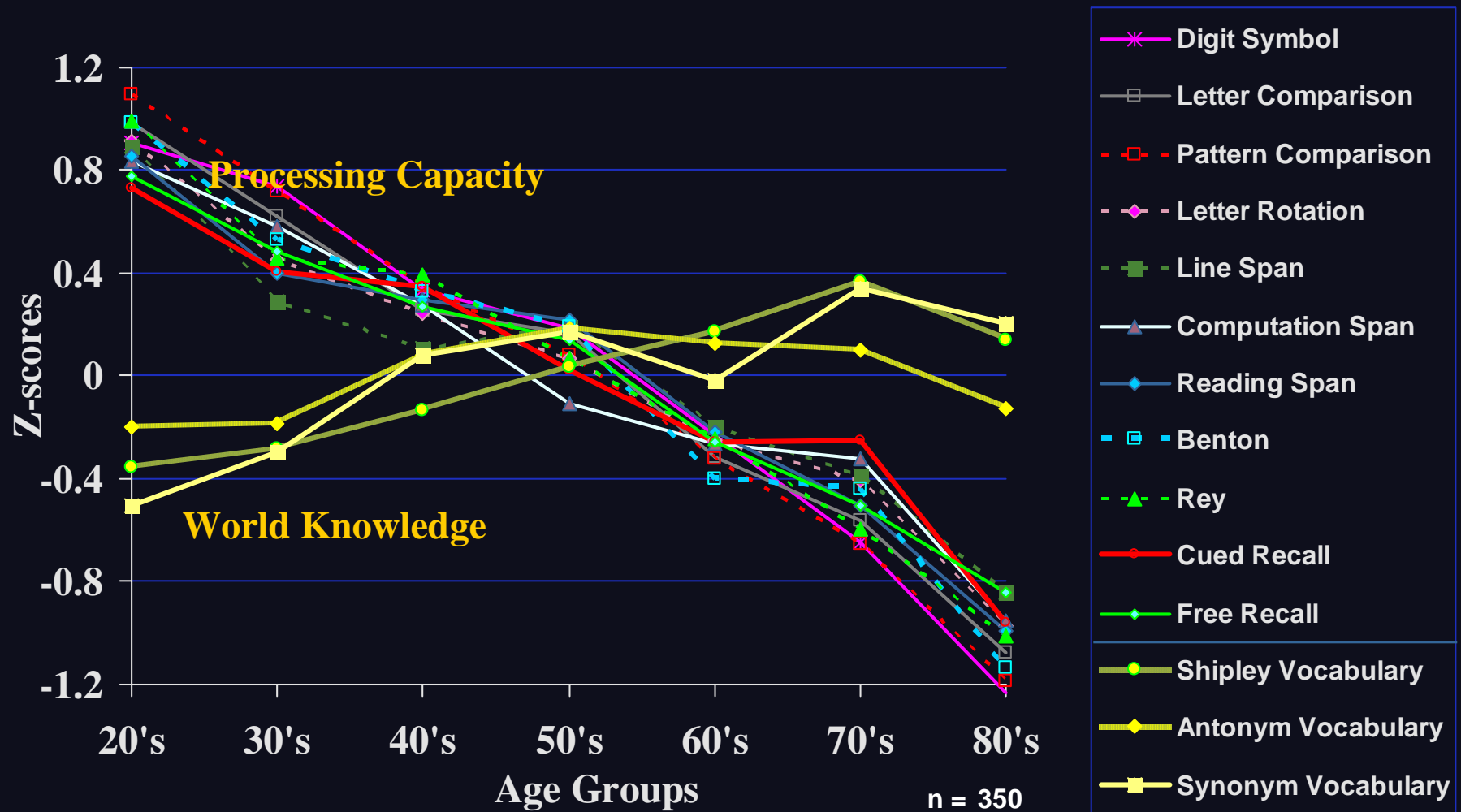


Park, Lautenschlager, Hedden, Davidson, Smith & Smith, (2002). [Psychology and Aging](#)



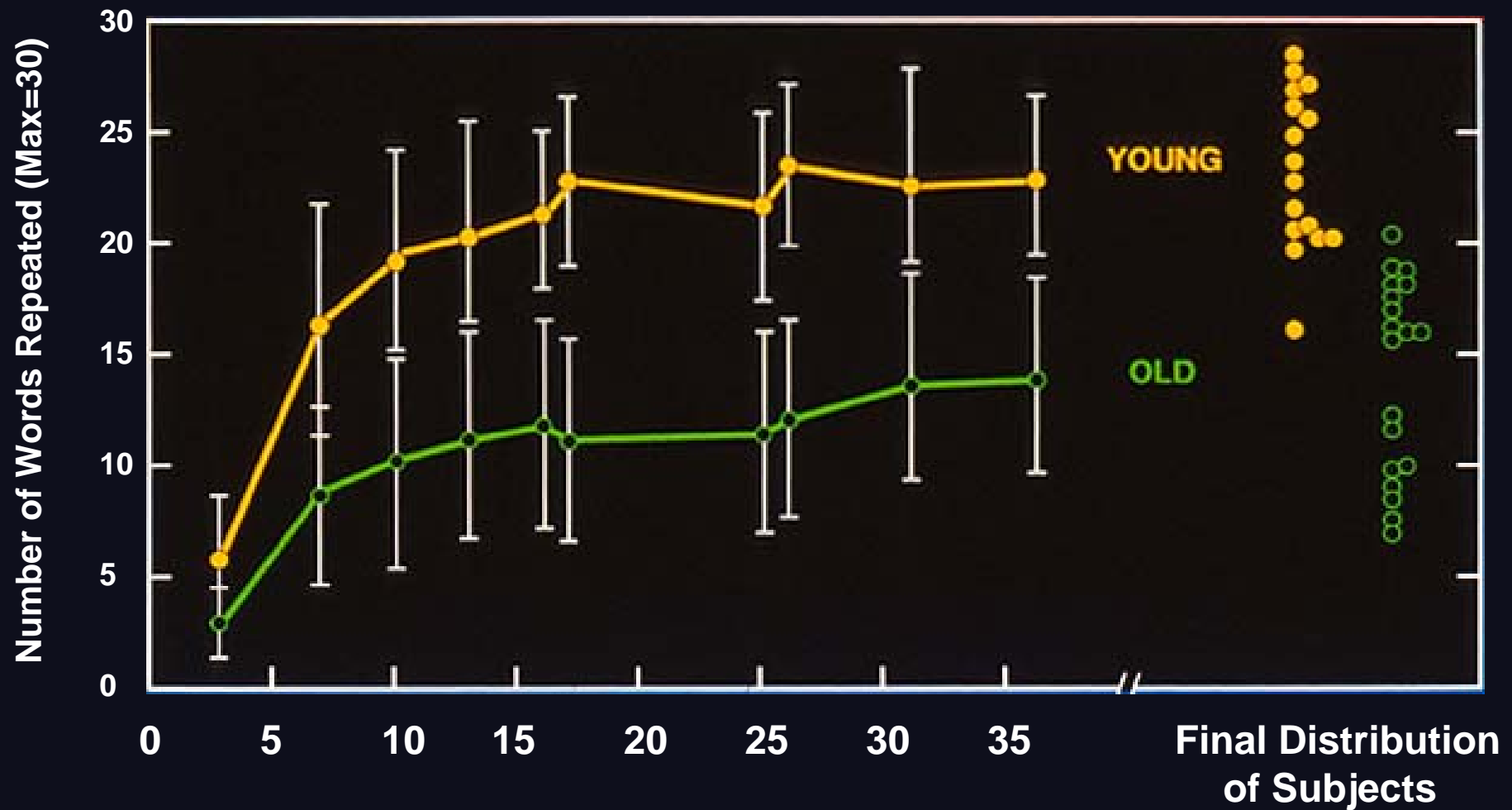
High above the hushed crowd, Rex tried to remain focused. Still, he couldn't shake one nagging thought: He was an old dog and this was a new trick.

The Aging Mind

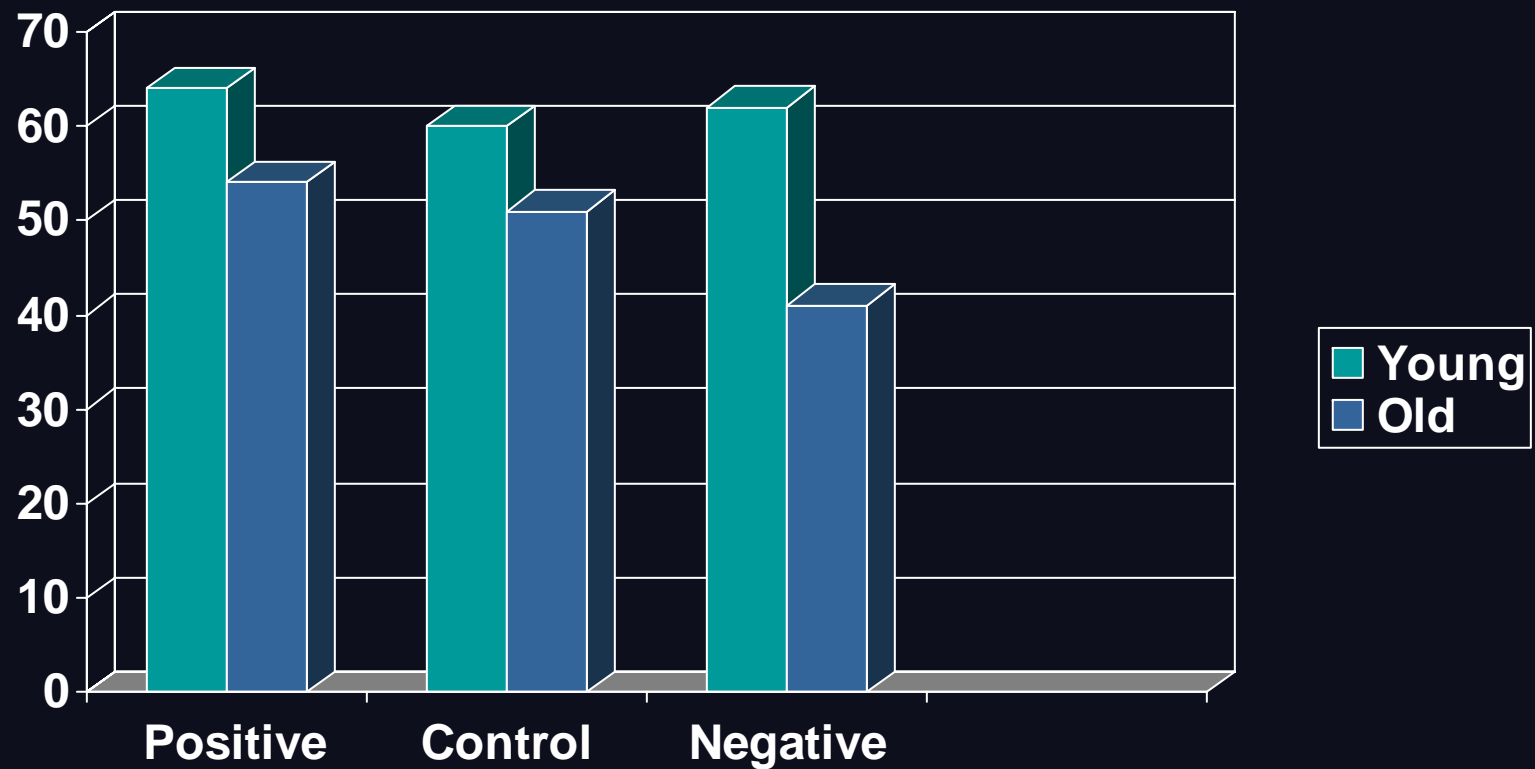


Park, Lautenschlager, Hedden, Davidson, Smith & Smith, (2002). Psychology and Aging

Testing The Limits Research



Mean Recall by Condition



Hess, Auman, Colcombe & Rahal (2002) Journal of Gerontology

Socioemotional Selectivity Theory

Carstensen, 1993; Carstensen et al., 1999

- Humans are uniquely able to monitor time – including lifetime
 - and do so at both conscious and subconscious levels.
- Goals are always set in temporal contexts.
- Because chronological age is associated with time left in life, goals change across the life span.



Preparing for the Future

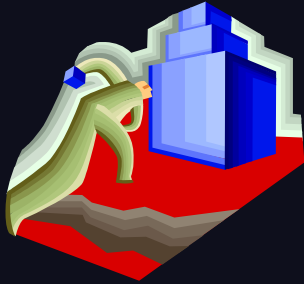
- Expand horizons
- Acquire knowledge
- Meet new people
- Take chances



Focusing on the Present

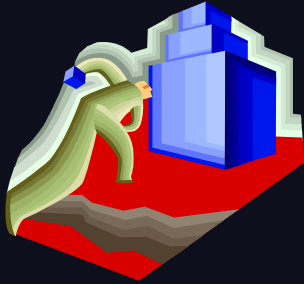
- Live in the moment
- Know what's important
- Invest in sure things
- Deepen relationships
- Savor life





Theoretical postulates

- Perceived constraints on time motivate people to pursue emotionally meaningful goals.
- Motivation to pursue emotionally meaningful goals influences cognitive processing.
- Focusing on emotionally meaningful goals is good for wellbeing.



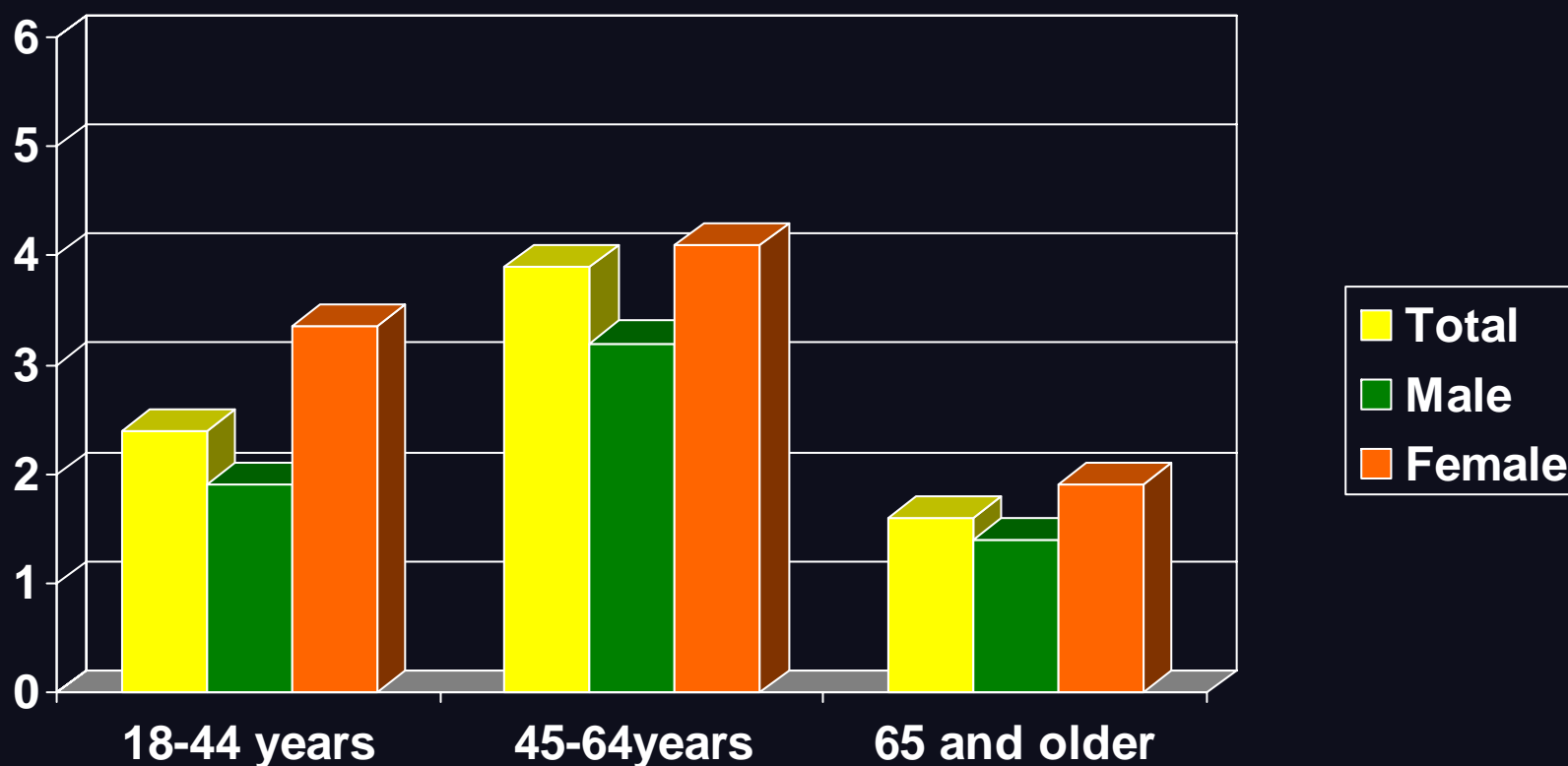
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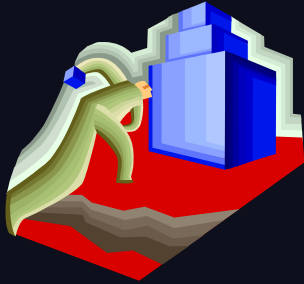
Time horizons influence preferences

- When time horizons are manipulated experimentally, preferences change systematically. Younger people show preferences similar to the old when time horizons are shortened and older people show preferences similar to the young when time horizons are expanded. (Fredrickson & Carstensen, 1990; Fung, Carstensen & Lutz, 1999; Fung, Lai & Ng, 2001)
- When natural occurrences, such as personal illnesses, epidemics, political upheavals, or terrorism prime endings, preferences of the young come to resemble those of the old (Carstensen & Fredrickson, 1998; Fung et al. 1999; Fung & Carstensen, 2006)

National Health Interview Survey: Percent reporting Serious Psychological Distress



Centers for Disease Control and Prevention, 2003



Theoretical postulates

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VIDEO CLIP

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Capture those special moments.



ARNOLD Camera

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**Success is within reach.
Don't let time pass you by.**



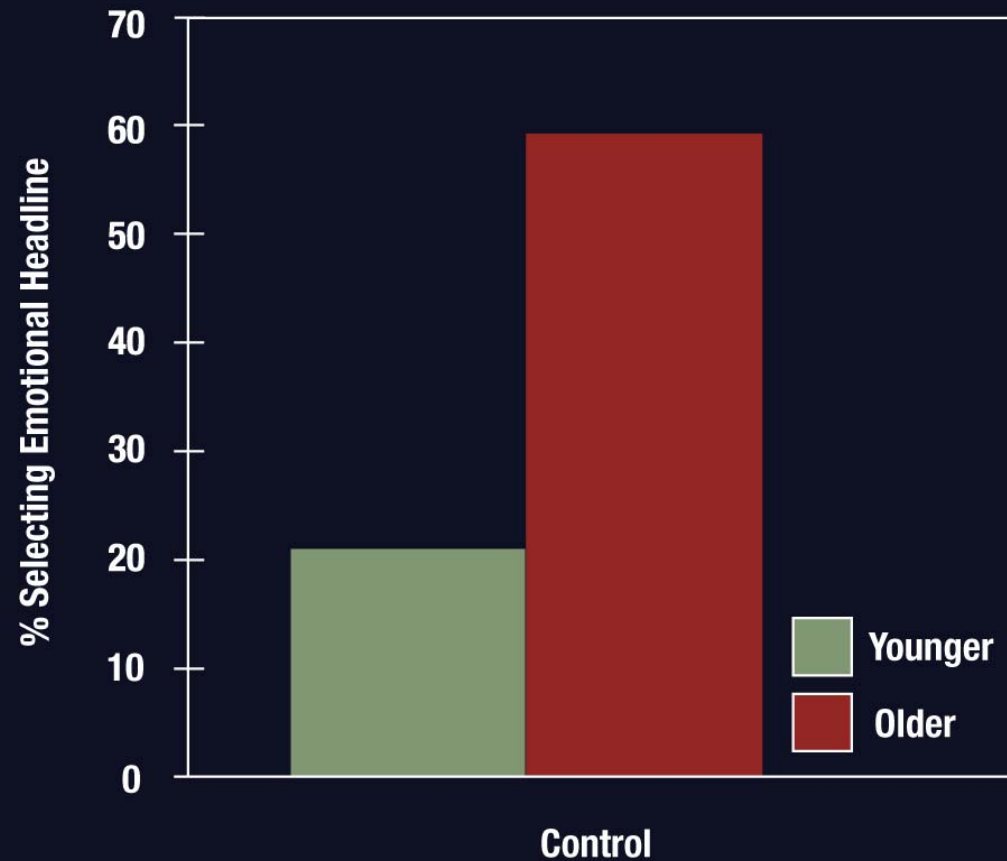
LESTER WATCHES
STANFORD, CALIFORNIA

**Take time for the ones you love.
Don't let time pass you by.**



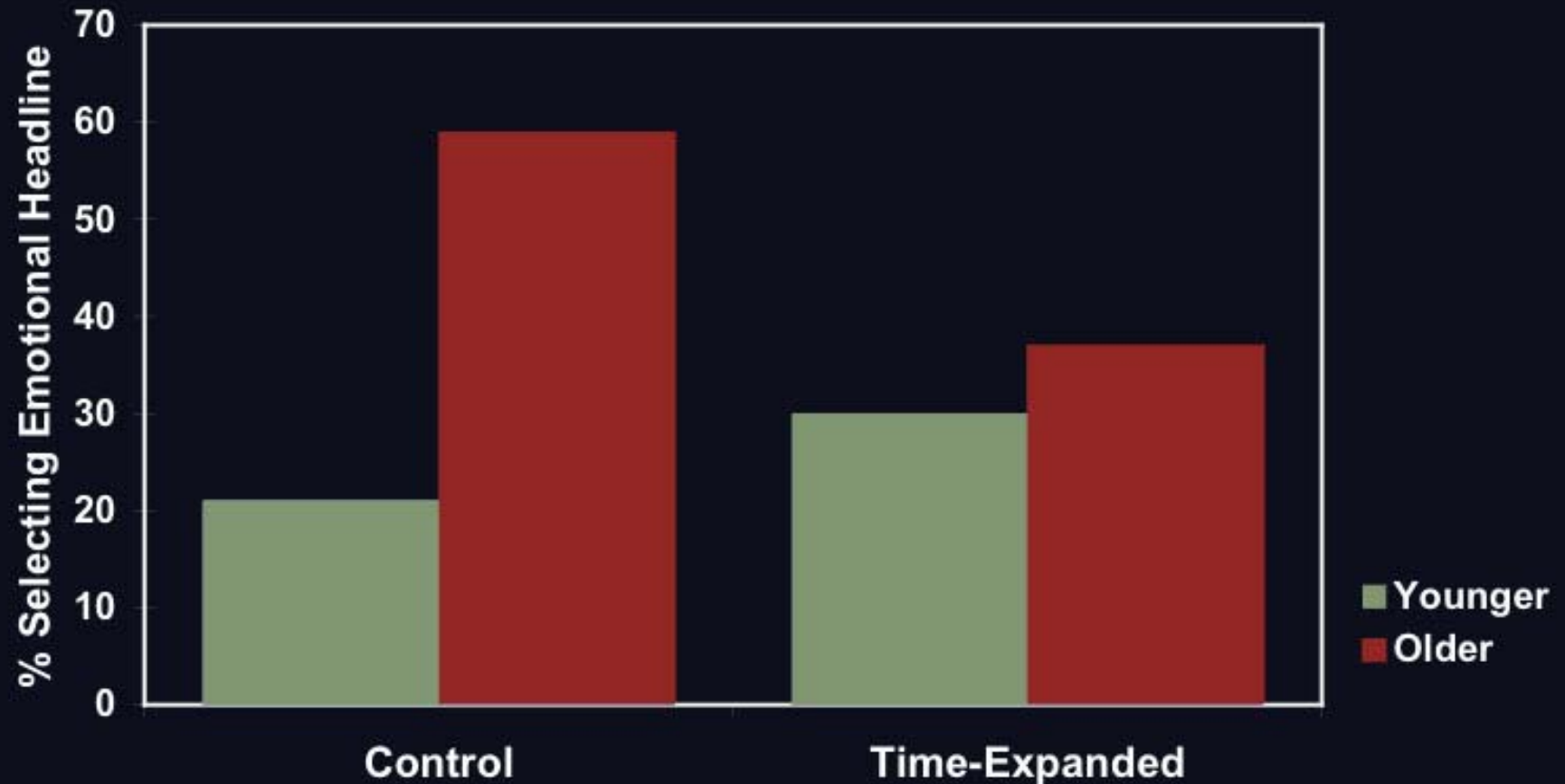
LESTER WATCHES
STANFORD, CALIFORNIA

Preferences for Emotional Ads by Age



Fung & Carstensen (2003) Journal of Personality and Social Psychology

Preferences for emotional ads by age and condition



Fung & Carstensen (2003) Journal of Personality and Social Psychology

Recognition Memory: Type of Advertisement Slogan by Age



Fung & Carstensen (2003) Journal of Personality and Social Psychology

Recognition Memory: Type of Advertisement Slogan by Age



Fung & Carstensen (2003) Journal of Personality and Social Psychology





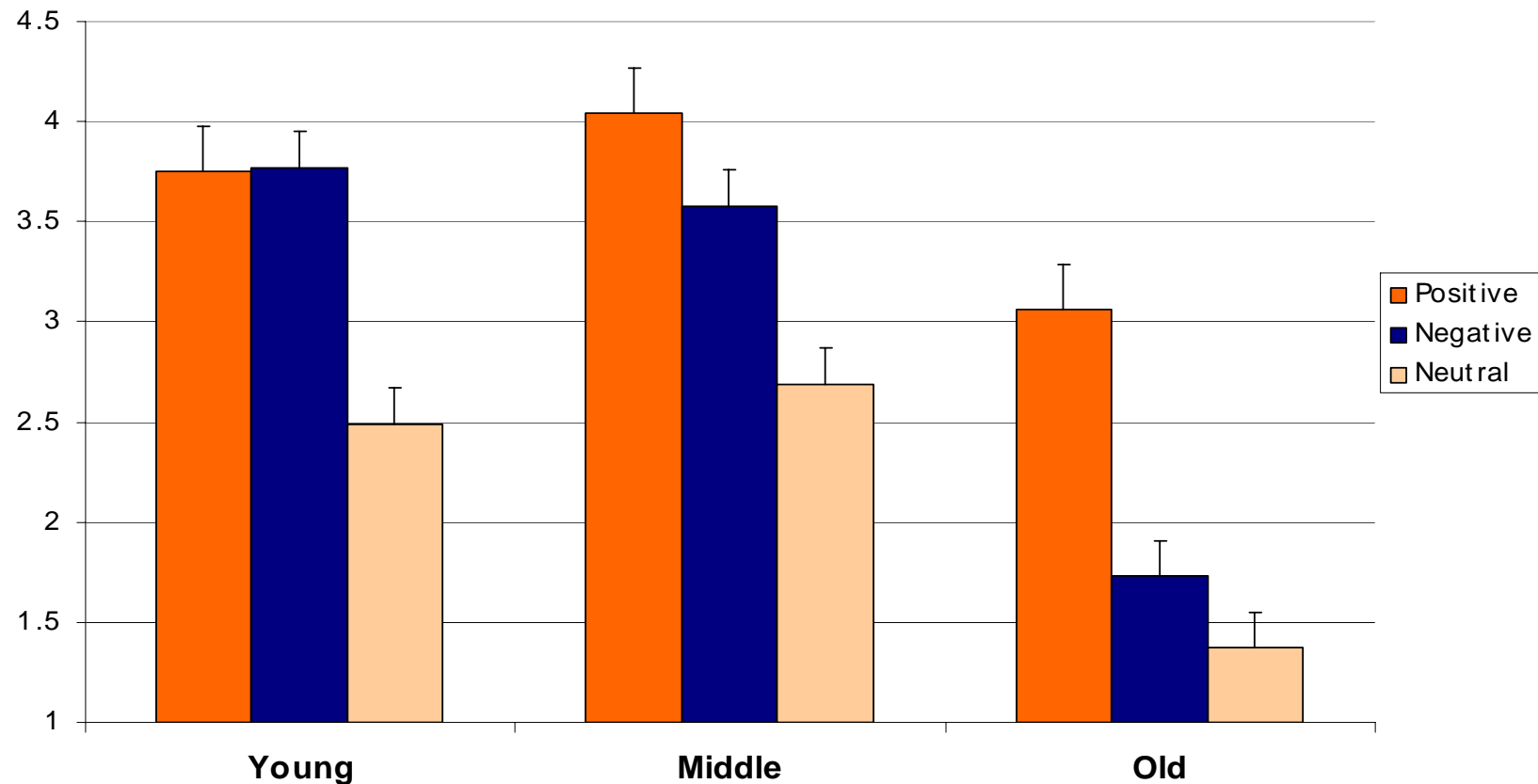






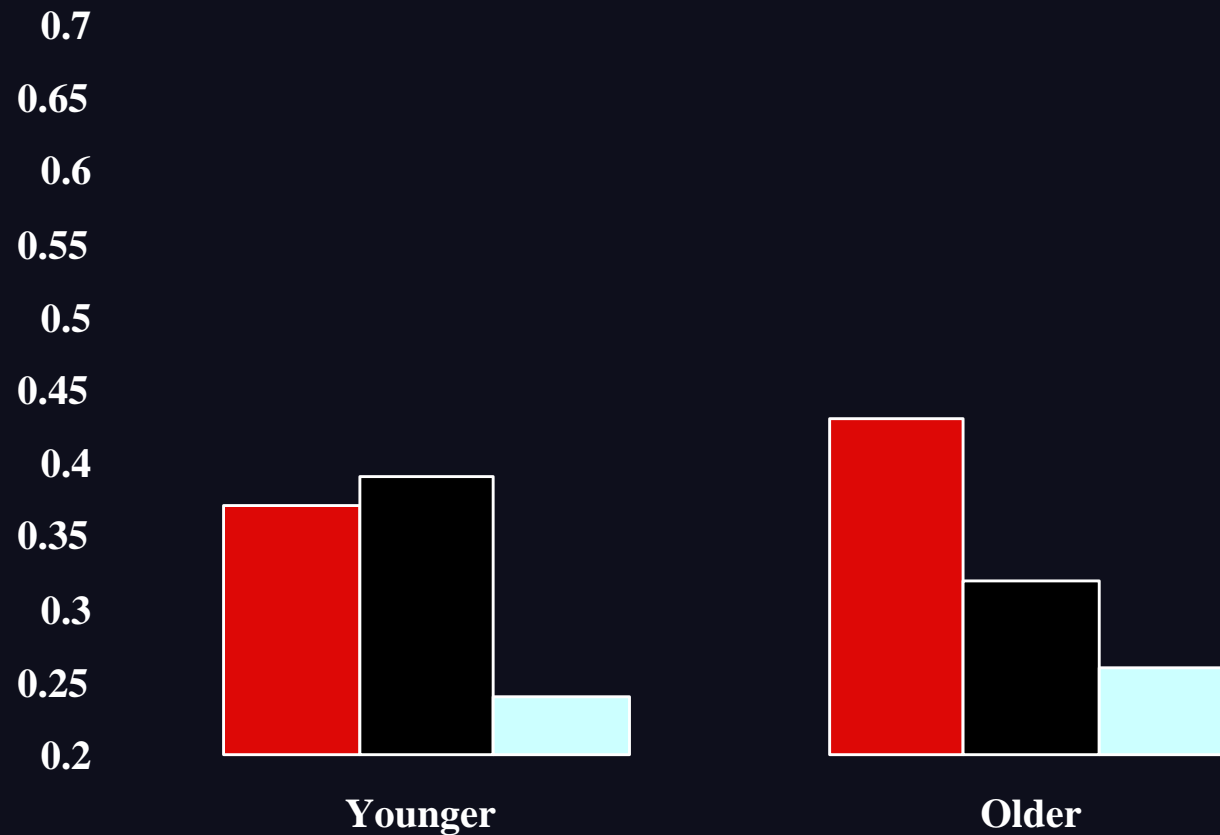


Mean Number of Images Recalled



Charles, Mather & Carstensen (2003) Journal of Experimental Psychology

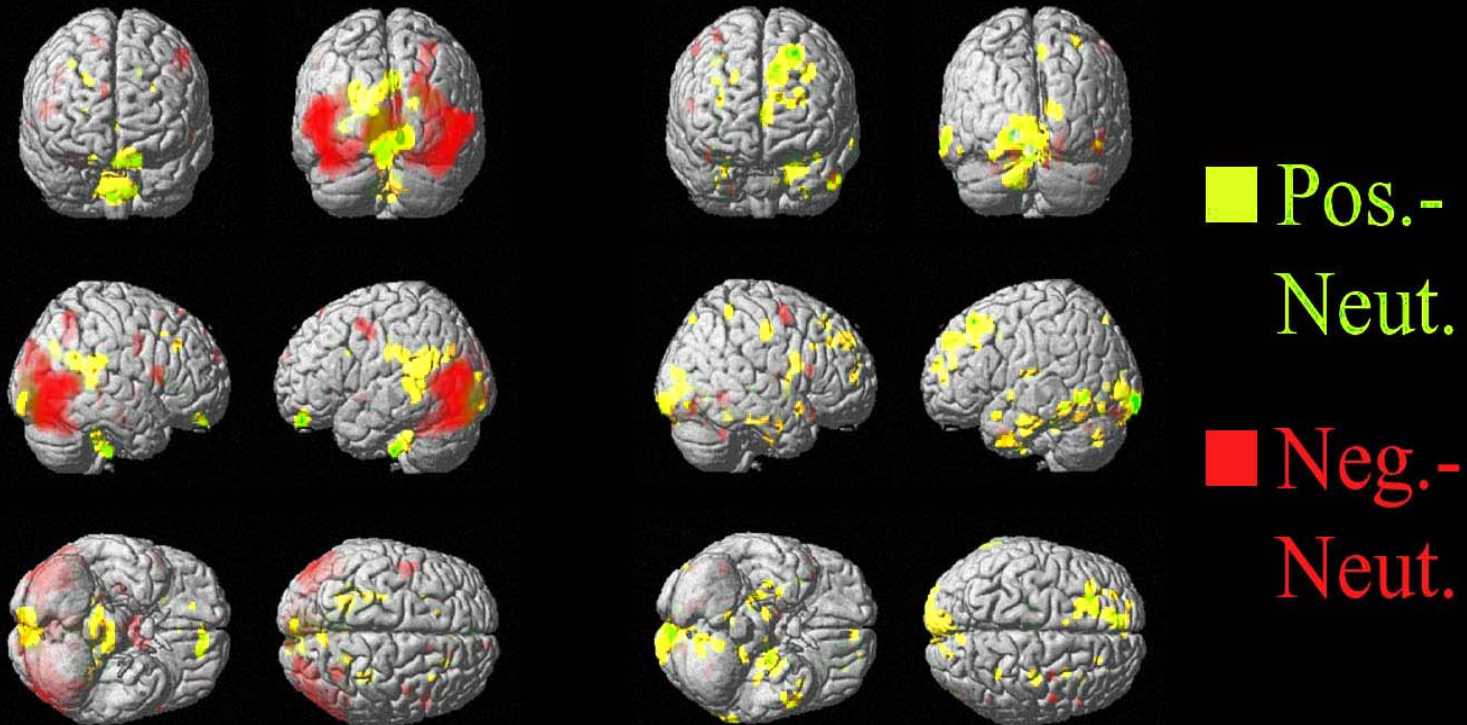
Recall proportions



Mather, Canli, English, Whitfield, Wais, Ochsner, Gabrieli & Carstensen,
Psychological Science, 2004

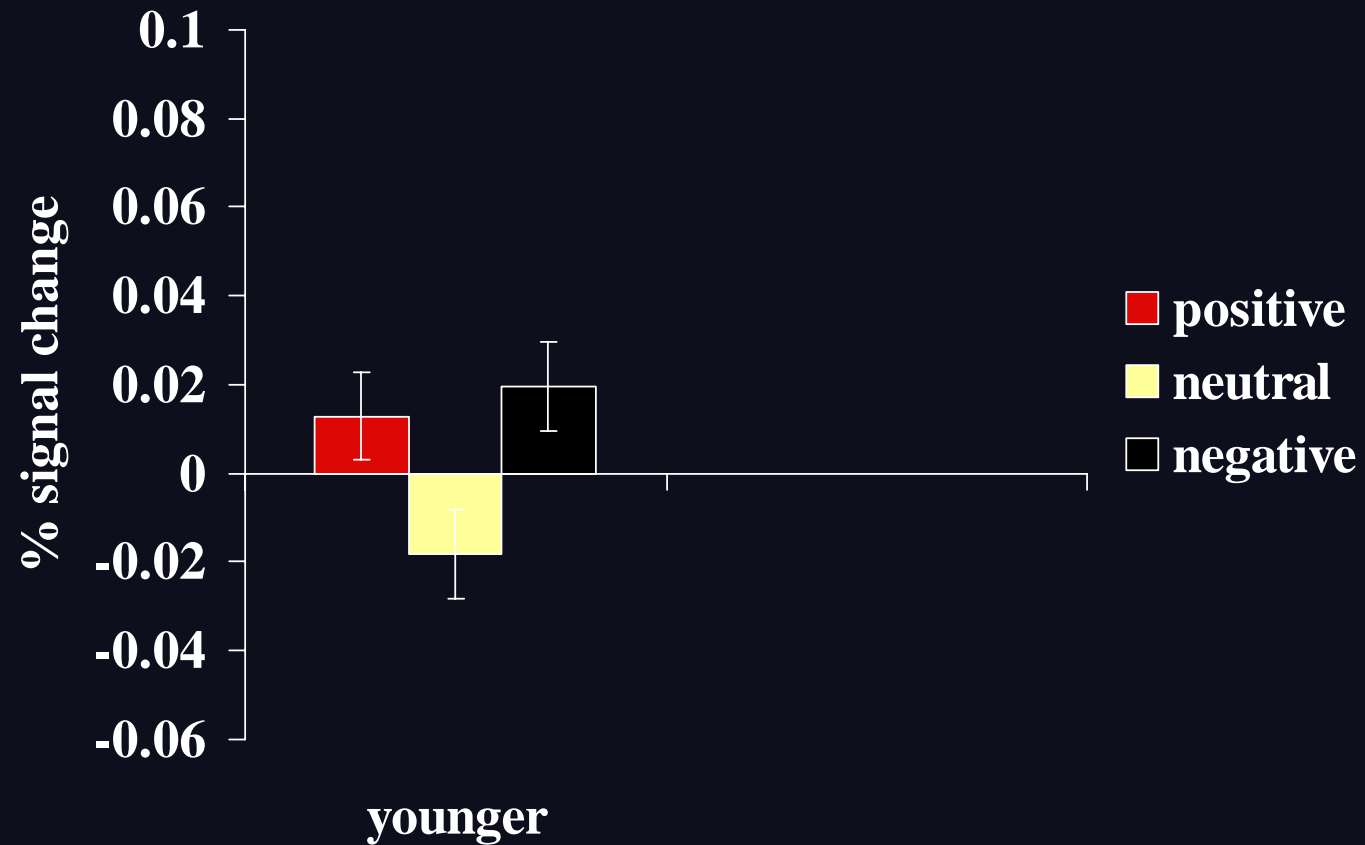
Younger

— Older



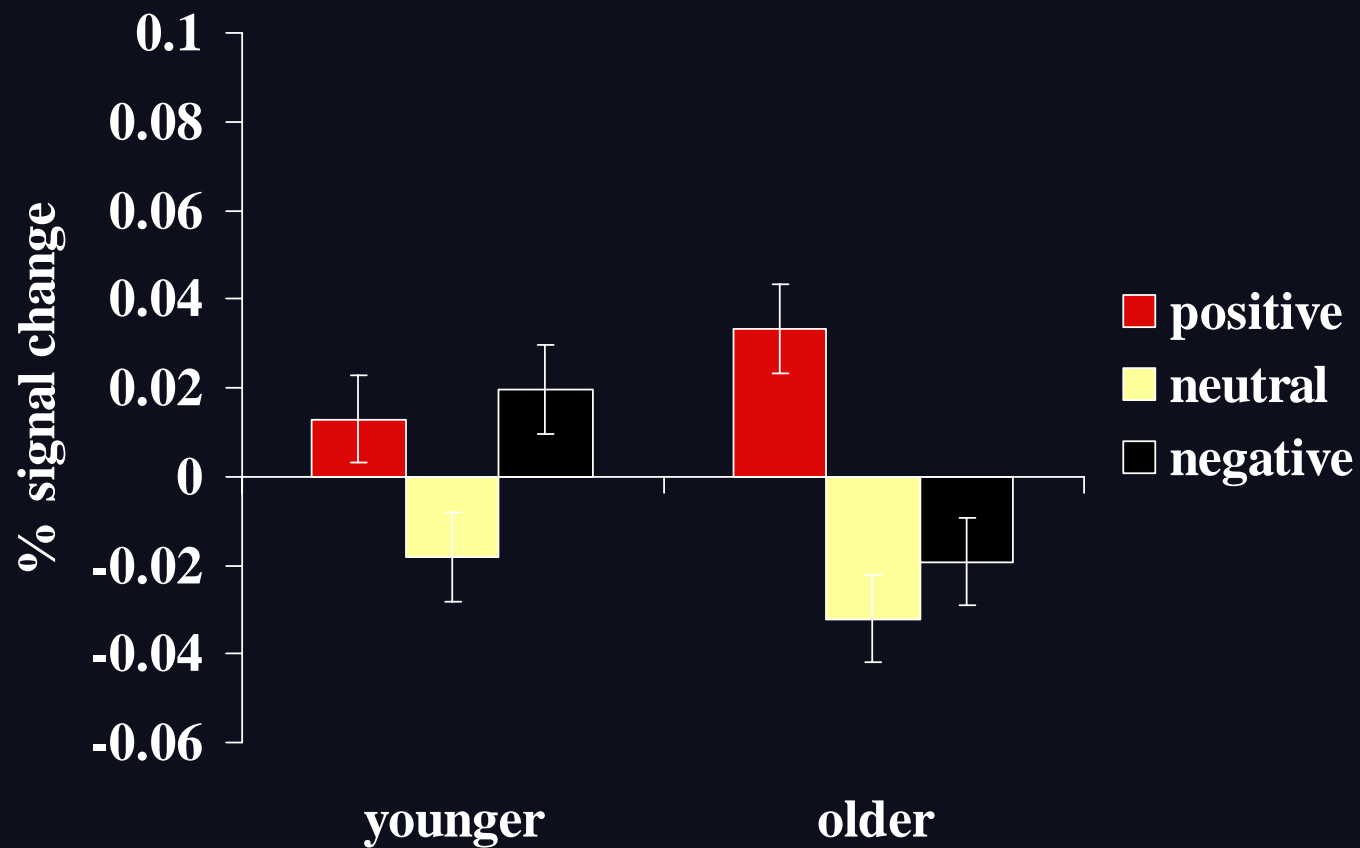
Mather, Canli, English, Whitfield, Wais, Ochsner, Gabrieli & Carstensen,
Psychological Science, 2004

Amygdala activity

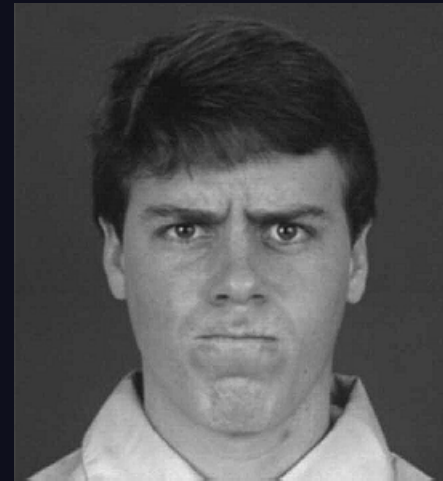


Mather, Canli, English, Whitfield, Wais, Ochsner,
Gabrieli & Carstensen, Psychological Science, 2004

Amygdala Activity



Mather, Canli, English, Whitfield, Wais, Ochsner, Gabrieli & Carstensen,
Psychological Science, 2004



+



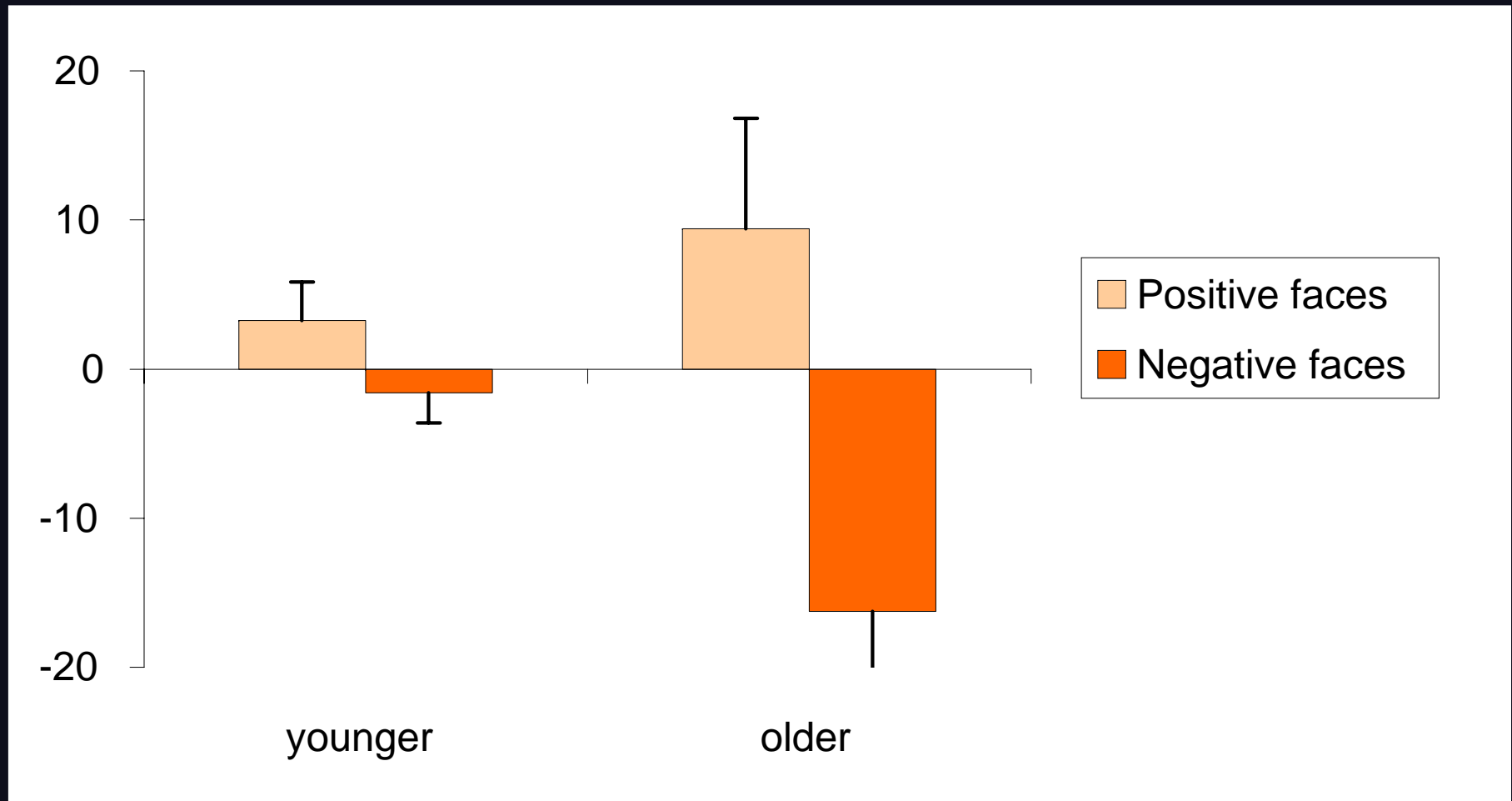


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*

Attentional bias scores



Mather & Carstensen (2003) Psychological Science

Do such findings have implications for decisions about health care?

Sample Decision Scenario

| | <u>Doctor A</u> | <u>Doctor B</u> | <u>Doctor C</u> | <u>Doctor D</u> |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|
| patient satisfaction | average | average | average | average |
| continuing education | very good | poor | very poor | good |
| medical school ranking | very poor | good | very good | poor |
| interpersonal skills | poor | very good | good | very poor |
| connections to good hospitals | good | very poor | poor | very good |

(Löckenhoff & Carstensen, 2004; Löckenhoff & Carstensen, in press)

Sample Decision Scenario

| | <u>Doctor A</u> | <u>Doctor B</u> | <u>Doctor C</u> | <u>Doctor D</u> |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|
| patient satisfaction | | | | |
| continuing education | | | | |
| medical school ranking | | | | |
| interpersonal skills | | | | |
| connections to good hospitals | | | | |

(Löckenhoff & Carstensen, 2004; Löckenhoff & Carstensen, under review)

Instructional Manipulations

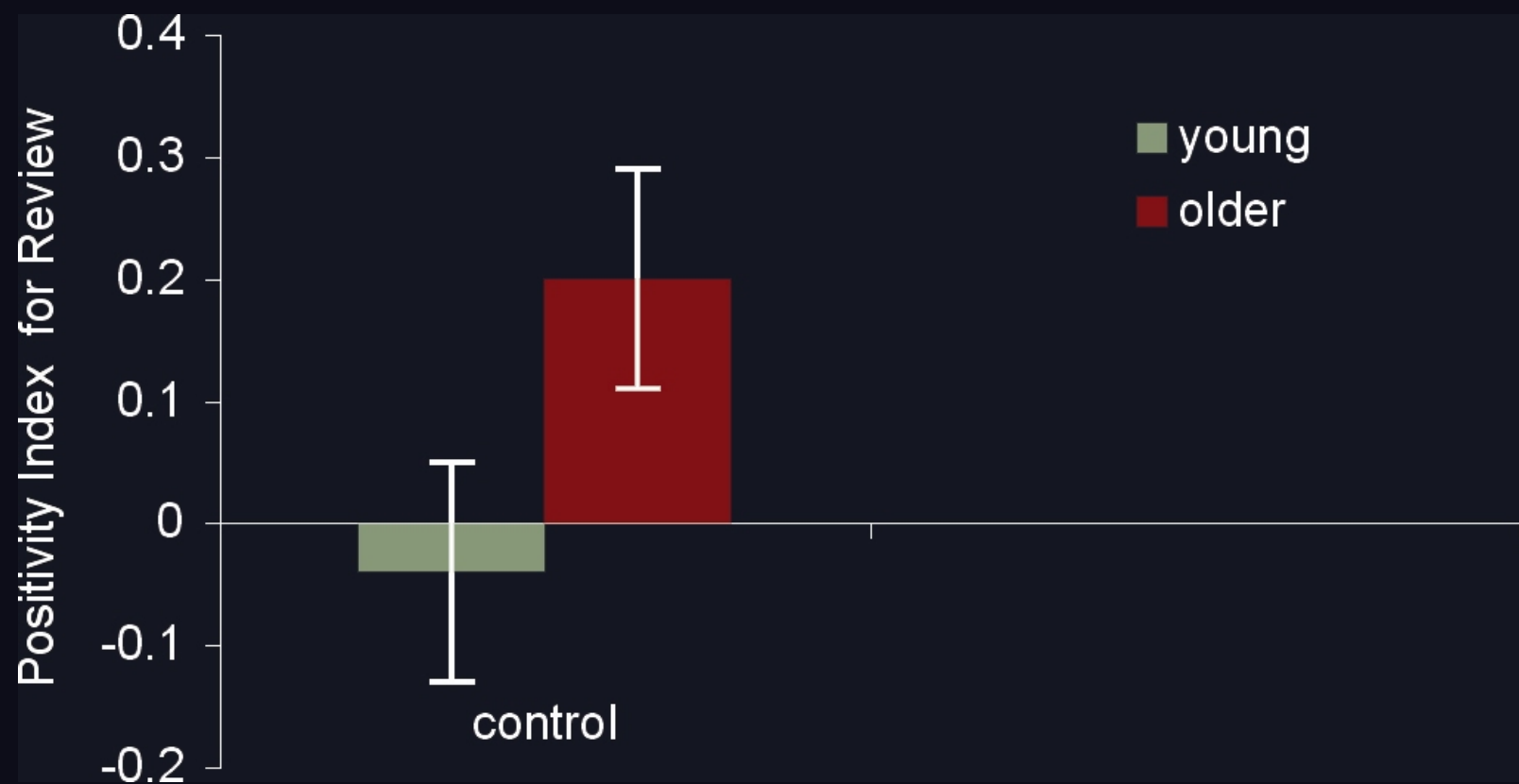
Control condition:

No particular instructions

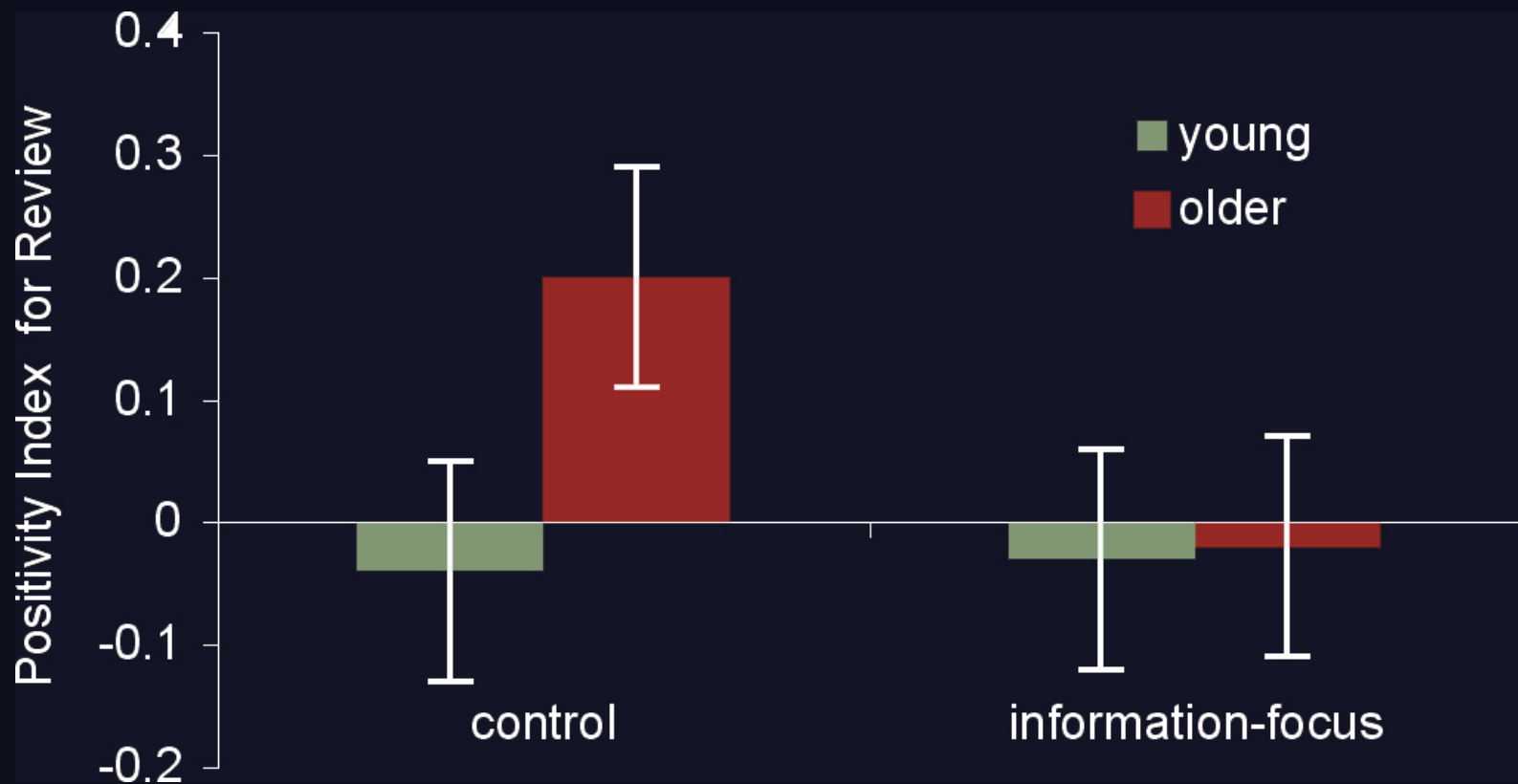
Information-focus:

“Please focus on the facts and details.”

(Löckenhoff & Carstensen, 2004; Löckenhoff & Carstensen, in press)

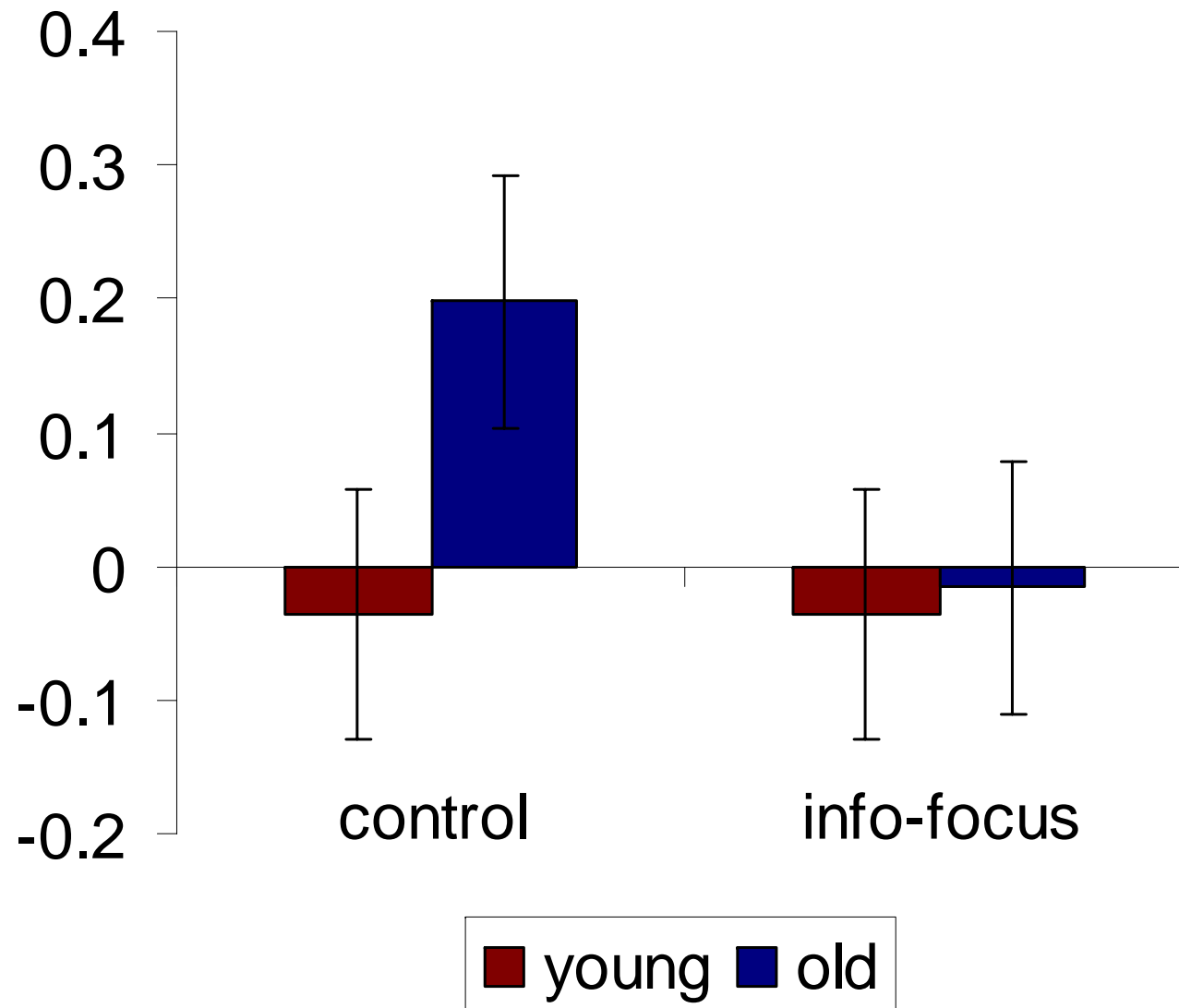


Löckenhoff & Carstensen (in press)



Löckenhoff & Carstensen (in press)

Proportion of Positive Cells Reviewed



(Löckenhoff & Carstensen, 2004; Löckenhoff & Carstensen, in press)

Example Decision Frame

Health Care Plan

Please imagine that your current health plan is no longer available and you need to choose a new one.

(Please press spacebar when ready)

Queries

- Memory

“Overall, how well do you remember HealthNow?”

not at all 1 2 3 4 5 6 7 very well

- Affective

“Overall, how do you feel about HealthNow?”

very negative 1 2 3 4 5 6 7 very positive

HealthNow: dental care
is fully covered

... query

HealthNow: routine
exams are not covered

... query

CareNet: prescription
drugs are fully covered

... query

CareNet: physical
therapy is covered

... query

Time

Choice

Choice Decision

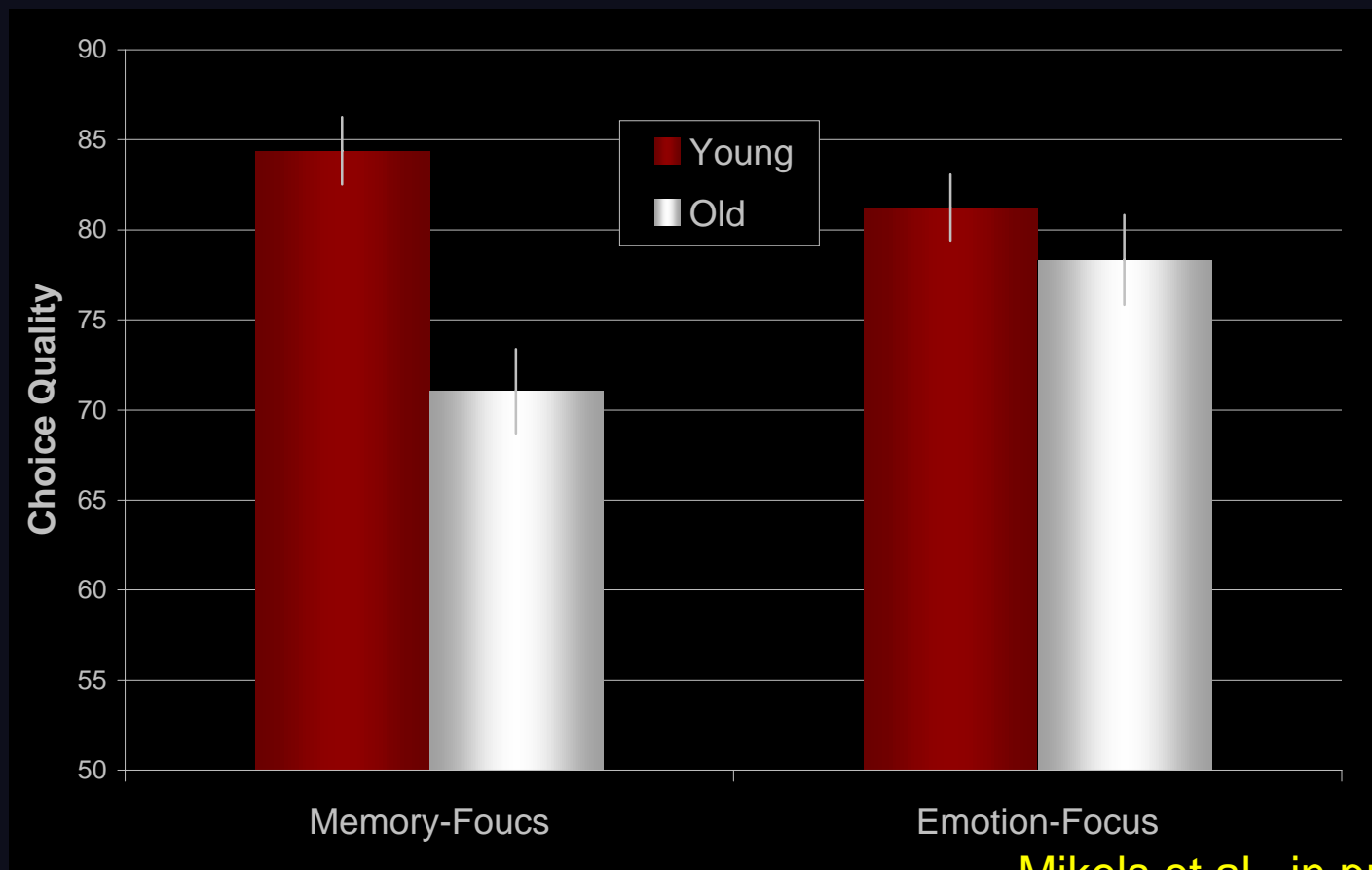
Given this information, which option do you choose?
(please circle one)

Health Now

CareNet

Choice Quality

- Age by Condition Interaction: $F(1, 76) = 5.86, p < .05$



Mikels et al., in preparation

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