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1

Multidisciplinary Outlook on the Frailty Process: Theoretical Issues, Individual Trajectories, and Consequences for Daily Life

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Theoretical Framework for an Interdisciplinary Concept of Frailty

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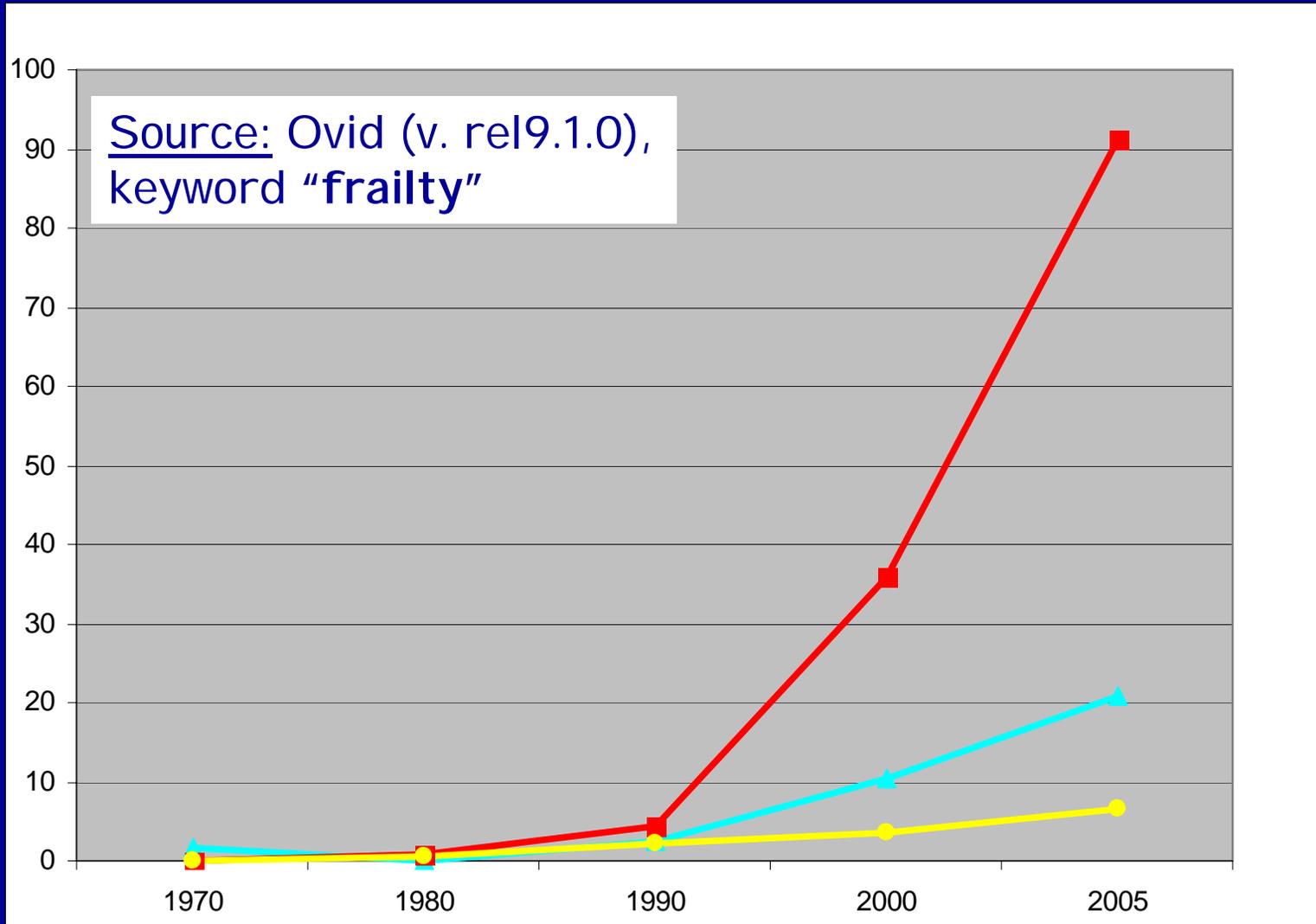
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Outline

1. Popularity of Frailty
2. Definitions of Frailty
3. Operationalizations of Frailty
4. Some psychological and social aspects of Frailty
5. Similarities between physiological reserves and psychological resources
6. Possible future directions

1. Popularity of Frailty

"Frailty" Citations by Domain



Medline

PsychInfo

Sociological
Abstracts

2. Definitions of Frailty

Markle-Reid & Browne (2003)

Synonyms

- Functional dependency
- Functional disability
- Chronic illness and disability
- Biologically old
 - Failure to thrive
 - Wasting syndrome common in people of advanced age
 - Chronically dependent in a variety of ways
 - Decreased ability to respond to stressful situations
 - Fragile, delicate, brittle, tender, easily disturbed
 - Functionally vulnerable
 - Feebleness and general vulnerability

Markle-Reid & Browne (2003)

Antonyms

- Independence vs. autonomy
- Vigorous vs. frail
- Robustness vs. general vulnerability
- Chronologically old vs. biologically old
 - Vitality vs. frailty
 - Well elderly vs. frail elderly
 - Hardy vs. frail

Markle-Reid & Browne (2003)

Definitions

- Aging
- Disability
- Reduced physiological reserves
 - Decreased muscle strength, mobility and balance
 - Decreased strength, flexibility, cardiovascular endurance and body composition
 - Compromised homeostatic mechanisms
 - Feebleness, delicately constituted, vulnerable or lack of resilience
 - Inactivity combined with weight loss
 - Functional impairment and dependence in activities of daily living
 - Chronic and disabling illness
 - Acute illnesses such as confusion, falls, immobility, incontinence, and pressure sores
 - Poor mental health functioning, such as cognitive impairment and depression
 - Need for formal or informal assistance with personal care or household tasks, and long-term (nursing home) care
 - Mathematical modeling of morbidity and mortality to denote a latent variable associated with extent of risk

Definitions of Frailty: In Sum

- “Frailty is a syndrome in desperate need of description and analysis” (Gillick, 2001)
- “Frailty does not have a precise scientific meaning... it remains more a constellation of many conditions than a discrete clinical entity” (Hamerman, 1999)

3. Operationalizations of Frailty

Operationalization (1/5)

- Strawbridge et al. (1998) – 4 dimensions
 - Physical deficiencies (balance, weakness, etc.)
 - Nutritive deficiencies (appetite, weight loss)
 - Cognitive deficiencies (attention, memory)
 - Sensory deficiencies (vision and hearing)

Multivariate and
Multidimensional

Operationalization (2/5)

- Rockwood et al. (1999) – 2 dimensions
 - Walk without help
 - Basic ADL
 - Continent of bowel and bladder
 - Cognitive functioning
 - Diagnosis of dementia

Multivariate and
Multidimensional

Operationalization (3/5)

- Brown et al. (2000) – 1 dimension
 - Physical Performance Test (9 functional items)
 1. Book lift
 2. Put on and take off a coat
 3. Pick up a penny
 4. Chair rise
 5. Turn 360°
 6. 50-foot walk
 7. One flight of stairs
 8. Four flights of stairs
 9. Progressive Romberg test

Operationalization (4/5)

- Fried et al. (2001) - ~ 1 dimension
 - Shrinking (unintentional weight loss)
 - Strength (grip, adjusted for gender and BMI)
 - Poor endurance and energy (self-reported exhaustion)
 - Slowness (walk 15 feet, adj. for gender and height)
 - Low physical activity level (self report)

Multivariate and Attempt at
Multidimensionality

Operationalization (5/5)

- Lalive d'Épinay et al.:
 - Swiss Interdisciplinary Longitudinal Study on the Oldest Old (next presentation by Guillely et al.)

Multivariate and
Multidimensional

Operationalization, in Sum

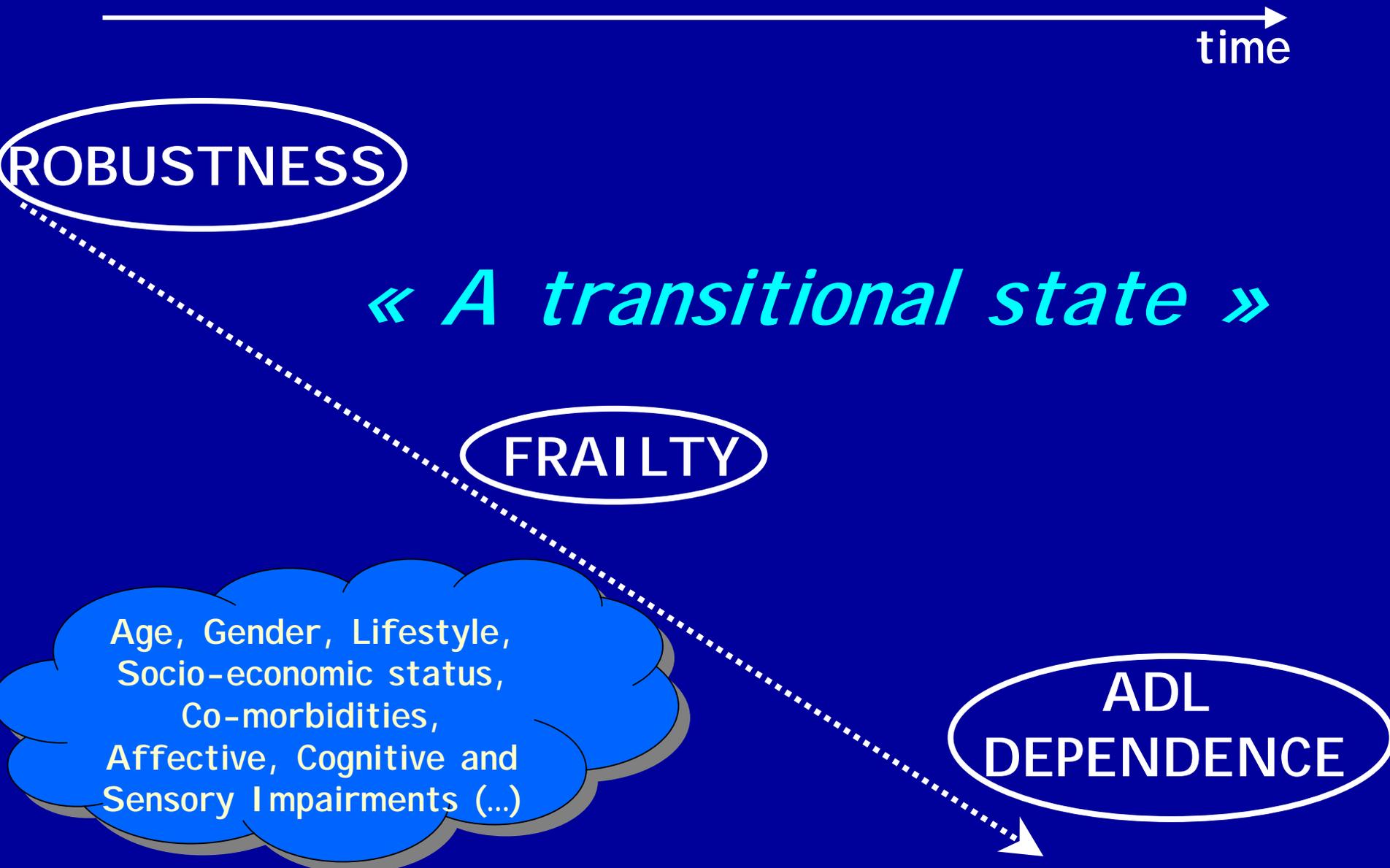
- “There is more to *physical frailty* than physical variables alone” (Brown, 2000, p. M354)
- There are *multiple expressions of frailty* (Katz, 2004)



at least consider
moderating and/or mediating
psychological and social factors

4. Some Psychological and Social Aspects of Frailty

Frailty Process



Four Major Etiologies of Frailty

Bortz (2002)

1. Genetic disorders
2. Diseases and injuries
3. Lifestyle (nutrition and sedentariness):

"I feel that quantitatively the greatest contributor to frailty is lifestyle" (p. M285)

4. Aging

Frailty: The Importance of Psychological and Social Aspects

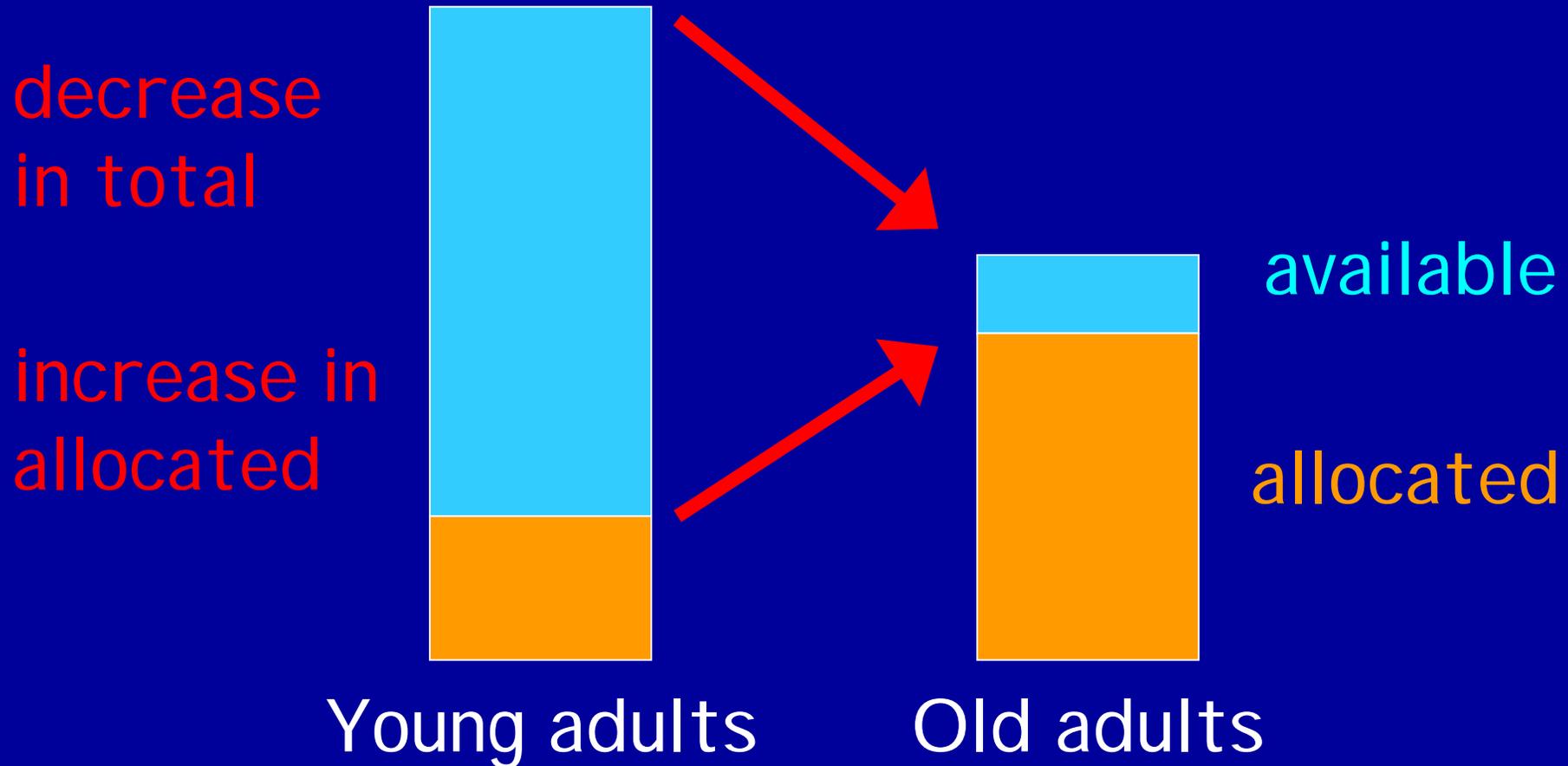
1. Identify at-risk individuals
2. Prevent ADL dependence
3. Implement effective treatment

1. Exercise
2. Dietary supplements and medicines
3. Change in lifestyle

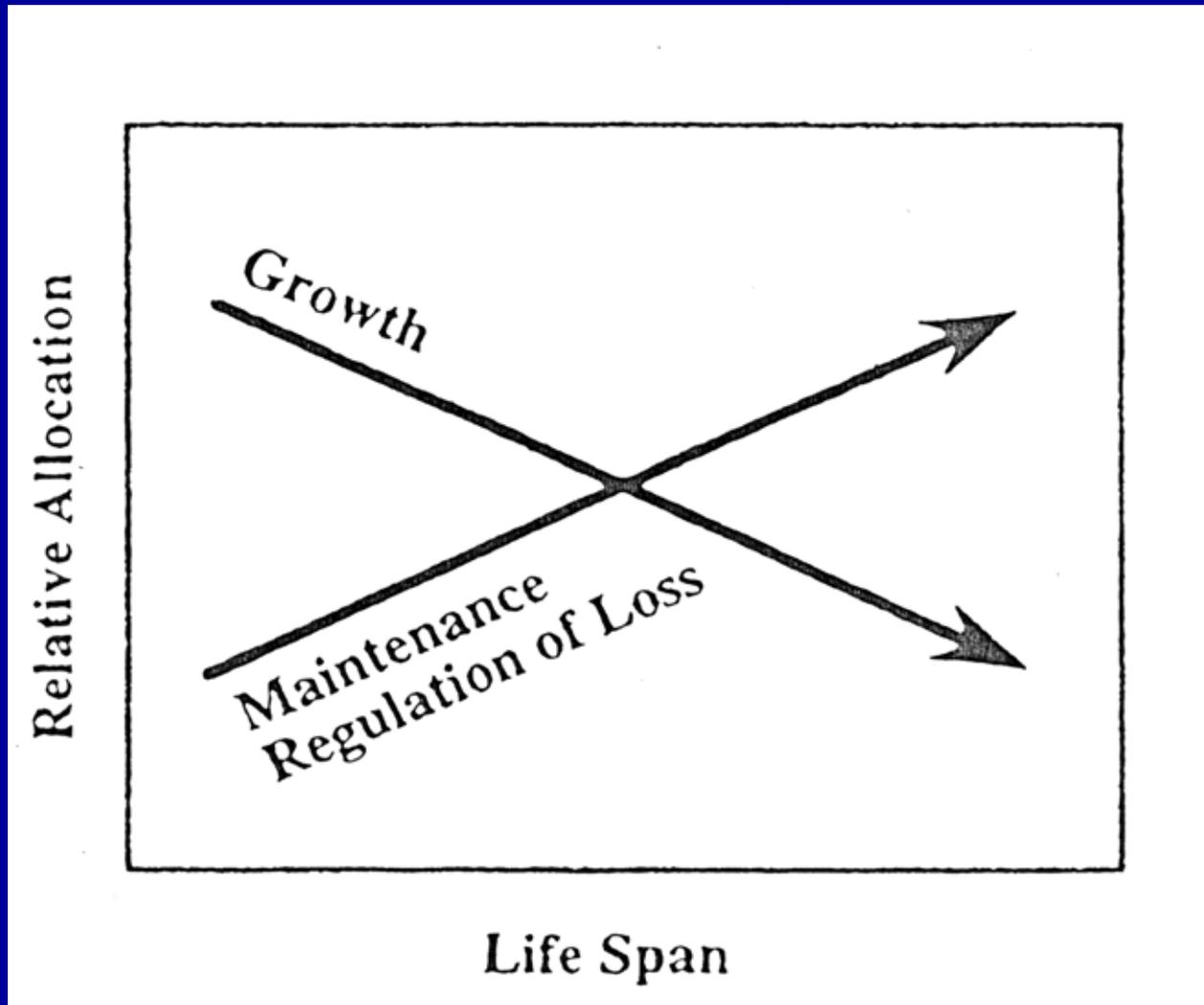
All vulnerable to psychological and social effects

5. Similarities between Physiological Reserves and Psychological Resources

Physiological Reserves and Age: The Medical Perspective



Relative Allocation of Resources: The Life Span Psychology Perspective



Some Tenets of Life Span Psychology

Baltes, P. B. & Baltes, M. M. (1990)

- Lifelong dynamics of **gains** and **losses**
- Successful development: maximization of gains and minimization of losses
- The application of SOC may be favorable
 - **Selection**: choosing directionality of development and goals, narrowing possibilities
 - **Optimization**: enhance existing and develop new goals directed means
 - **Compensation**: acquisition of new goal-directed internal and external means

6. Possible Future Directions

Where should We be Heading?

- Abandon
 - *[chronological aging = frailty]* (Rockwood, 1992; Mitnitski, 2002)
 - *[dependence = frailty]* (Strawbridge, 1998; Fried, 2001)
- Adopt better analytical tools reflecting dynamics of process (Lipsitz, 2002; Rockwood, 2002; Vaupel, 1979)
- Acknowledge subjective experience of older adults (we call frail) (Becker, 1994; Markle-Reid & Browne, 2003; Whitbourne, 2002)

Recognize psychological and sociological expressions of frailties

Thank You

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