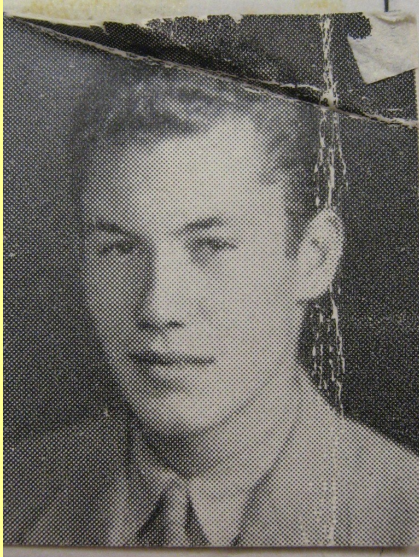


The Study of Adult Development

Robert J. Waldinger, M.D.
Brigham and Women's Hospital
Harvard Medical School

The Study of Adult Development

1941



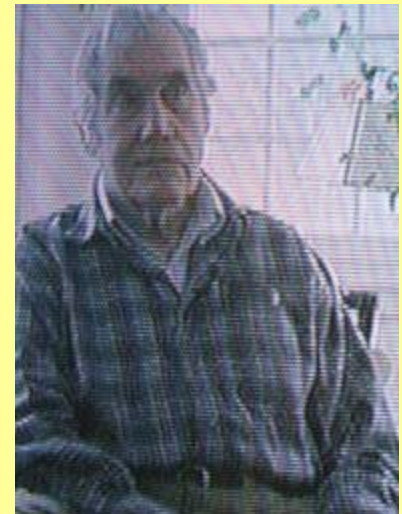
Age 19

1969



Age 47

2004



Age
82

4 generations of researchers

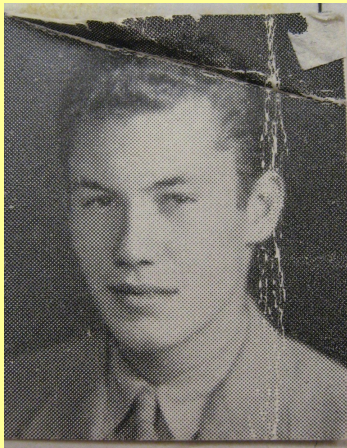
1937- 1953 Arlie Bock, M.D. and Clark Heath, M.D.

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268 Harvard Sophomores



What can these lives tell us?

1. How important are our childhoods in predicting how we age?
2. Is the die cast by mid-life, or can we still affect how we get old?
3. Who retires, who enjoys it, and why?
4. Is life basically all downhill from here?
 - Close Relationships
 - Enjoyment of life

How We Collected Data

In adolescence at UHS:

- Medical and psychiatric exams
- Interviews with undergrads and parents

Over the next 68 years:

- Questionnaires every 2 years
- Medical records every 5 years
- Interviews every 10 years

What's Been Studied

- Mental health
- Physical health
- World War II experiences
- Work
- Relationships
- Aging and retirement

What's so important about longitudinal research?

How much do childhood factors determine how we age?

Early life factors we can't control?

- Ancestral longevity
- Parental social class
- Childhood environment
- Childhood temperament

Childhood factors do not predict much about life at age 70- 80

	Age 70- 80			
	Physical Health	Length of Active Life	Life Satisfaction	Mental Health
Warmth of Childhood	+	No	No	+
Childhood Temperament	No	No	No	No
Parental social class	No	No	No	No
Ancestral longevity	No	+	No	No

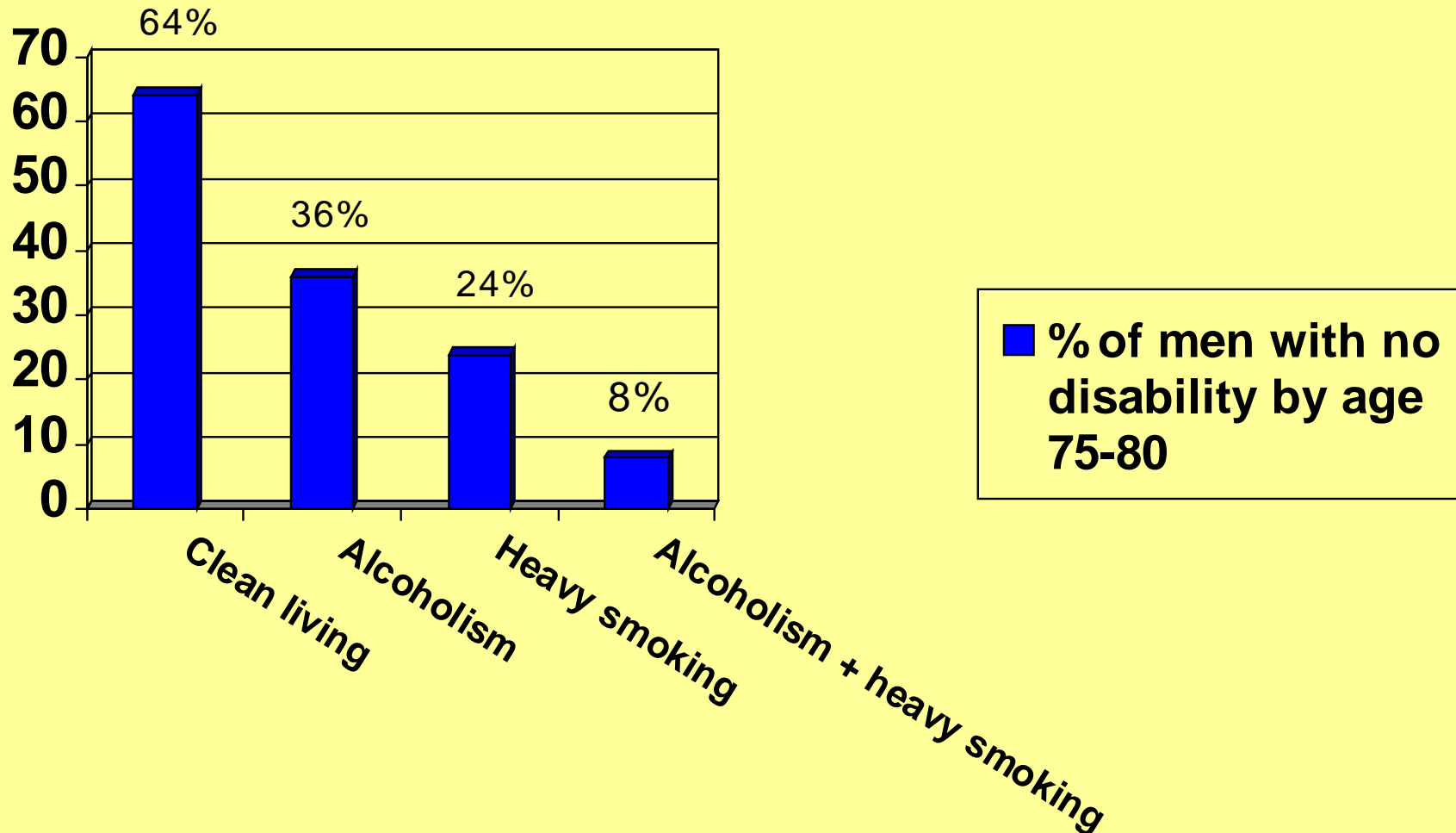
Is the die cast by midlife,
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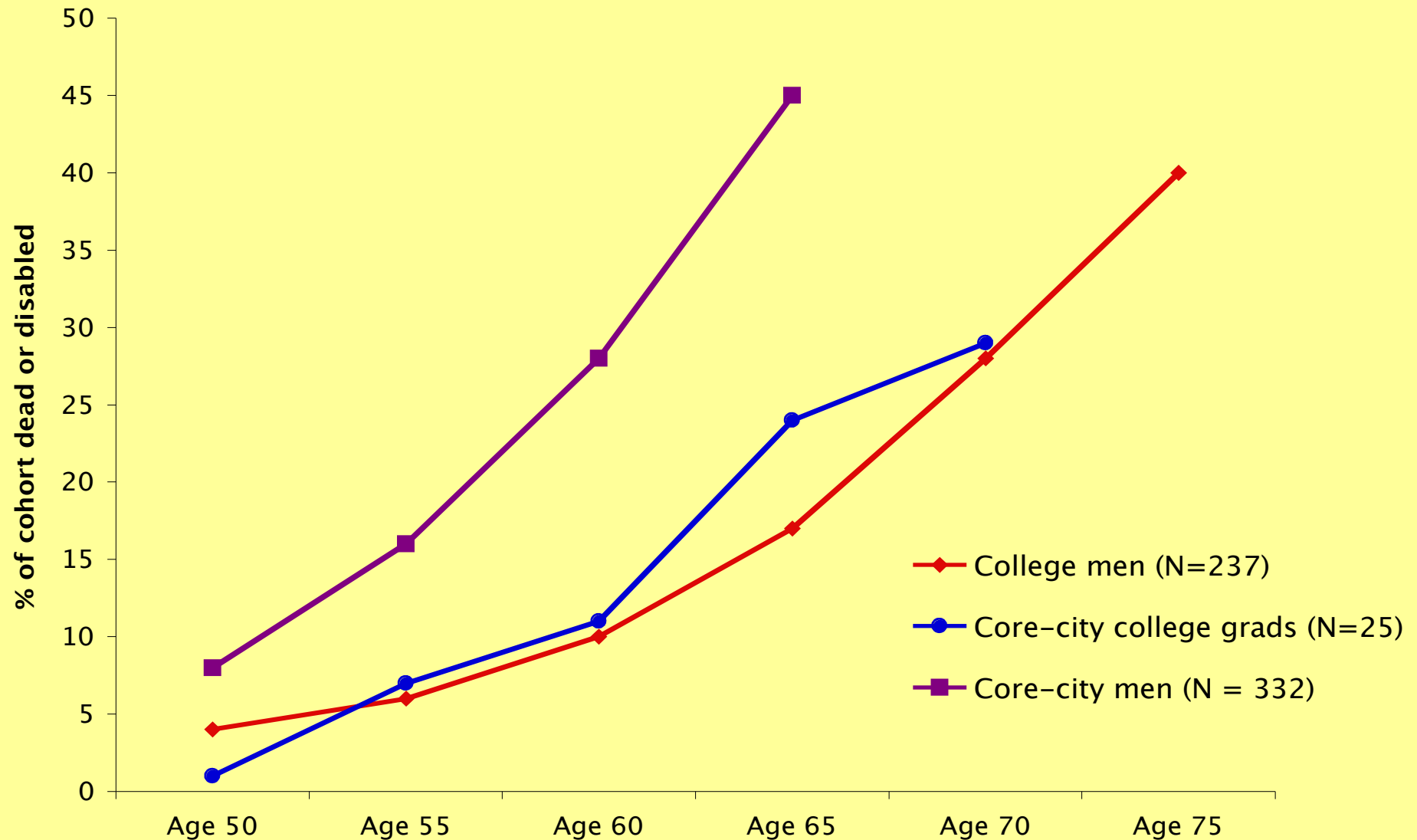
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Age 50	Smoking	↓↓	↓↓	0	↓↓
	Alcohol Abuse	↓↓	↓	↓↓	↓↓
	Exercise	++	++	0	+
	Stable Marriage	+	0	++	++

Alcohol and Smoking



Education and longevity



Who retires, who enjoys it, and why?

- Retirement is over-rated as a problem
- 5%retired prior to age 60, most due to ill health
- 50%still worked full-time at age 65
- By age 75, only 1/ 12 men had not retired
- The men who liked working the most at age 60 liked retirement the most at age 75

4 ingredients of happy retirements

1. Replace work mates with other social networks
2. Rediscover how to play
3. Engage in creative endeavors
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Is it all downhill from here?



What happens to intimate relationships?

“I love being married. It’s so great to find that one special person you want to annoy for the rest of your life.”

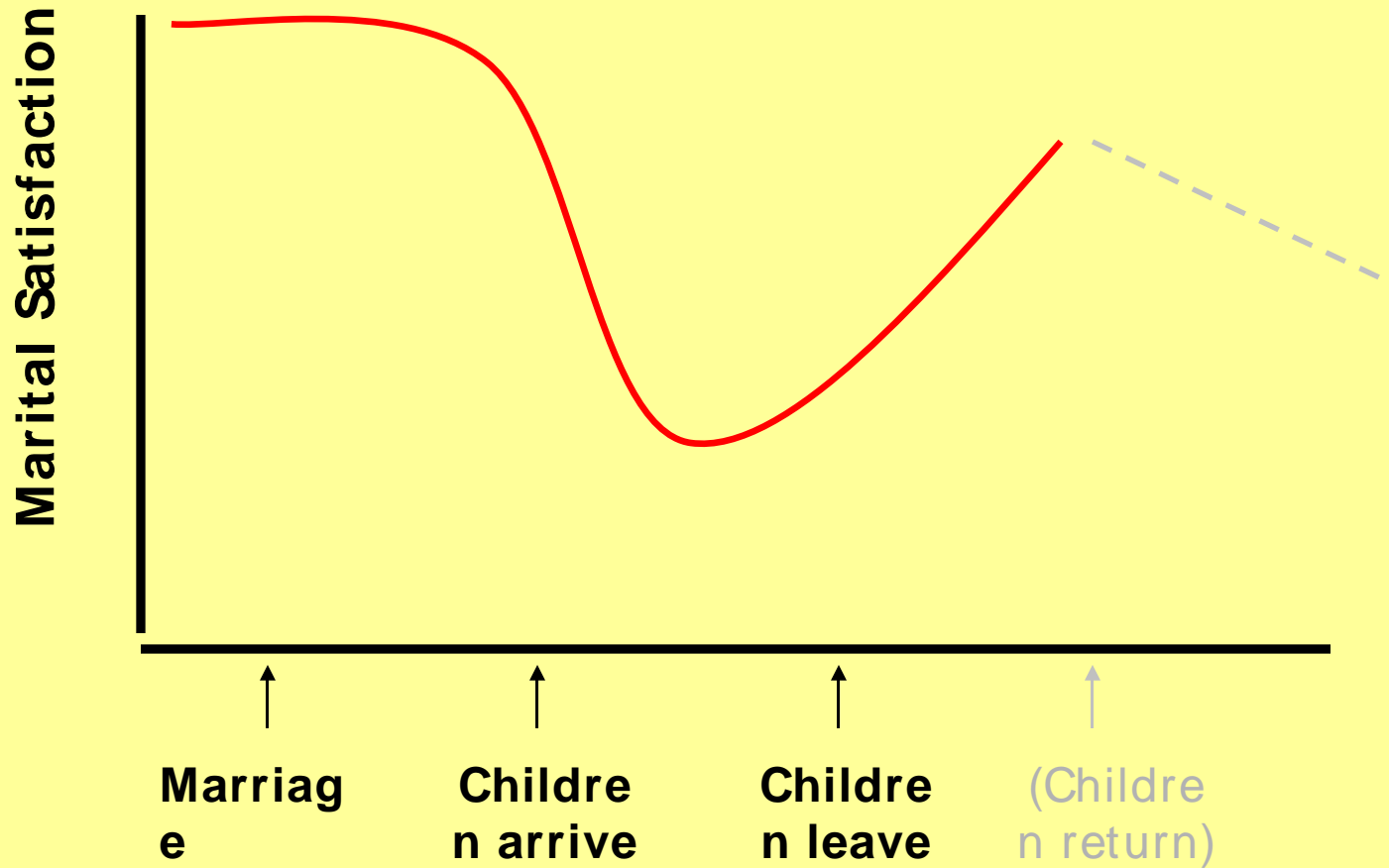
- Rita Rudner

“If variety is the spice of life, marriage is that big can of leftover Spam.”

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Marriage across the lifespan



The awareness that life is short makes us happier

**When we sense that time is limited,
emotional well-being becomes a priority**

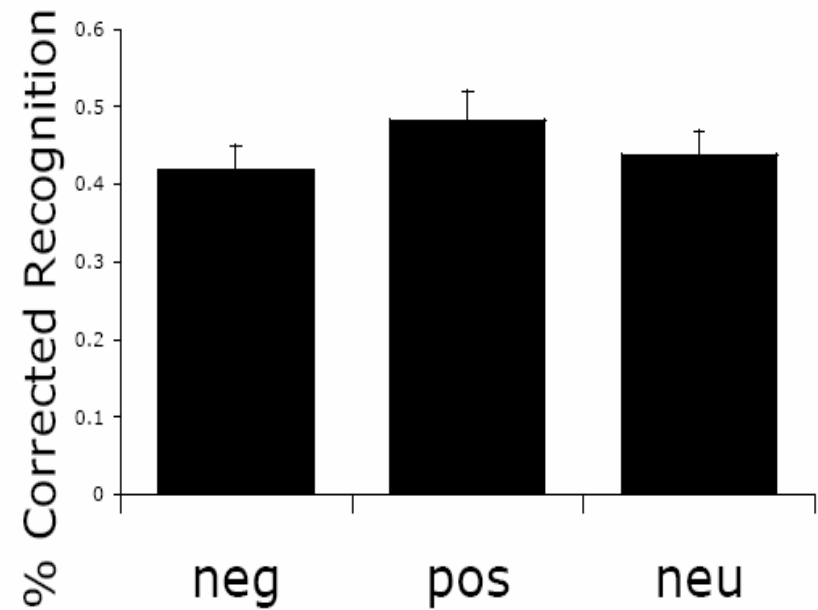
**We get choosier about how and with
whom we spend our time**

**We reconstruct our autobiographical
memories more positively**

**We pay attention to the positive more
than the negative**



Remembering the positive



“Discover new vistas, explore the unknown”

“Capture those special moments in life”



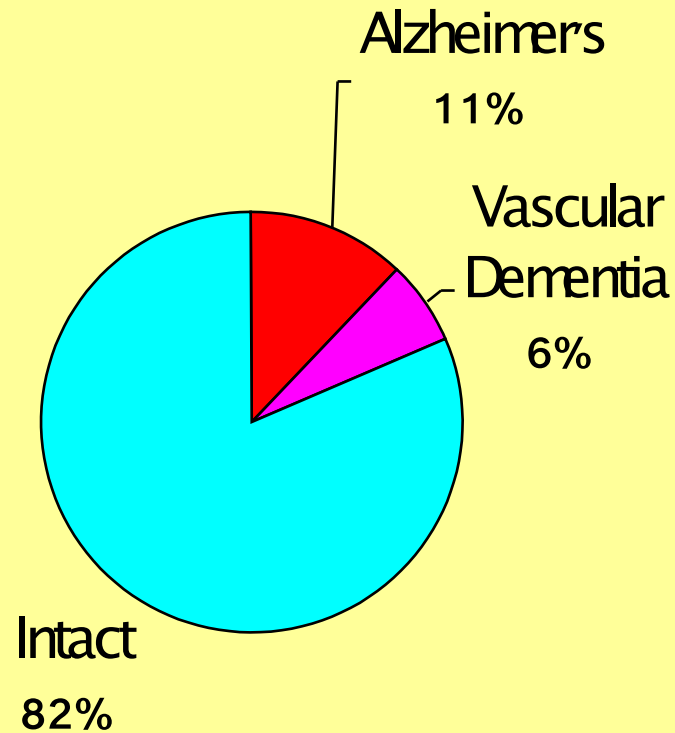
Can brains that focus more on the positive get us into trouble?



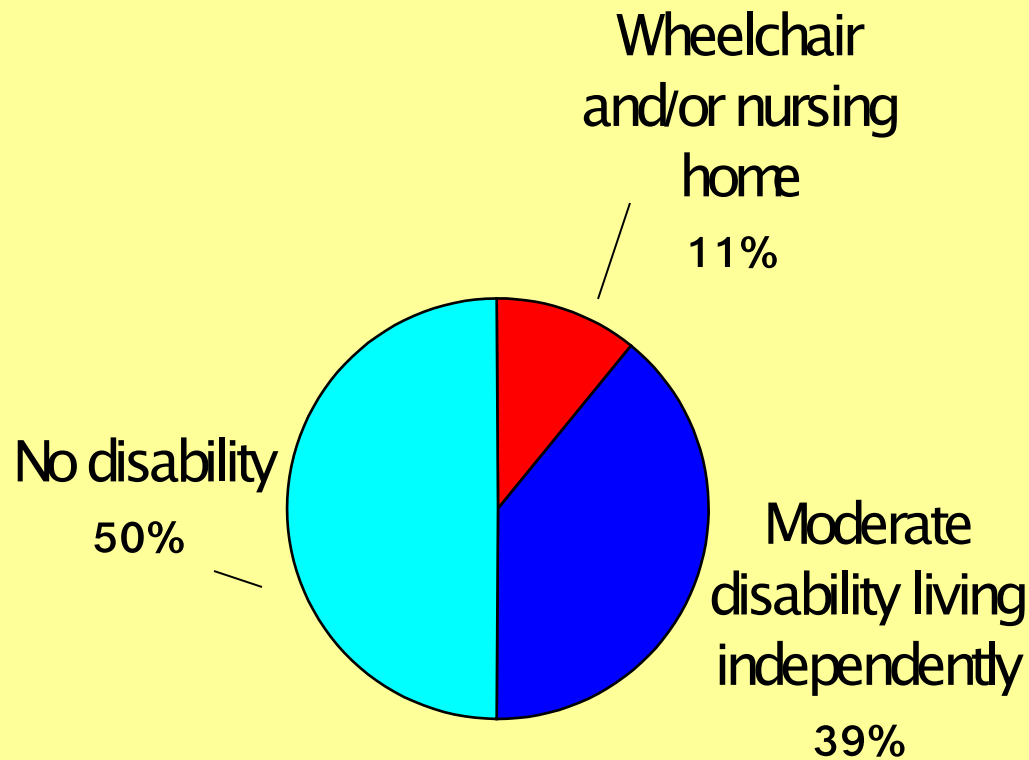
At age 87, 110 Study members (41%)
are still living



Cognitive health age 80- 85



Physical health among those who live to age 87





70, the new 40

WORLD'S BEST GRANDPARENT
California
LIV 4 FUN

Very few dropouts



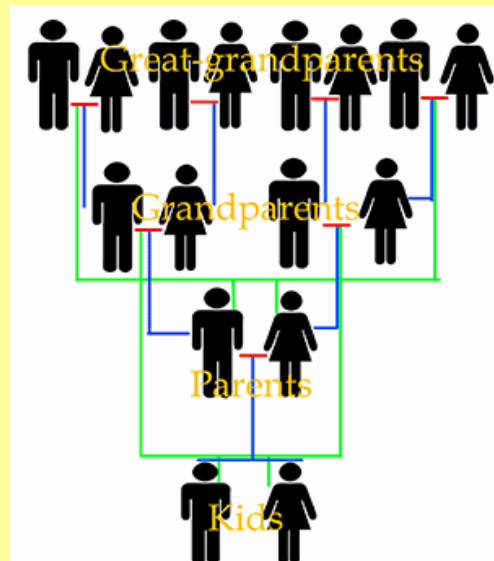
Lunch May 2005

Linking psychology and biology

- Genetics – DNA
- Neuropsychological testing
- Neuroimaging
 - Structural
 - Functional
- Brain donation

2nd Generation

- Harvard Men
 - 837 Children
- Inner City Men
 - 1261 Children



What happens to sex?



"And do you, Rebecca, promise to make love only to Richard, month after month, year after year, and decade after decade, until one of you is dead?"

The Study of Adult Development

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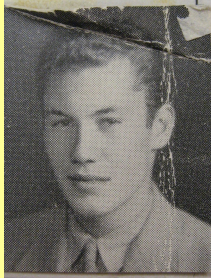
1

One of longest longitudinal studies of adult life ever done

Then colleagues can tell you about some of the newer developments in understanding the process of aging

The Study of Adult Development

1941



Age 19

1969



Age 47

2004



Age
82

2

In 1937, 2 physicians at UHS had

Radical idea to study “the best and the brightest”

Over 4 years (1939- 1942), 268 Harvard College sophomores considered by deans to be mentally and physically most sound and promising, selected to participate in study.

Not exclusively from privileged backgrounds

Adolescents during the Depression

In 1940, one father in 7 made less than \$2500 per year

Half were on scholarship at Harvard or had to work during school to pay tuition

Most served in WW II – 6 were killed

CLICK: Went on to become businessmen, writers, newspaper editors, doctors, lawyers, actors, alcoholics, schizophrenics

By age 65, mortality rate only ½ that of white males in their birth cohort

CLICK: 50% have lived into their 80s—higher than YALE

4 generations of researchers

1937- 1953 Arlie Bock, M.D. and Clark Heath, M.D.

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3

1937 - - Clark Heath and Arlie Bock –physicians at HUHS envisioned studying health

They would not have dreamed that the Study would continue for almost 70 years

Most longitudinal studies never continue beyond 10 years, and this is nearly always because of dropouts.

In this sample, only 16%dropped out over 68 years – less than ¼%per year

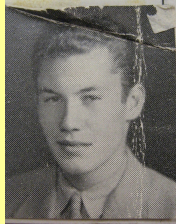
The Study has survived against all odds due to:

Vision, creativity, and doggedness of previous Study directors

Luck – funding from Grant Foundation, NIMH

****Dedication of the men who have stayed with this study their entire adult lives

268 Harvard Sophomores



4

Politically incorrect sample:

Men

WASPs

One historical cohort

Not representative of the general pop

But for US, the paths they've taken may have more relevance

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6

Detailed descriptions of childhoods, parents, relationships with family and peers

What's Been Studied

- Mental health
- Physical health
- World War II experiences
- Work
- Relationships
- Aging and retirement

7

Hundreds of publications

CONFIDENTIALITY

What's so important about longitudinal research?

8

Most of what we know about the human life cycle is based on retrospective studies.

In hindsight, easy to see “causal” factors.

Memory is unreliable, and at times, highly creative.

Mark Twain: “Some of the worst things in my life never happened.”

AN example: common assumption that alcoholism results from an unhappy childhood.

Based on retrospective evidence. After the fact, clinicians and alcoholics blame the past.

But looking prospectively, men who became alcoholics had childhoods that did not differ from social drinkers

How much do childhood factors determine how we age?

Early life factors we can't control?

- Ancestral longevity
- Parental social class
- Childhood environment
- Childhood temperament

9

Best thing about studying lives is that you can be surprised at how they turn out and what matters

Common assumptions about what fosters long and healthy life

Childhood factors do not predict much about life at age 70- 80

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	Physical Health	Length of Active Life	Life Satisfaction	Mental Health
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Ancestral longevity	No	+	No	No

10

It's not all about your childhood

Ancestral longevity – not very important

Basic trend is that early life factors become less influential as we age:

As an example, let's talk about the warmth of one's childhood:

Physical health, When the men were middle aged, childhood environment was linked with men's physical health.

-- bleak childhoods associated with middle- aged diabetes, hypertension, heart disease

By age 75, weak link between quality of childhood and objective physical health

Social adjustment/ life satisfaction: Loved children had much better college adjustments than those from cold homes

By early midlife, warmth of childhood was still important to social adjustment, but by old age the warmth of childhood was statistically unimportant to social adjustment.

Childhood environment **does** remain important to mental health

Of the 56 men with warmest childhoods, only 4 ever got depressed

- The men with bleak childhoods were 3 times as likely to die of unnatural causes – suicides, accidents, smoking or alcohol related illnesses)

- Bleak childhoods were associated with fewer friends and social supports

Is the die cast by midlife,
or can we still affect how we get old?



**"What fits your busy schedule better, exercising
one hour a day or being dead 24 hours a day?"**

11

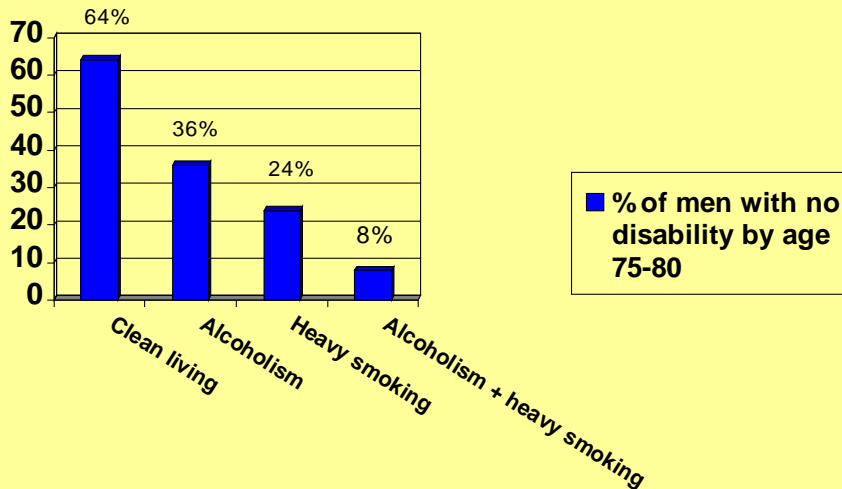
So if childhood factors wane in importance as we age,
what does predict healthy aging?

Are there things we can do now to promote healthy
aging?

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	Stable Marriage	+	0	++	++

Alcohol and Smoking

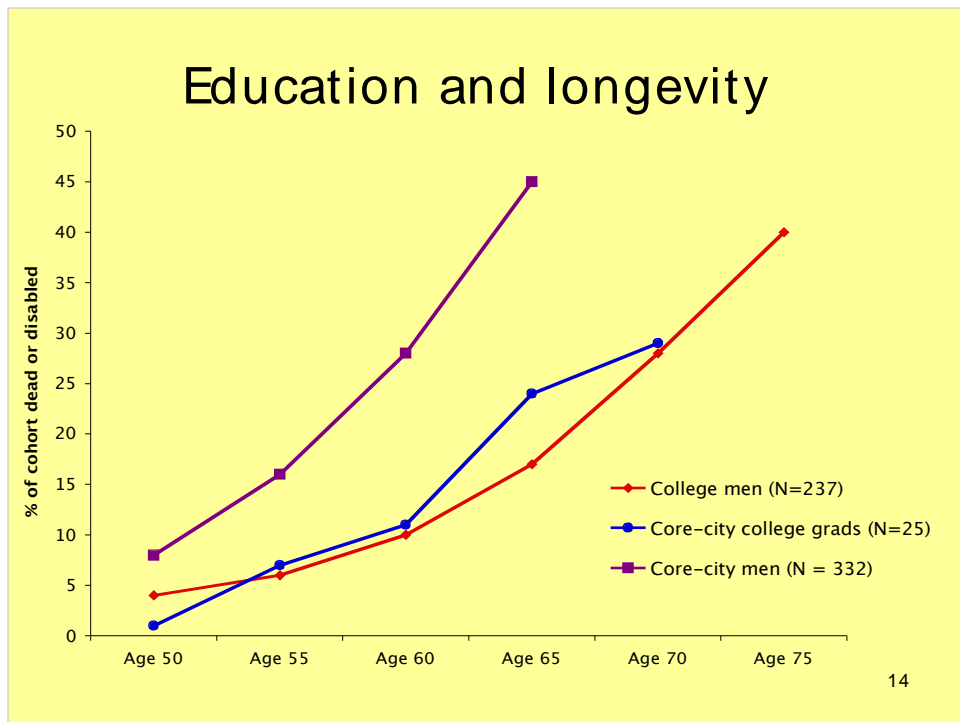


13

Alcohol and smoking take a huge toll on health.

Bottom line: Much more is under our control than we often imagine

Choices we make now may be more important than childhood factors or how long our parents and grandparents lived.



Education is protective

Comparing here the inner city men with the Harvard men

Inner City men die 10 years earlier

This difference largely erased by education

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16

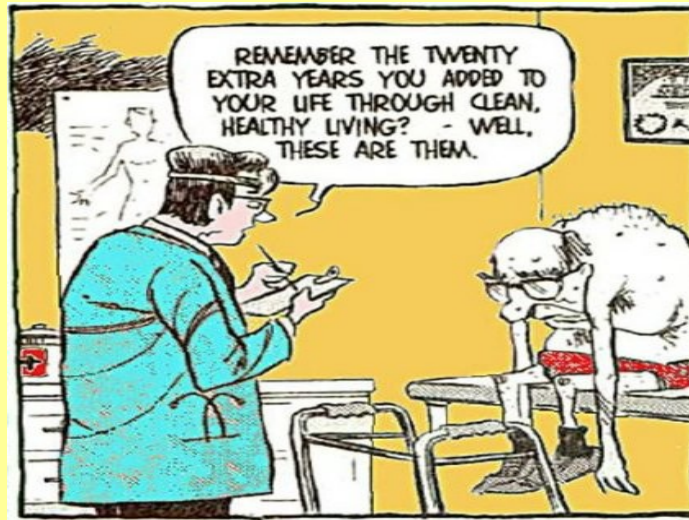
1. "Taking care of my grandchildren and editing the Gray Panthers newsletter take up much of my day."
2. "The play-reading group and bridge are my great passions."
3. "I've given up medicine and taken up painting."
4. "The course on contemporary music made me realize why people like Bartok and Debussy wanted to push the envelope."

Happy retiree:

"Perhaps it is not so important to add up what we are doing as what we are being. I am doing nothing that people can admire, that is, I have no consuming project or single charity that people can point out to illustrate how focused or wonderful I am. I am not accumulating wealth or possessions. What I am doing is probably pretty insignificant. I help cook meals for a city soup kitchen and have volunteered in a local elementary school. I care for my house and yard, walk a good deal, and do some swimming."

The happiest retirees among our group are active in constructing lives that include people, play, creativity, and learning.

Is it all downhill from here?



17

Common assumption that aging = nothing but decline

2 topics here –relationships, and satisfaction with life

Over past 5 years, we've been studying couples –

What happens to intimate relationships?

“I love being married. It’s so great to find that one special person you want to annoy for the rest of your life.”

- Rita Rudner

“If variety is the spice of life, marriage is that big can of leftover Spam.”

- Johnny Carson

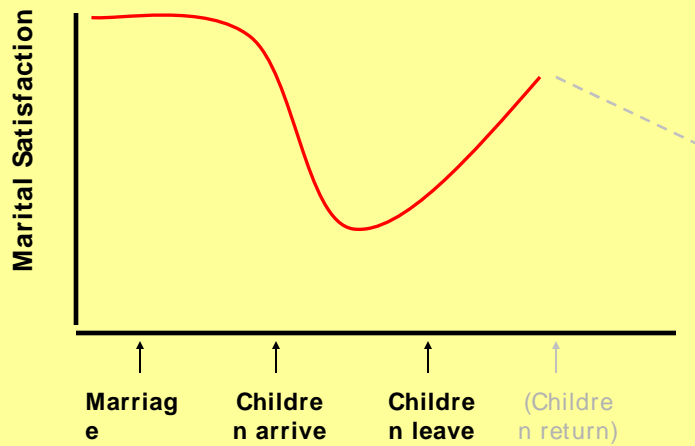
18

Stereotypes of long marriages



Satisfaction was, on the whole, very high.
In part due to survival of happy marriages
But this is corroborated in other research
Sexual relationships still important

Marriage across the lifespan



20

Graph shows good news

Marriage keeps us healthier as we grow older

Objectively

Gender differences?

Happy marriage buffers us from the worst effects of pain and disability on mood

DO YOU HAVE TO BE MARRIED?

Social supports are powerful health promoters

Friends, social groups, volunteering – engagement with others is the key. Study published just this week from HSPH showing social engagement delays decline in memory.

Conversely, loneliness puts us at risk for heart disease, diabetes, dementia, and depression

The awareness that life is short makes us happier

**When we sense that time is limited,
emotional well-being becomes a priority**

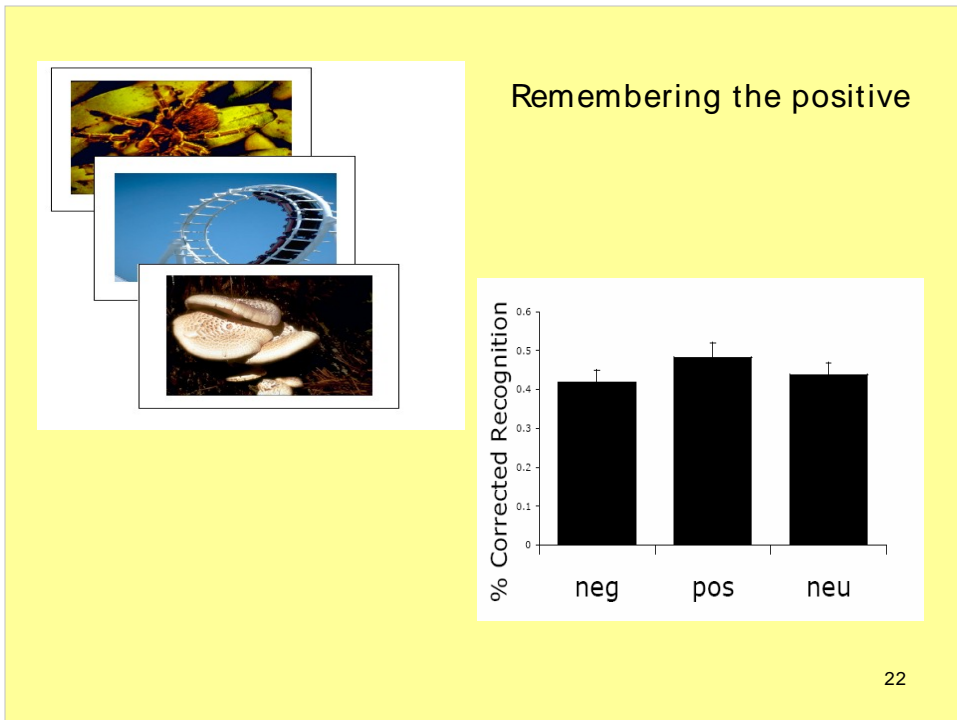
**We get choosier about how and with
whom we spend our time**

**We reconstruct our autobiographical
memories more positively**

**We pay attention to the positive more
than the negative**

21

1. Humans are the only animals that have a sense of the passing of time
2. Awareness of limited time would seem to make us unhappy, but it's just the opposite.
3. SLIDE points
4. Positive emotional experience prioritized over acquiring new skills or resolving conflicts
5. Occurs not just in old age, but among those with terminal illnesses



Memory bias toward emotionally positive information

Our brains function differently in response to emotionally valenced information as we get older

“Discover new vistas, explore the unknown”
“Capture those special moments in life”



23

Emotional tone with which info is presented is important as we get older

2 identical ads for a camera with different tag lines

Different preferences

Difference eliminated if tell older people to imagine they'll live 20 healthy years longer than expect

Can brains that focus more on the positive get us into trouble?



24

New field of neuro- economics of aging

Show, for example, that in reviewing information on health plans with varied features, older people remember the strengths and youngers remember the drawbacks of each plan

Means that regardless of our intelligence, we may be more inclined to ignore the negative and could be more susceptible to scams

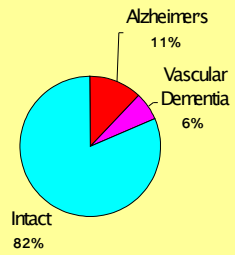
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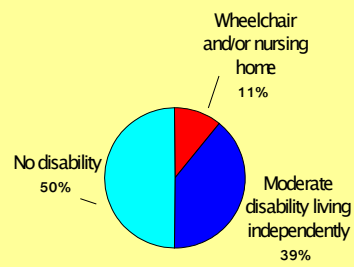
25

If you live long, do you lose your mind and your health?

Cognitive health age 80- 85



Physical health among those who live to age 87



27



So where does that leave us? Isn't this too rosy a picture?

Bette Davis was right: "Old age isn't for sissies."

The physical disabilities, mental decline, loss of loved ones – all are real, and to some extent, depend on luck.

Yet for many of the men in our Study, who are just 3 decades farther down this path than we are, aging has not conformed to their stereotypes of what it means to get old.

One Study member expressed his surprise like this:

"Contrary to all expectations, I seem to grow happier as I grow older. I think that America has been sold on the theory that youth is marvelous, but old age is a terror. On the contrary, it's taken me sixty years to learn how to live reasonably well, to do my work, and cope with my inadequacies... Old age is knowing what I'm doing, the respect of others, . . . and the realization that what I can't beat I can endure"

Gerontologists will tell you that we baby boomers don't believe we are going to get old, so we're not planning for our own aging. Much of this head-in-the-sand posture has to do with fear.

What these fellow alums have shown us is that, yes, there are things to worry about, but that there's more to look forward to in growing older than many of us imagine.

Very few dropouts



Lunch May 2005

Linking psychology and biology

- Genetics – DNA
- Neuropsychological testing
- Neuroimaging
 - Structural
 - Functional
- Brain donation

30

NOW – opportunity for new assessments

Visit homes for 1-2 hour protocol

Ask them to consider coming in for imaging

brain

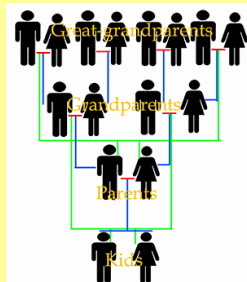
donation

HOPE TO DO 80 IN- HOME VISITS IN EACH COHORT

SMALLER NUMBERS FOR IMAGING, BRAIN DONATION

2nd Generation

- Harvard Men
 - 837 Children
- Inner City Men
 - 1261 Children

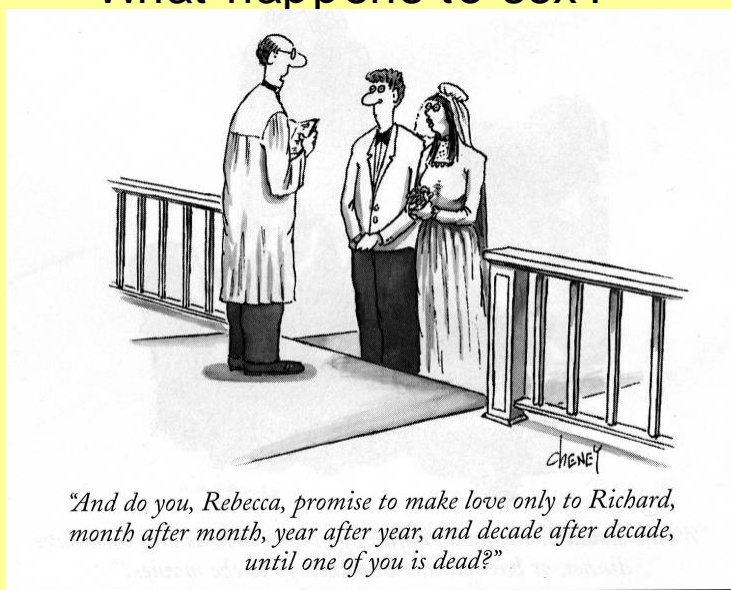


31

Can't visit everyone, but possibilities include:

- Internet
- DNA by mail
- Telephone interviews
- More intensive studies of subsamples

What happens to sex?



32

Sexual activity continues among octogenarians, even after 65 years

(horror of interviewers)