

The Translational Research Institute on Pain in Later Life (TRIPLL) at Cornell University

- NIA funded Edward R. Roybal center established in response to the plight of millions of older adults experiencing persistent pain.
- Mission: To improve the prevention and management of pain in later life; thereby increasing the health and well-being of older adults.
- Supports translational research on aging and pain in greater NYC area.

Get Involved with TRIPLL

- Email Cara Kenien at cak2017@med.cornell.edu to join our email list and become an affiliate; joining gives you access to:
 - TRIPLL's monthly newsletter.
 - Information about upcoming Work-in-Progress Seminars, webinar and funding announcements, and conference opportunities.
 - Networking opportunities
 - Upcoming TRIPLL Events!
There's still time to register for the May 1st TRIPLL Conference.

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Age Differences in Medical Decision Making

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Overview

1. Summarize population growth and medical decision-making trends
2. Review potential mechanisms of age differences in decision making
3. Highlight age differences in specific aspects of decision making
4. Describe implications for practice



Population Profile and Growth

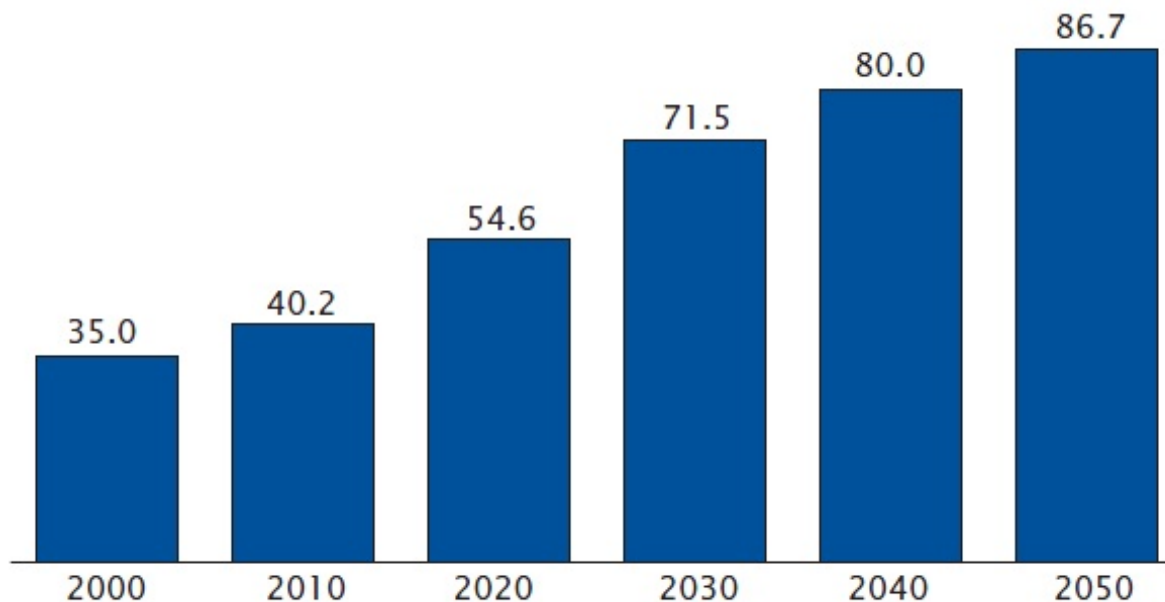
- Older adults (65+) constitute the fastest growing demographic group (CDC, 2007)
- Between 2010 and 2030, the US population will grow 18%, but the population of older adults will grow by nearly 80% (US Census Bureau, 2006)

US Census Bureau: [hRp://www.census.gov/prod/2006pubs/p23-209.pdf](http://www.census.gov/prod/2006pubs/p23-209.pdf)



Figure 2-5.
Population Aged 65 and Over: 2000 to 2050

(In millions)



Note: The reference population for these data is the resident population.

Sources: 2000, U.S. Census Bureau, 2001, Table PCT12; 2010 to 2050, U.S. Census Bureau, 2004. For full citations, see references at end of chapter.

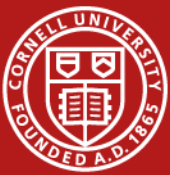
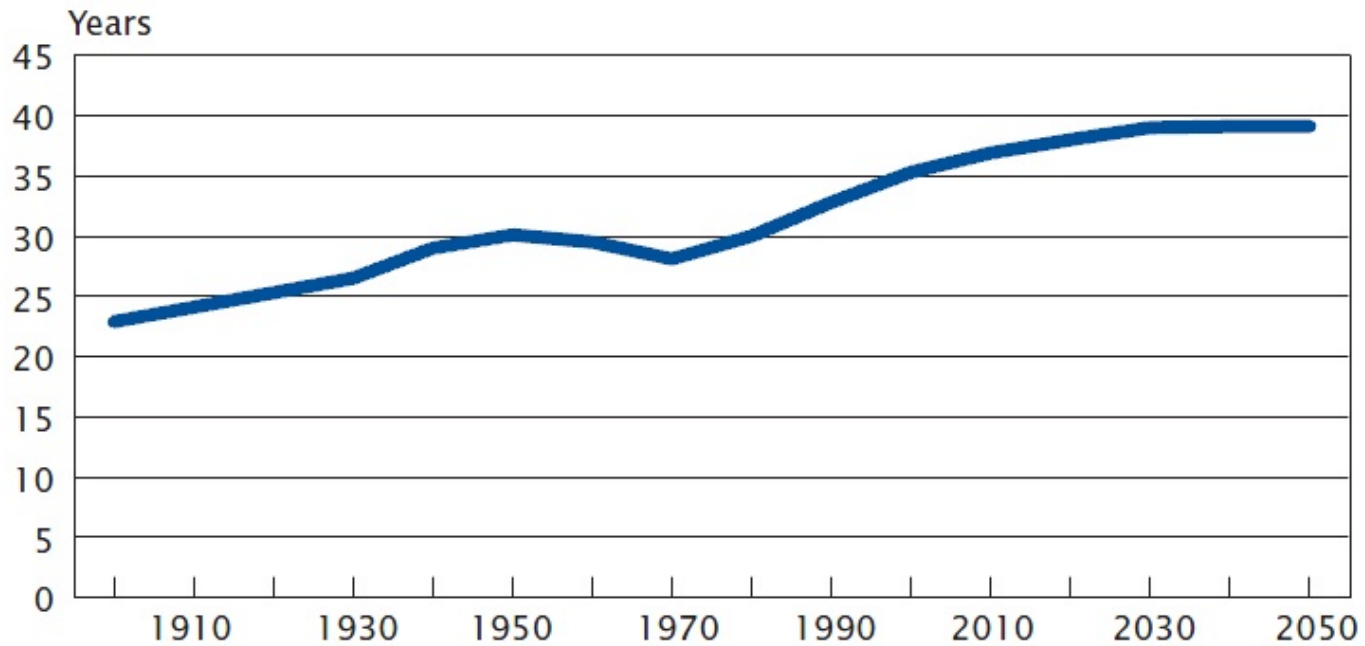


Figure 2-7.
Median Age: 1900 to 2050



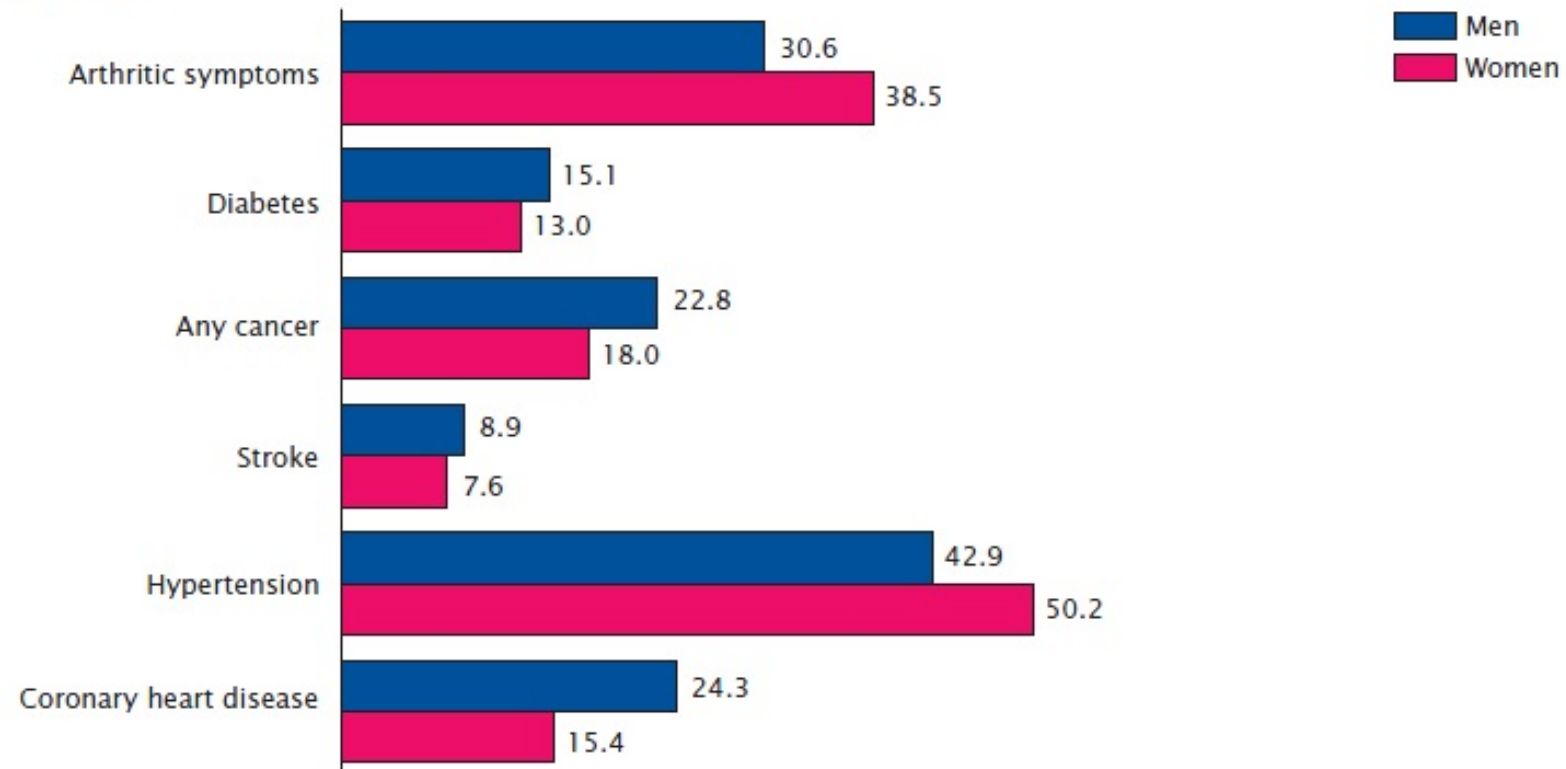
Note: The reference population for these data is the resident population.

Sources: 1900 to 1980, U.S. Bureau of the Census, 1983, Table 42; 1990, U.S. Census Bureau, 2003, Table 12; 2000, U.S. Census Bureau, 2001, Table P13; 2010 to 2050, U.S. Census Bureau, 2004. For full citations, see references at end of chapter.



Figure 3-17.
**Prevalence of Selected Chronic Conditions in People Aged 65 and Over by Sex:
1999 to 2000**

(In percent)



Note: The reference population for these data is the civilian noninstitutionalized population.

Source: National Center for Health Statistics, 2004. For full citation, see references at end of chapter.



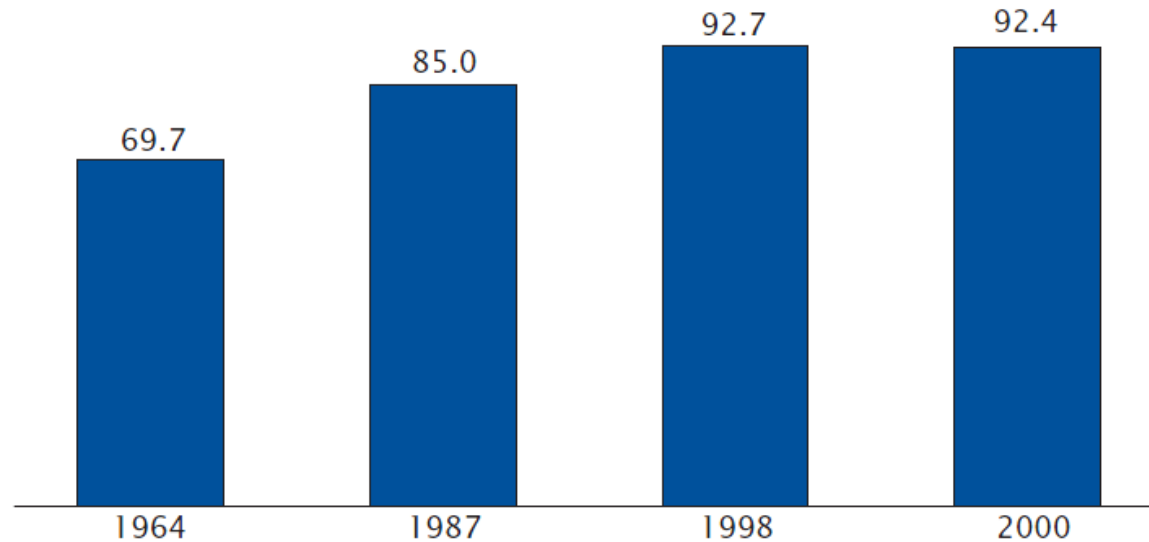
Health of Older Adults

- ~ 80% of older adults have at least one chronic health condition (CDC, 2011)
- ~ 50% of older adults have at least two chronic health conditions (CDC, 2011)
- Treatment for these conditions makes up 2/3 of the US healthcare budget (CDC, 2013)



Figure 3-21.

Percent of People Aged 65 and Over Who Made Health Care Visits Within the Past 12 Months: 1964, 1987, 1998, and 2000¹



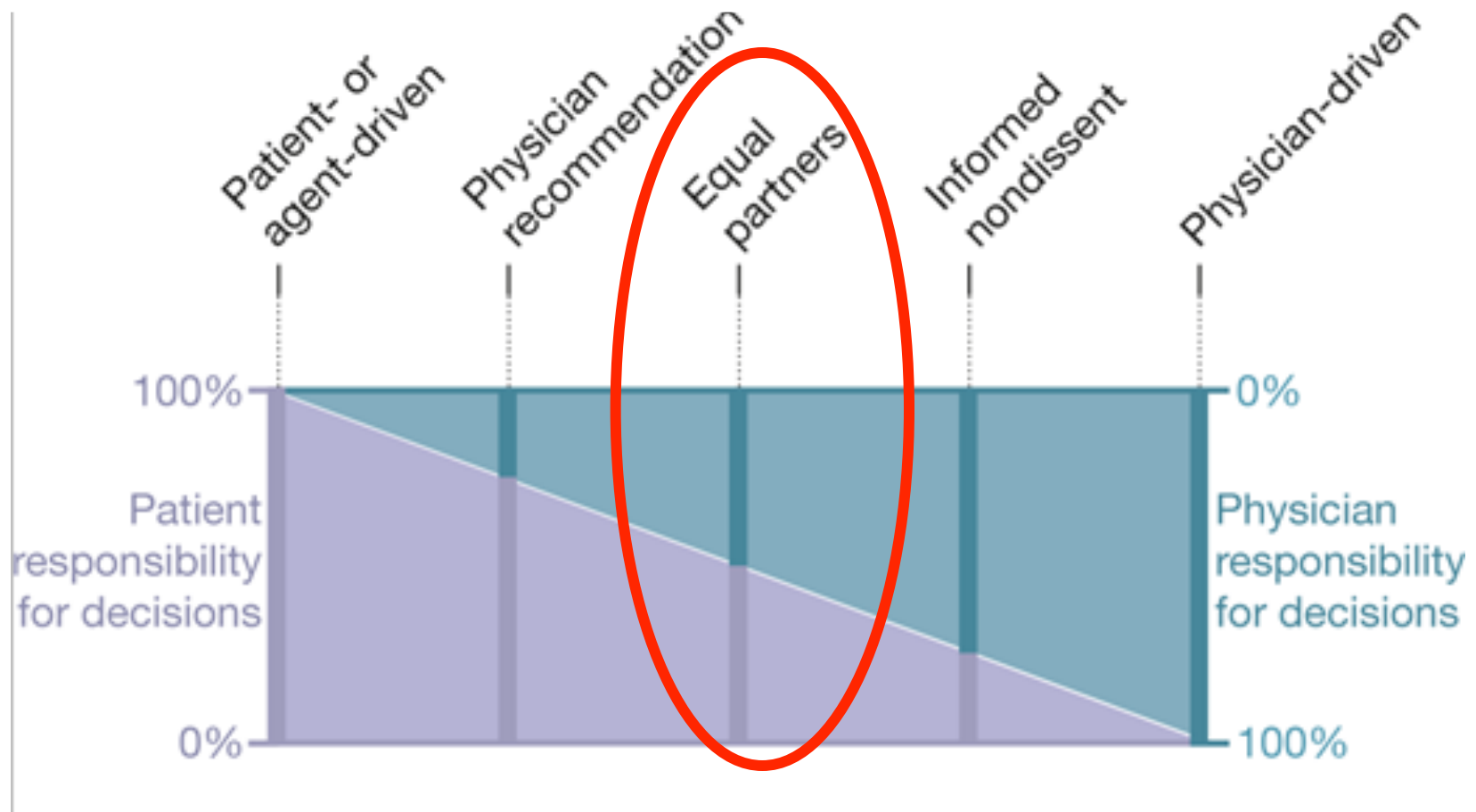
¹ Includes visits to doctors' offices, emergency departments, and home visits.

Note: The reference population for these data is the civilian noninstitutionalized population.

Sources: 1964, 1987, National Center for Health Statistics (NCHS), 1993, Table 88; 1998, NCHS, 2001a, Table 71; 2000, NCHS, 2003a, Table 88. For full citations, see references at end of chapter.



Shared Decision-Making Continuum





Treatment Decision-Making

- Emphasis on informed choice and shared decision making (Wennberg, O'Connor, Collins, Weinstein, 2007)
- Older adults are increasingly being asked to share in decisions about their health (Gillick, 1994)
- Understanding the psychological processes that underlie patient decision-making is critical to patient-centered care

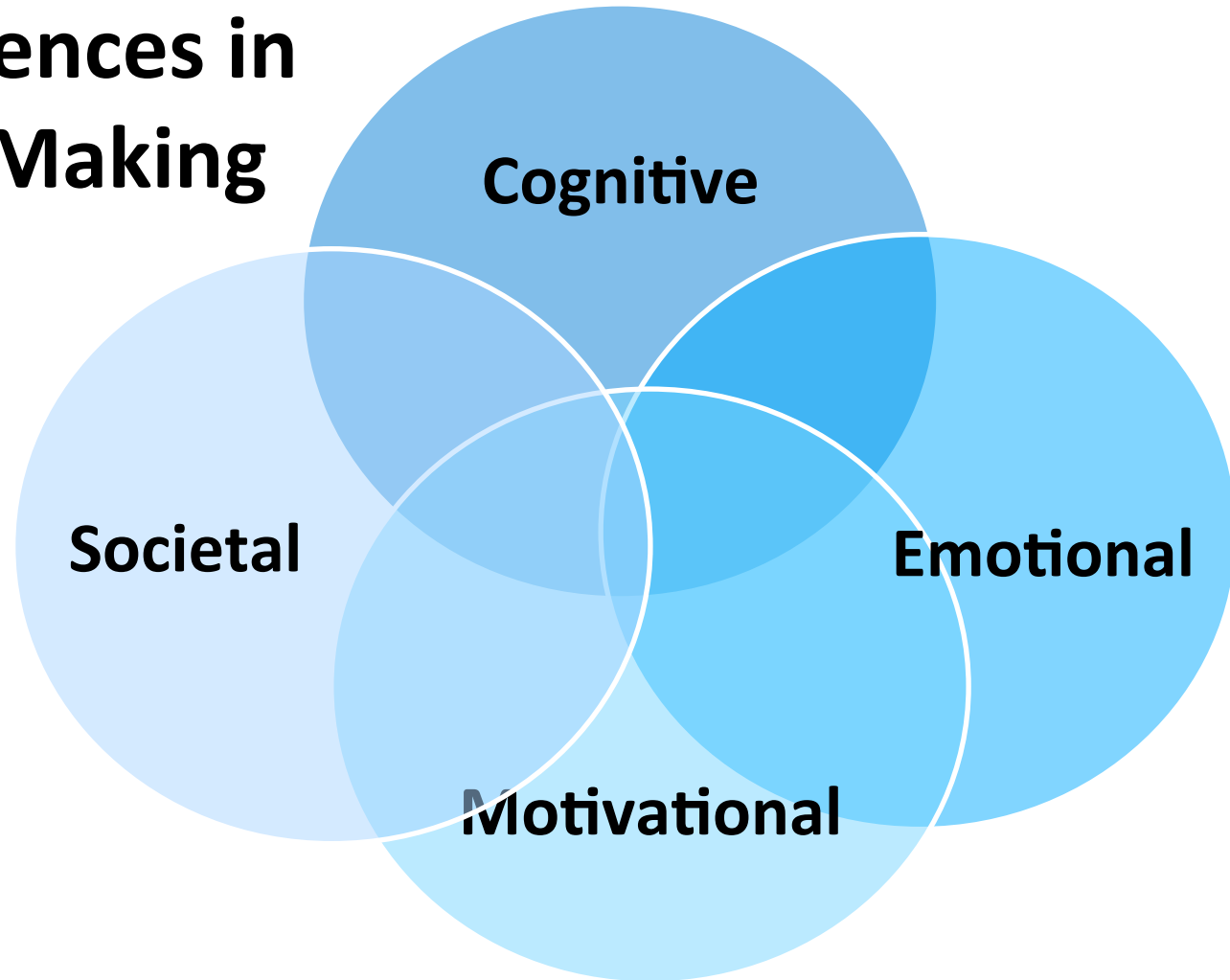


Mechanisms Underlying Age Differences in Decision Making

- Cognitive
- Emotional
- Motivational
- Societal



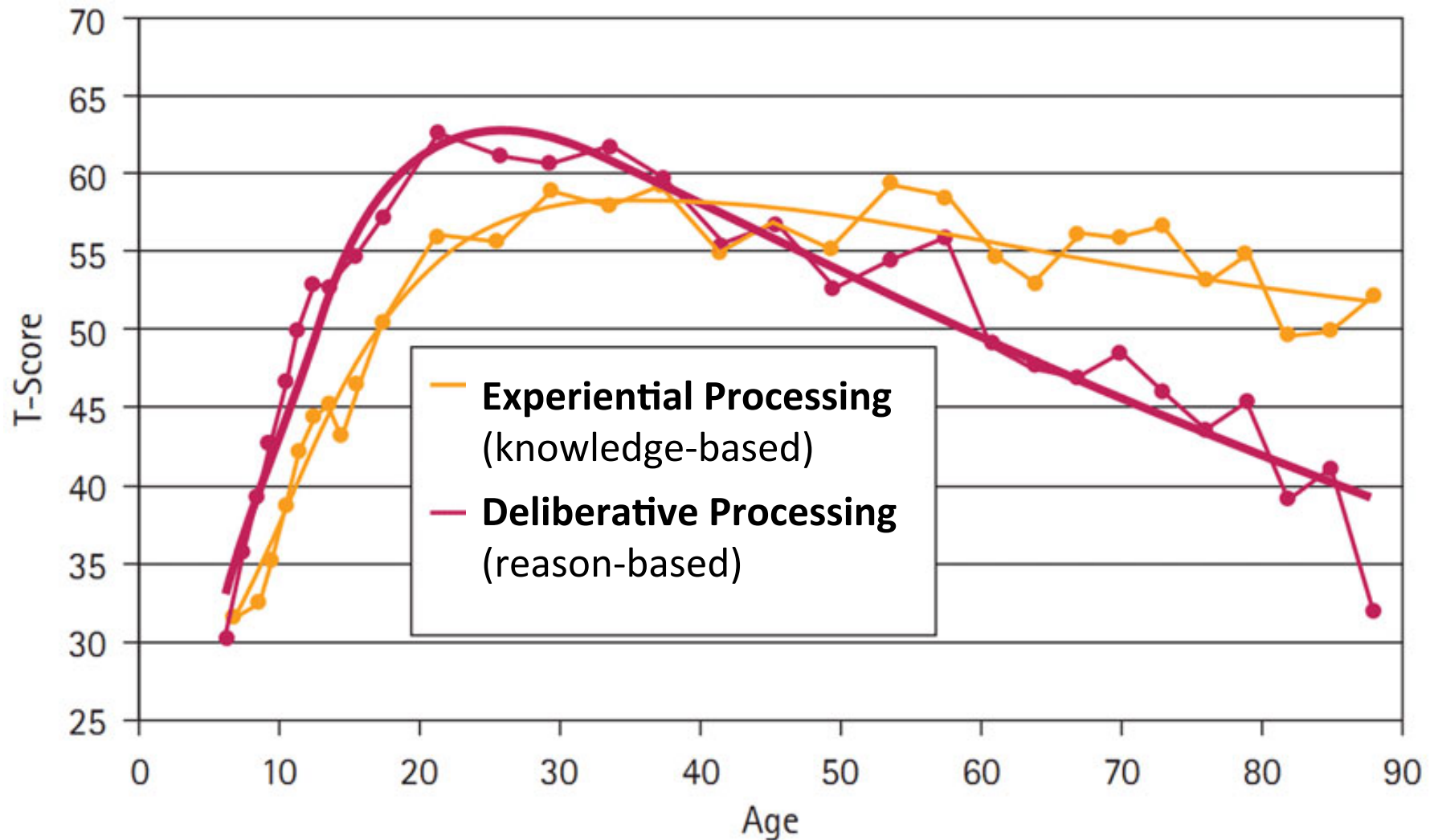
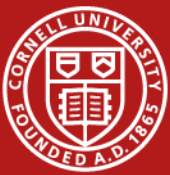
Mechanisms Underlying Age Differences in Decision Making



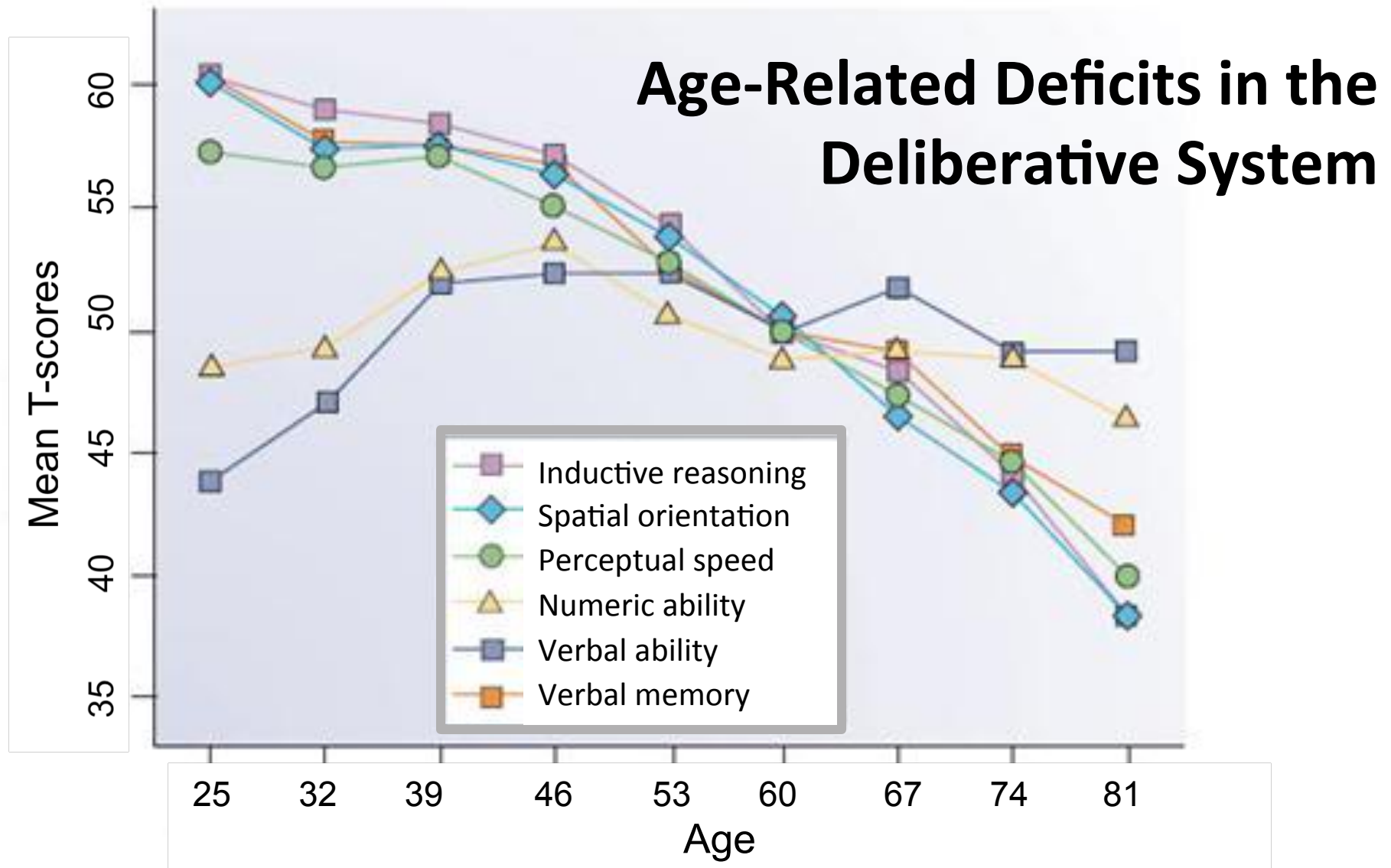


Normal Cognitive Development

- **Fluid cognition (deliberative processing):**
abstract reasoning, problem solving and information processing
- **Crystallized cognition (experiential processing):**
general knowledge garnered through lived experience



Adapted from: Li, S.-C., Lindenberger, U., Hommel, B., Aschersleben, G., Prinz, W., and Baltes, P. B. 2004. Transformations in the couplings among intellectual abilities and constituent cognitive processes across the life span. *Psychol. Sci.* 15:155–63.





Older Adults' Decision Styles

- Experience-based, intuitive style of processing (Reyna & Brainerd, 2011)
- Selective resource allocation and compensatory strategies (Baltes, 1997)



Experience and Decision-Making

- Assists with discounting irrelevant information and avoiding bias (Tentori, Osherson, Hasher, & May, 2001)
- Benefits familiar life situations or frequently encountered circumstances (Kim & Hasher, 2005)
- Older adults perform as well as younger adults on everyday problem-solving tasks (Tentori et al., 2001; Meyer, Talbot, & Ranalli, 2007)



Emotional factors

- **Integral affect:** emotional (positive or negative) responses to decision options
- **Incidental affect:** decision-irrelevant responses (Peters, Hess, Västfjäll, & Auman, 2007)
- **Trade-off aversion:** negative emotional response to the decision process (Luce, 2005)



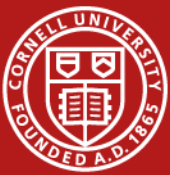
Emotion Regulation Strategies

- The ability to regulate emotions remains stable with age (Scheibe & Carstensen, 2010)
- Emotion regulation strategies differ (Gross, 1998)
 - Antecedent-focused strategies (older adults):
situation modification, environment selection, avoidance
 - Response-focused strategies (younger adults):
suppression of an emotion



Age-differences in Affective Forecasting and Projection Biases

- Older adults are better than younger adults at predicting their future emotions (Löckenhoff, O' Donoghue, & Dunning, 2011; Lachman, Röcke, Rosnick, & Ryff, 2008)
- Projection biases may affect treatment preferences (Lowenstein, 2005)
 - “Hot” versus “cold” states



Socioemotional Selectivity Theory

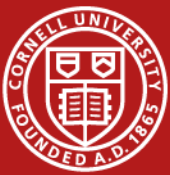
(Carstensen, 2006)

- Expansive time horizons in young adulthood lead to prioritizing goals that benefit the future
 - Information acquisition and novel social partners
- Restricted time horizons in later life lead to prioritizing goals that benefit the present
 - Emotional meaning and close social partners



Positivity Effect

- Refers to a shift in preference for positive material with advancing age
- Demonstrated in studies of attention, memory and decision-making
 - Example: Charles, Mather, & Carstensen, 2003
- Shown in recent studies using fMRI at the level of neural activation during anticipation, exposure, and encoding of emotional stimuli (Samanez-Larkin & Carstensen, in press)



Time Horizons Influence Priorities in Decision-Making

In general, older adults:

- Prioritize emotional content over neutral information
- Delegate emotionally-aversive or difficult decisions
- Prioritize treatments that enhance current well-being over future outcomes



Time Horizons in Health Decisions

Providers and older patients may have different time horizons in treatment planning

Patients focus on the present moment

“I don’t want to think down the road and say I’m going to be like this or worse in the future. So I’m just living in the present right now.”

Providers focus on longer term effects

“You realize that you really need to [. . .] think in terms of years, in terms of a much longer time strategy”



Cohort Effects

- Reflect the unique historical environment of a particular birth cohort
- Older cohorts: socialized to take a passive stance in their health care (Beisecker, 1988)
- Younger generations value active involvement (Robinson & Thompson, 2001)



Aging Stereotypes

societal beliefs about aging and older adults





Negative Age Stereotypes among Patients

- Compromises cognitive performance (“stereotype threat”) (Hess, 2006)
- Leads to low expectations for medical treatment (Hudak et al., 2002)
- More likely to reject a treatment because of “old age” (Newcomb & Carbone, 1993)



Negative Age Stereotypes among Providers

- Inhibits provision of treatment-specific information (Maly, Leake, & Silliman, 2003)
- Leads to under-treatment due to misconceptions of “normal” aging (Lagana & Shanks, 2002)



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Pre-Decisional Information-Seeking

- Younger adults exhaustively review of all available information (Berg, Meegan, & Klaczynski, 1999)
- Prefer to choose among fewer options (Reed, Mikels, & Simon, 2008)
- In general, older adults show lower rates of pre-decisional information seeking, but not necessarily in health-related decisions (Mata & Nunes, 2010)



Information-Seeking and Decision Quality

- Reduced information-seeking has minimal effects on choice selection (Mata & Nunes, 2010)
- Example: study of estrogen replacement therapy
 - Age did not directly impact performance on treatment decisions (indirect effects through cognitive abilities)
 - Quality of the rationale of older patients was more vague and unsystematic (Zwahr, Park, & Shifren, 1999)



Decision Styles

- Rule-based, heuristic style of processing
(Reyna & Brainerd, 2011)
- Older adults rely more on general background knowledge and experiences
(Gould, 1999)



Decision Styles and the Role of Experience

- Adults with breast and prostate cancer
 - Older adults' proficiency in treatment decision-making may stem from prior knowledge (Meyer, Talbot, & Ranalli, 2007; Meyer, Russo, & Talbot, 1995)
- Adults considering OTC medications:
 - Greater familiarity with pain relievers among older adults leads to selective focus on active ingredients and systematic information searches (Johnson & Drungle, 2000)



Time Horizons

- Health choices involve time trade-offs
- **Intertemporal choice:** trade-offs between proximal and distal outcomes (Berns, Laibson, & Loewenstein, 2007)
- In medical contexts: youngest group more often opts for delayed treatment and older group selects immediate treatment (Zwahr, Park, & Shifren, 1999)



Shared Decision-Making vs. Delegation

- Shared decision-making (SDM): “pinnacle of patient-centered care” (Barry & Edgman-Levitan, 2012)
- Medical providers are less likely to encourage active participation among older adults (Street et al., 1995; Gattellari, Voigt, Butow, & Tattersall, 2002)
- Only a minority of older adults wish to play an active role in treatment decision-making (Deber, Kraetschner, & Irvine, 1996; Pinquart & Duberstein, 2004)



Shared Decision Making vs. Delegation

Study of 256 cancer patients

Older

Younger

Wanted minimal or only good information

Wanted “as much information as possible, good and bad”

Preferred delegation

Preferred participation

“The layman is not qualified to make decisions.”

“It’s the doctor’s job, he’ll take care of it.”

“It’s my body and my disease.”

“You have to take responsibility for your own body.”



Preference for Involvement

- Medical Outcomes Study (Arora & McHorney, 2000)
- 2,197 patients with chronic disease (hypertension, diabetes, myocardial infarction, congestive heart failure, and depression)
- Patients aged 35-44 years were 7 times *more likely* to be active in decision making than were individuals aged 75+



Preference Regarding Source of Decision Support

- Older adults are less likely to seek second or third opinions from providers (Meyer & Pollard, 2004)
- Yet, they rely heavily on family members and friends (Bennett Cameron, Whitehead, & Porter, 2009; IOM, 2008; Turk-Charles, Meyerowitz, & Gatz, 1997)
- Others undergoing a similar procedure or similar condition provide tailored guidance (Thoits, 2011)



Caveats

- Preferences regarding involvement in decision making may vary
 - By type of treatment modality
 - By stage in illness trajectory
 - Within individuals due to external factors
 - Between individuals in a given age range



To Review

Older adults...

- Focus on emotionally salient and personally relevant material
- Favor experience-based decision strategies
- (Generally) seek less pre-decisional information
- Delegate difficult choices



Social and Emotional Recommendations

- Incorporate older adults' social networks into the treatment decision-making process
- Offer decision aids that highlight affective meaning (e.g. excellent, fair, poor)
- Provide opportunities to leverage prior experiences
- Understand the implications of framing effects



Practical Recommendations

- Provide written summaries of key information to reduce memory load
- Encourage note-taking during treatment visits
- Simplify numeric information and use lists, not paragraphs
- Offer extended time for treatment decisions (as circumstances allow)



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