

Socioeconomic Status, Gender and Health



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OCTOBER 23, 2007

Outline



- A few notes about Sex and Gender
- Gender and Socioeconomic Status (SES)
- SES and Health
- Intersections of Gender, SES and Health
- What can we do?

Gender and SES



INCOME AND ROLES

Women earn less than men do.



- 1960: ratio = .6 (31,227:18,947)
- 2006: ratio = .77 (42,261: 32,515)
- More likely to:
 - Be unemployed
 - Work part-time
 - Have lower incomes and more economic hardship
 - Do more unpaid domestic

Women and the Workplace



- Earn less for same work (at all levels), and in many professions gap widens.
- Different types of jobs
- Different access to material goods, social resources, psychological resources
- Different roles at home (more later)

SES and health



**MEASUREMENT, SES AND HEALTH, HEALTH
AND SES, EXPLANATIONS**

Measurement



**COMMONLY USED INDICATORS
DOES THE MEASURE YOU CHOOSE MATTER?
ISSUES AND SOLUTIONS**

Measurement, Part 1:(commonly used indicators)



- Income
- Wealth
- Job position
- Education
- Childhood versus Adulthood SES
- Other measures (e.g. public assistance)
- Subjective Social Status (SSS)
- Interaction between individual and group level variables?

Income vs Wealth



- **Income**
 - How much you make
- **Wealth**
 - Things you have
 - ✦ Car
 - ✦ Home
 - ✦ Assets

Job Position



- Job position
 - Whitehall Studies
 - ✦ Homogenous sample, Nationalized health care
 - ✦ Interesting way to look at gender effects (e.g. women at the top vs. men at the top) → stress?
 - ✦ But, one part of original stratification scheme was based on health
 - Women are categorized into fewer occupational categories than men.
 - ✦ Measurement less precise?
 - ✦ High degrees of socioeconomic heterogeneity within occupational categories for both men and women.

Childhood vs Adulthood SES



- Both adult and childhood SES related to health outcomes.
 - Powerful effects of childhood SES
- May be a synergistic interaction.
- Amount of time at given SES levels?
 - Depends to whom you compare (childhood matches or adult matches)
 - Timing
 - Relationship not always found

Subjective Social Status (SSS)



Think of this ladder as representing where people stand in the United States.

At the **top** of the ladder are the people who are the best off – those who have the most money, the most education and the most respected jobs. At the **bottom** are the people who are the worst off – who have the least money, least education, and the least respected jobs or no job. The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to the people at the very bottom.

Where would you place yourself on this ladder?

Please place a large “X” on the rung where you think you stand at this time in your life, relative to other people in the United States.



Subjective Social Status, cont'd



- Better predictor of health status and decline than “objective” measures?
- May depend on group studied:
 - White and Chinese women vs. African American and Latina women
 - African American women may not use “traditional” measures to rank themselves

Measurement 2: Does the measure you choose matter?



- **Measures are highly correlated, but not identical**
 - Social stratification/ social ordering as the potent factor
 - Depends on group and health issue
 - ✦ Gender
 - ✦ Race
 - ✦ Age
 - ✦ Country
 - Socio-economic indicators may have different meanings for different groups.

Race



- Race and SES confounded and also confounded with many mediating factors.
- Race as proxy for SES in the USA
- Latino health paradox
- Heterogeneity of racial/ethnic subgroups
- Race confers health risk above and beyond SES
 - Within versus between group variance
 - Role of discrimination → stressor
 - African Americans and education vs. income

Measurement 3: Issues and Solutions



- Absence of socioeconomic data in most US public health surveillance systems
- Indirect/ subjective measures of “health”
- Need for more research on:
 - mechanisms,
 - how different dimensions of SES are related,
 - how each impacts different health measures,
 - similarities/ differences between diseases.

Measurement Issues and Solutions, cont'd



- Think about SES while designing study
 - What is your problem? Group? Phenomenon?
 - ✦ Need careful recruitment, sampling
 - ✦ Acknowledge what is unmeasured/ unmeasurable
 - Use more measures and specify what measures are being used.
 - ✦ Multicollinearity

The Influence of SES on Health

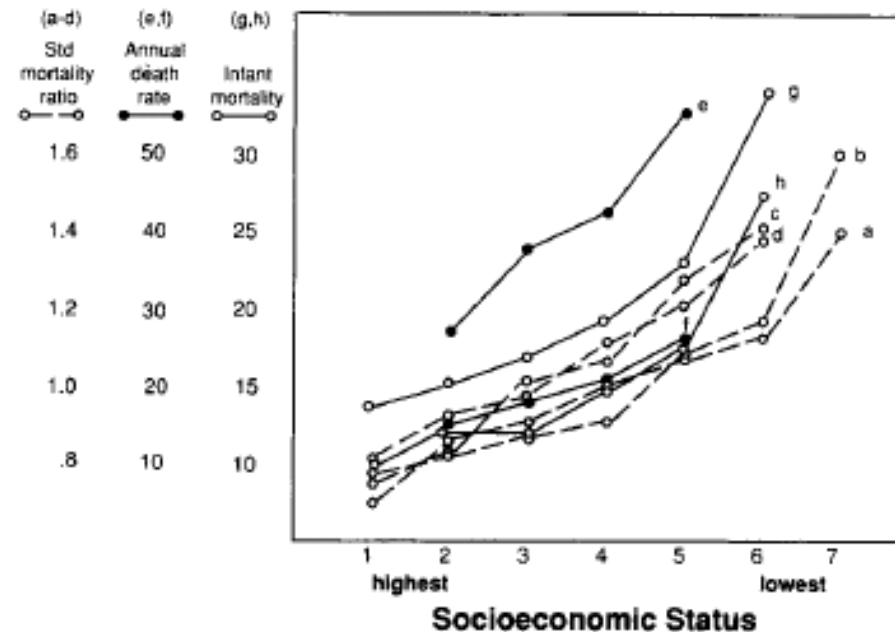


THE GRADIENT
HOW TO EXPLAIN THE GRADIENT

The Gradient: Mortality



Figure 1
Mortality Rate by Socioeconomic Status Level

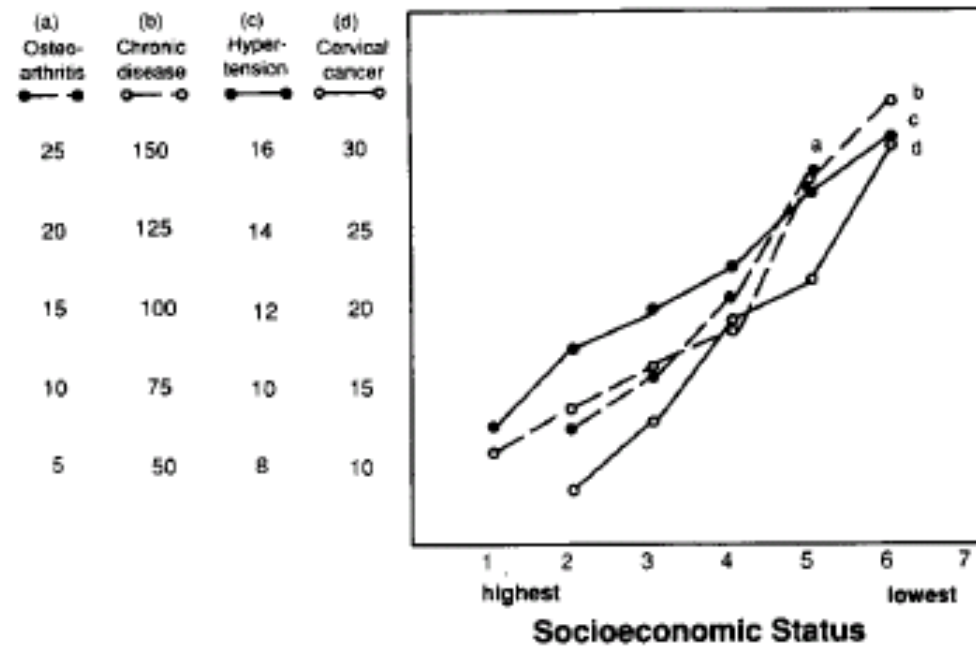


Note. (a) Standardized mortality ratio, observed to expected deaths (SMR) male (Kitagawa & Hauser, 1973). (b) SMR female (Kitagawa & Hauser, 1973). (c) SMR male (Adelstein, 1980). (d) SMR female (Adelstein, 1980). (e) Annual death rate per 1,000 (ADR) male (Feldman, Makuc, Kleinman, & Cornoni-Huntley, 1989). (f) ADR female (Feldman et al., 1989). (g) Infant mortality per 1,000 live births (IM) male (Susser, Watson, & Hopper, 1985). (h) IM female (Susser et al., 1985).

The Gradient: Morbidity



Figure 2
Morbidity Rate by Socioeconomic Status Level



Note. (a) Percent diagnosed osteoarthritis (Cunningham & Kelsey, 1984). (b) Relative prevalence of chronic disease (Townsend, 1974). (c) Prevalence of hypertension (Kraus, Borhani, & Franti, 1980). (d) Rate of cervical cancer per 100,000 (Devesa & Diamond, 1983).

The Gradient



- The gradient
 - ✦ Seen in all industrialized countries
 - Varies by country (distribution of resources).
 - Societies with smaller spread have better health outcomes for all (countries, states, cities).
 - Investment in infrastructure
 - Relative status vs. absolute status
 - Disparities are stressful for everyone
 - Social capital
 - ✦ Seems to be increasing in many of the countries studied.
 - ✦ May not hold in non-industrialized countries.

The Gradient: Seen in many diseases

- **Strong links for:**

- cardiovascular disease
- arthritis
- diabetes
- chronic respiratory diseases
- cervical cancer
- schizophrenia

- substance abuse
- anxiety
- metabolic syndrome
- GI diseases
- birth outcomes
- accidental and violent deaths

The Gradient



- **Exceptions:**
 - Breast cancer
 - Ovarian cancer
 - Skin cancers
 - ✦ Behaviors that differ by SES (delayed child bearing, recreational tanning), melanin.
 - ✦ Incidence vs survival
 - Even controlling for histology/ stage of disease

How to explain the gradient



“There are multiple pathways by which SES determines health; a comprehensive analysis must include macroeconomic contexts and social factors as well as more immediate social environments, individual psychological and behavioral factors, and biological predispositions and processes.”

(Adler and Ostrove 1999)

How to explain the gradient, cont'd



- Health causes SES
- Health behaviors
- Access to health services
- Education.
- Relative versus absolute deprivation.
- Artifacts of measurement?
- Physical and social environment
- Biopsychosocial

Does health influence SES?



- Decline with disease (drift hypothesis)
 - Example: Schizophrenia
 - Definitely true that health can influence SES
 - Not likely to be the major factor
 - ✦ Deteriorating health in older can't cause lower education, etc.
 - ✦ Influence on family members if income determined by income/job of head of household
 - ✦ Retired Individuals/ effects following childhood

Health behaviors



- Harmful behaviors increase as SES and health decrease
 - Smoking
 - Sleep
 - Alcohol
 - Sedentary lifestyle/ High fat diet
 - Decreased adherence to treatment (eliminates some diabetic disparities observed)
 - ✦ Environmental constraints on behavior?
 - ✦ Explains some, but not all

Access to health services



- **Definitely Matters, but...**
 - Countries with universal coverage
 - Gradient as opposed to threshold
 - Exists for diseases that have nothing to do with access/ prevention
 - ✦ juvenile diabetes
 - ✦ rheumatoid arthritis

Physical and Social Environment



- Exposure to different home factors
- Discrimination
- Less social support
- Toxins, pathogens, noise
- Crime, crowding
- Gene x environment
- Environment can shape behavior (more liquor stores, less healthy foods, less green space)

Biopsychosocial Factors

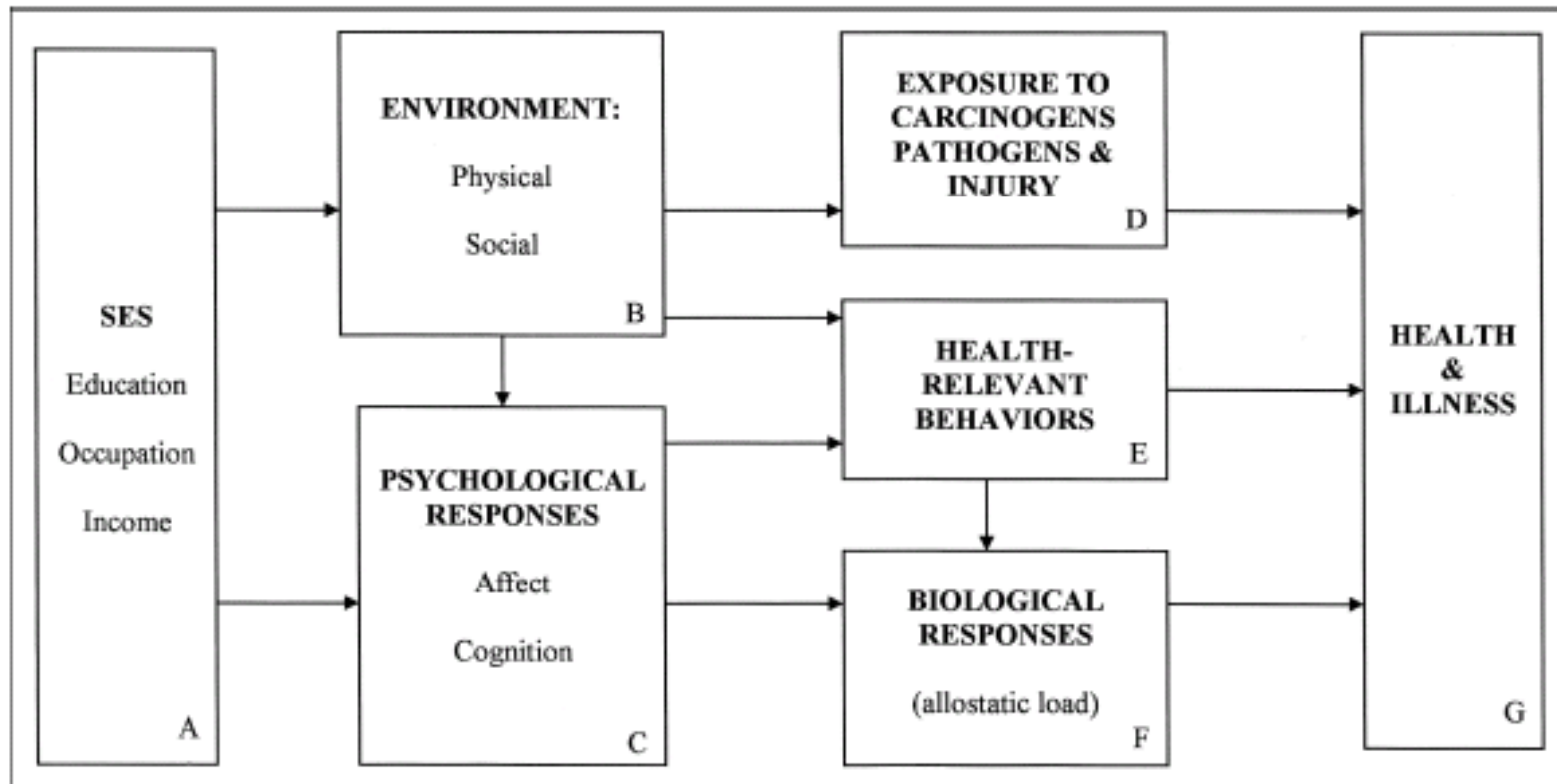


Fig. 1. Simplified model of pathways from socioeconomic status (SES) to health. Modified from Adler and Ostrove (1999).

Biopsychosocial Factors, cont'd



- **Bio-Psychosocial factors**
 - Stress, negative emotions and positive resources
 - Subjective social standing

Why Stress and SES?



- **The poor have:**
 - Highest number of stressors
 - Least social support
 - Psychological Distress: Odds ratio for classes IV and V versus I and II = 3.02, (adjusting for prior psychological distress = 2.36)

Lower SES levels associated with:

- **Lower levels of:**

- control
- self-esteem
- social support
- sense of coherence

- **Higher levels of:**

- anger
- hopelessness
- hostility
- cynicism
- depression
- social distrust
- stress reactivity
- physiological arousal

Positive Resources



- **Control and mastery**
 - Lower SES associated with less perceived control/ fewer opportunities for control
 - Low SES individuals with high perceived control have health outcomes like higher SES individuals
 - Control in workplace especially important
- **Social participation**
- **Social support**
- **Optimism**

The case for stress, cont'd



- Stress explains above and beyond SES
- Strongest gradients → diseases with the greatest sensitivity to stress
 - Heart disease, diabetes, Metabolic syndrome, and psychiatric disorders
 - Controlling for stress and negative emotion, much difference btwn high and low SES attenuated (absolute attenuation higher in lowest SES groups)

Stress and Allostatic Load



- **Allostatic load**
 - Behaviors and psychological coping that is helpful in the short run and damaging in long run
- **Exposure to events & perception that demand exceeds resources.**
 - SES impacts both. Dose response!
 - Exposure = more powerful variable?
- **Interactions between demands, resources and income.**

Stress and Biological Impacts



- Higher SES Associated with:
 - Lower urinary catecholamine levels
 - ✦ proxy for physiologic distress, increase in SNS
 - Cortisol
 - Subjective SES linked to brain volume in pACC (stress reactivity and emotion)

Intersections of Gender, SES and Health



**GENDER AND MORBIDITY AND MORTALITY,
GENDER AND THE GRADIENT**

Gender and morbidity and mortality



- Women live longer than men
 - Now, in industrial nations
 - ✦ Not historically or cross-culturally constant
 - ✦ Which groups are we talking about?
- Women have more morbidity and higher health care utilization in many studies
- Morbidity explained by different conditions, mortality by severity.
 - Implications for future, given smoking patterns?

Do SES inequities vary by gender?



- For which group (e.g. by age, disease/ health outcome of interest and measure used)?
 - See measurement section.
 - ✦ Example) risk factors for heart attack
 - Men report better health than women, but the gap closes with age.
 - May only apply to married people.

Do SES inequalities vary by gender?



- Gradient (measured by occupation) stronger for men's self reported health than women's
 - Bottom tier: Top tier = 2.7 for men and 2.2 for women
 - Men steeper gradient for accidents and violence
 - Women steeper for circulatory diseases
 - Other diseases tends to be similar, and may average to be similar due to reverse gradient in breast cancer (causes of death contributing to slope of gradient vary by gender)

Why the differences in relationship between SES and health between genders?



- See factors contributing to SES gradient
- Structural Issues
- Self-perception
- Partner Issues
- Other explanations

Structural Issues



- Working conditions
- Position in company
- Gender composition of workplace
- Gender inequality in paid and unpaid work and the subjective experience of inequality disadvantage women
 - lifestyle disadvantages men.

Structural Issues, cont'd



- Social structures important for everyone, but more important for women
 - Canadian study
 - ✦ Social structures mattered more in determining women's health than for men.
 - ✦ For men, health behaviors (alcohol, tobacco) more important than for women.
- For women, depends on many factors, including marital status and whether in work force (more soon).
- Power in relationships?

Partner Interactions



- Women's behaviors (exercise) influenced more by partner's social position than males (but equal for diet).
- Married men with women in high status job had more distress, reverse for women.
- Role of unemployment
 - Male unemployment vs female unemployment (roles)

Self-Perception



- Meaning of SES indicators and family roles may vary by gender
- Sex vs gender, sex-role orientation (high level of masculinity in one's self concept associated with more favorable health outcomes in both men and women)
- Sense of control

Other Explanations



- Reporting behavior
- Different causes of death
- Different access to or willingness to use health care
- Different access to resources (economic, material, social support)
- Different stressors
- Different targets for advertising
- Different amounts of the variance and multicollinearity explained depending on gender.
- Different exposure to adverse conditions
- Biological vulnerability to environmental conditions/
threats
 - ✦ Women may be biologically heartier (lower female death rate before birth).

Do gender differences in health vary by SES?



- The nature and size of the gender differences varied by socioeconomic class, with the greatest gap among people in class 1 (higher managerial and professional occupations), where the rate for women was 25% higher than for men. (Drever, Doran et al. 2004)
- Three-way interaction analyses found strong gender effect for poor and working-class groups, for all race/ethnicity strata but Whites. Black poor yielded the strongest gender effect of all (up to nine-fold). (Almeida-Filho, Lessa et al. 2004)

What you can do



YOU AS A CITIZEN, YOU AS A RESEARCHER

You as a citizen



- Become informed about how policy decisions are made
 - Economic costing
 - ✦ Cost of illness analyses
 - ✦ Cost benefit analysis
- Advocate policies that:
 - Improve education
 - Create equity in employment
 - Equalize income
 - Create “behavioral justice”
 - Lorraine (does this pertain to me?)

You as a researcher



- **Incorporate these issues into your research**
 - To whom does your research generalize?
 - Can't think of SES as operating solely as a main effect: income, education, occupation shape life course, physical environment, social environment, experiences, affect, cognition, mood, health behaviors.

Exercise



1. List two topics of current or future research interest
2. List any effects that you know of by gender, as well as one question or hypothesis about effects of gender on the phenomenon
3. List any effects you know of by SES, as well as one question or hypothesis about effects of SES on the phenomenon
4. List any effects you know about the intersection between the two, as well as one question about intersections between gender and SES as they might pertain to your phenomenon

Thanks!



- Lily Falk
- Ann Pederson
- Lorraine Greaves
- Gio Guzzi
- Natasha Jategaonkar
- Annette
- Cleo