

Sex differences in the risk of death by physical functioning and health behaviors

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Background

- Large body of literature showing important SES differences in mortality in the U.S.
- Recent evidence shows that educational differences in mortality have increased in recent years for both men and women due to greater mortality declines among the higher educated men, and diverging trends between higher educated and less educated women (Montez et al 2011).

Research questions

- How does physical functioning relates to mortality and length of life by socioeconomic status?
- How does smoking status associates to mortality and length of life by socioeconomic status?

Data

- National Health Interview Survey (NHIS)
 - 1990-1991
 - Health Promotion and Disease Prevention Supplement
 - 16,529 adults aged 65 years and older
- Mortality follow-up through Dec. 2006
 - 11,138 deaths

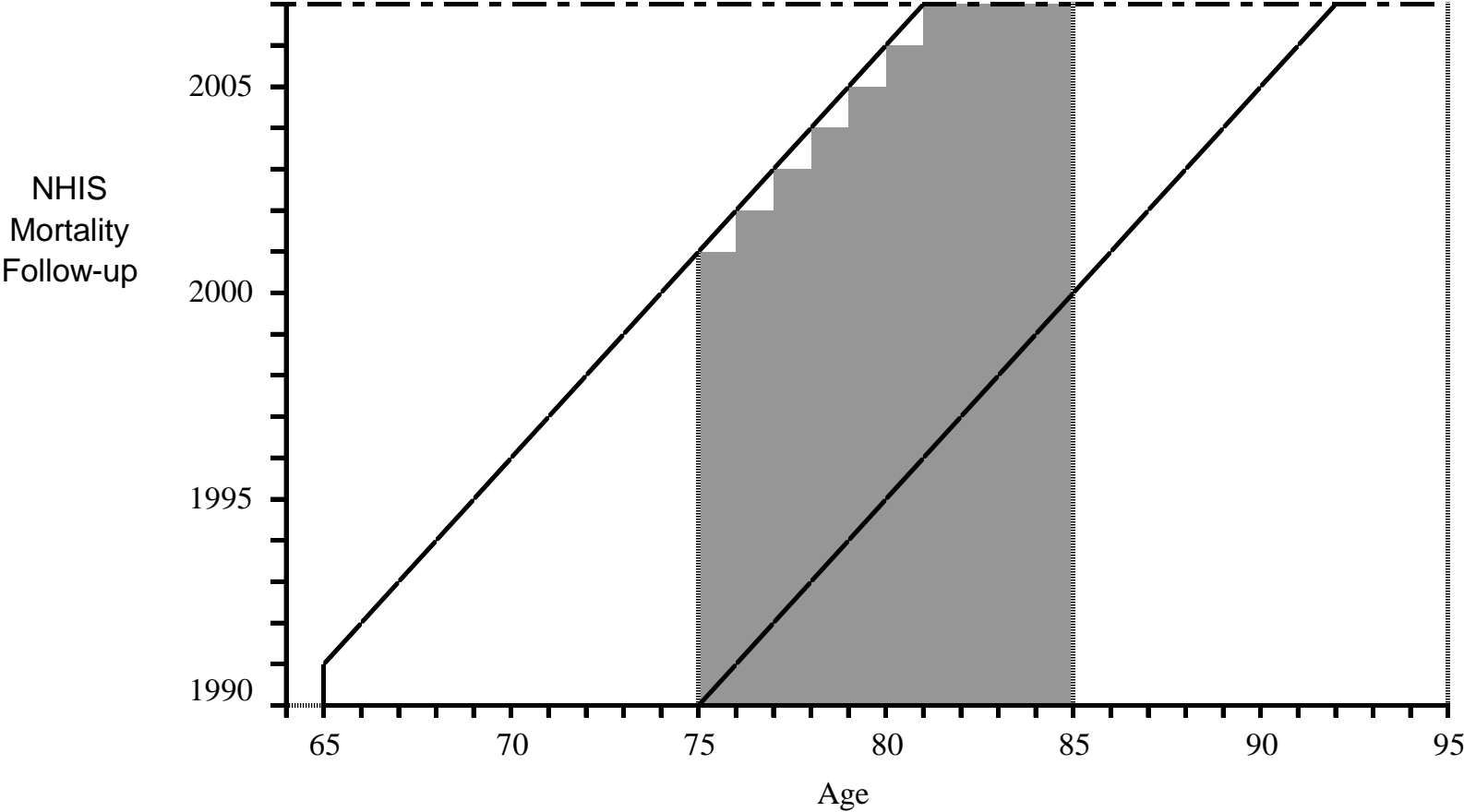
Measures

- Activity limitation: Coded yes if unable to perform or limited in major activity, and if limited in other activities
- Education (3 categories): less than high school (<12 years), high school (12 years), and college or more (13+ years)
- Smoking: Never smoked, Former smoker, current smoker

Methods

- Step 1: Use a Poisson log-linear model (proportional hazard model) to estimate the hazard of death.
 - Step 2: Construct life tables by socioeconomic and behavioral variables.
- Focus on the Non-Hispanic White population

Design



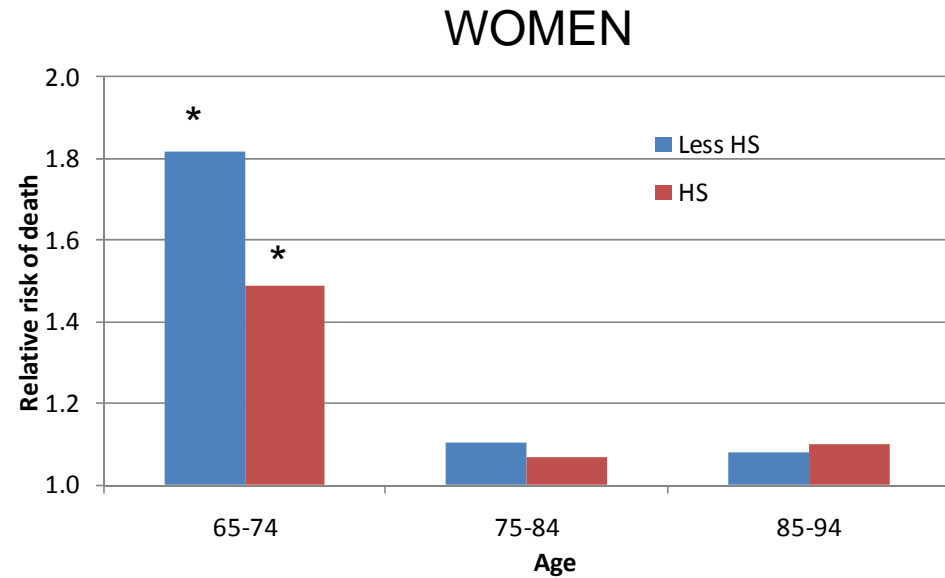
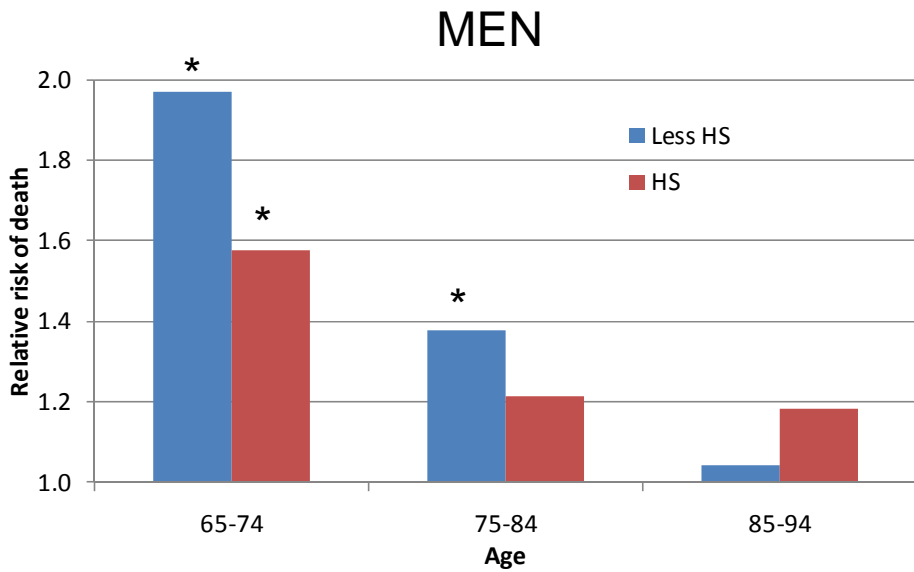
Deaths and Person-Years by Sex

Age	Men		Women	
	Deaths	Person-ys	Deaths	Person-ys
65-74	507	15,038	484	23,734
75-84	1,744	22,768	2,310	43,622
85-94	1,233	6,378	2,540	18,334

Results

Step 1: relative risk of death.

Estimated relative risk of death ref=College+



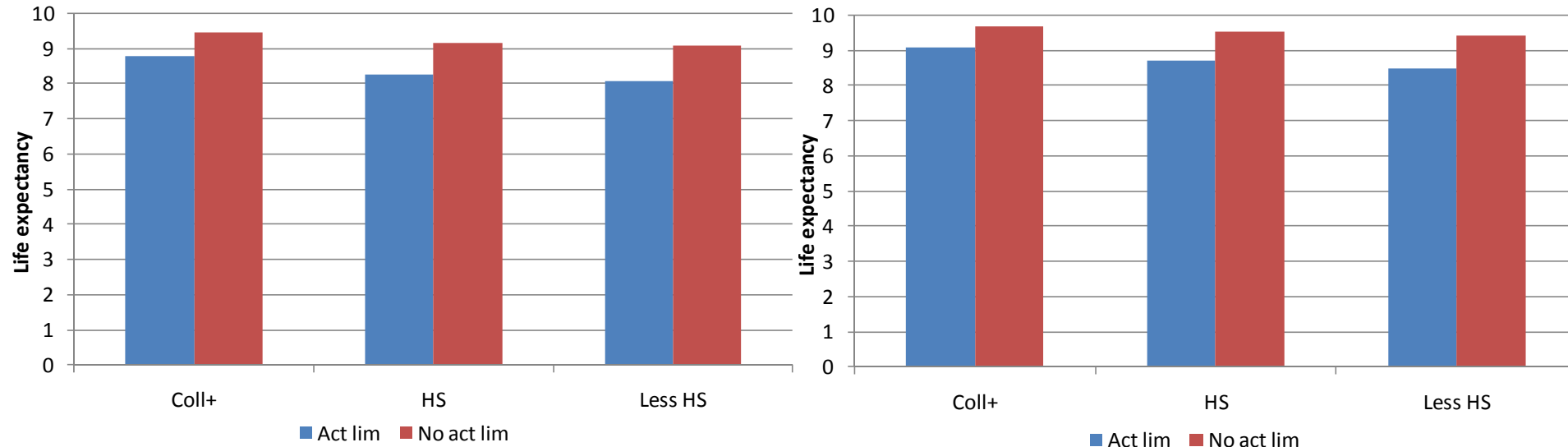
Results

Step 2: Life expectancy estimates

Temporary Life Expectancy between ages 65-74 by Level of Education and Activity Limitation

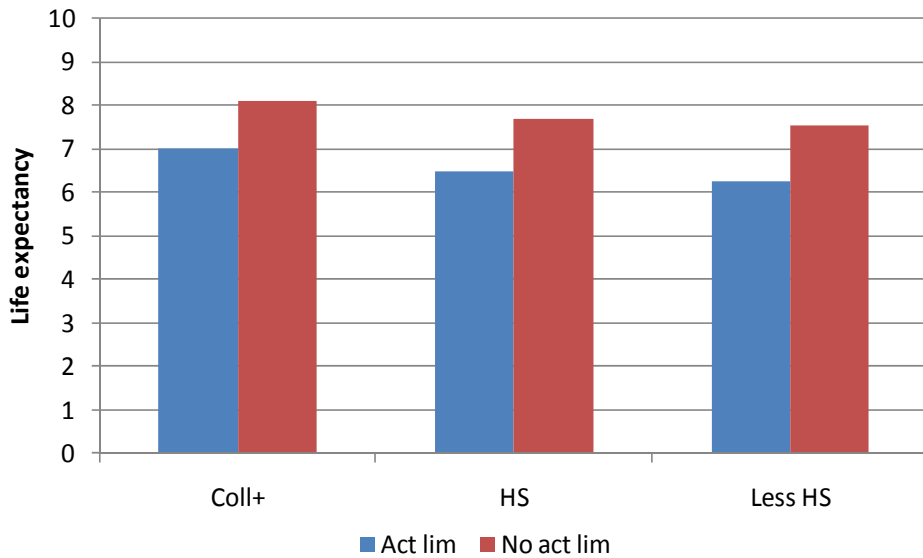
MEN

WOMEN

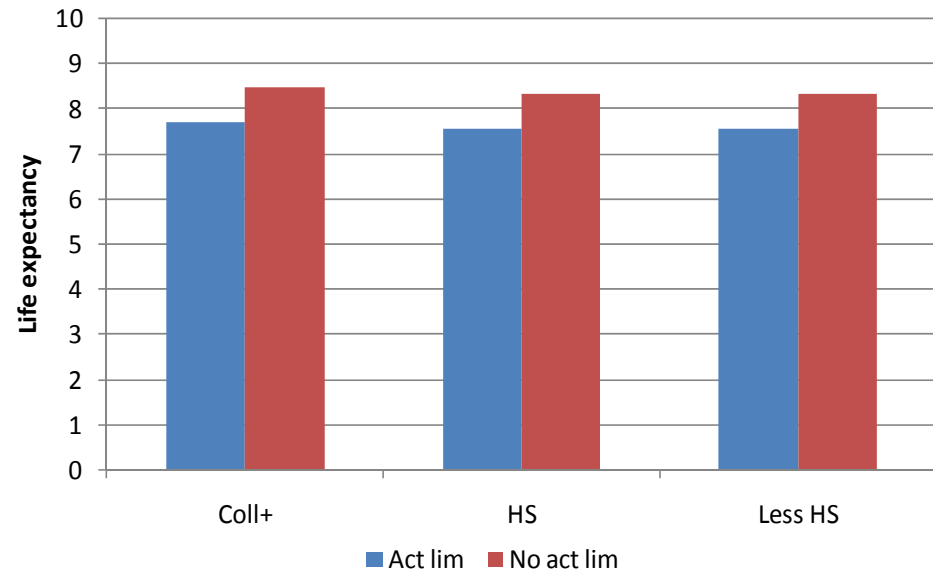


Temporary Life Expectancy between ages 75-84 by Level of Education and Activity Limitation

MEN



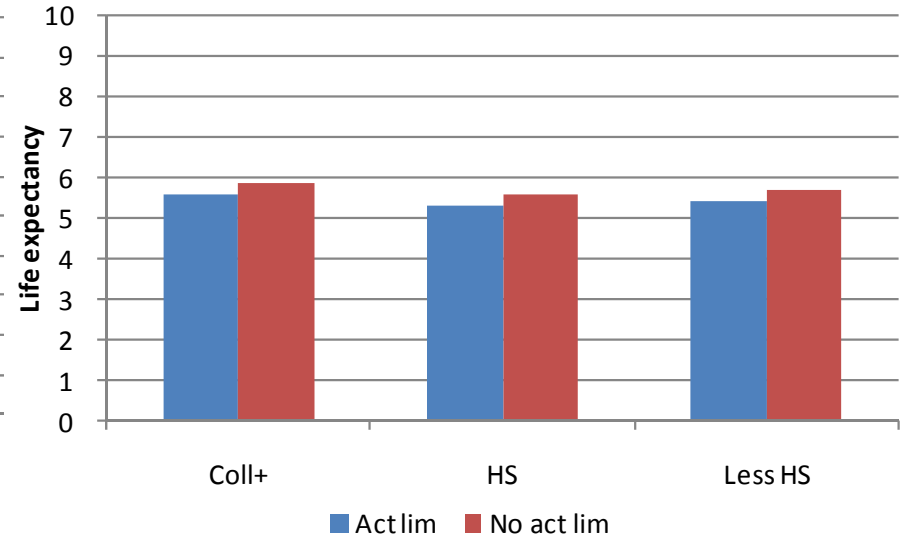
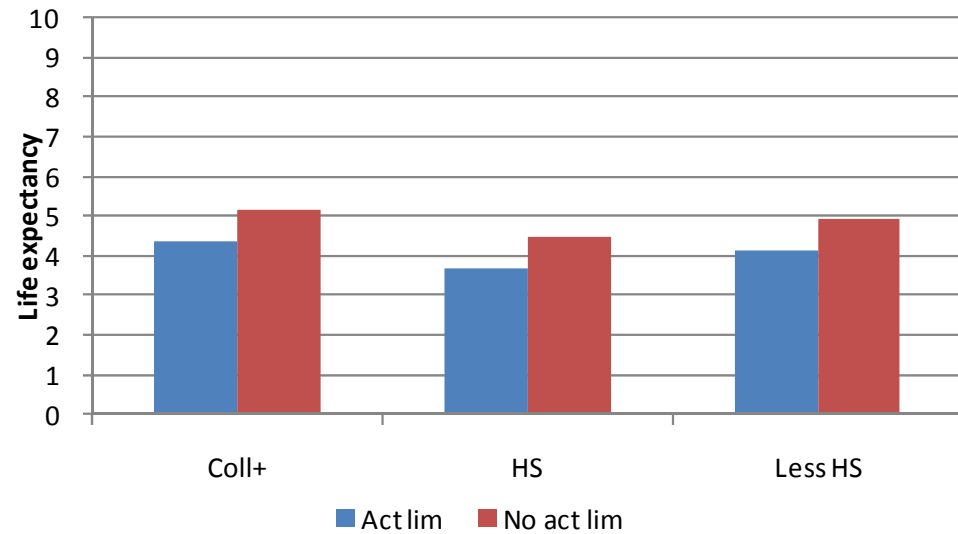
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Temporary Life Expectancy between ages 85-94 by Level of Education and Activity Limitation

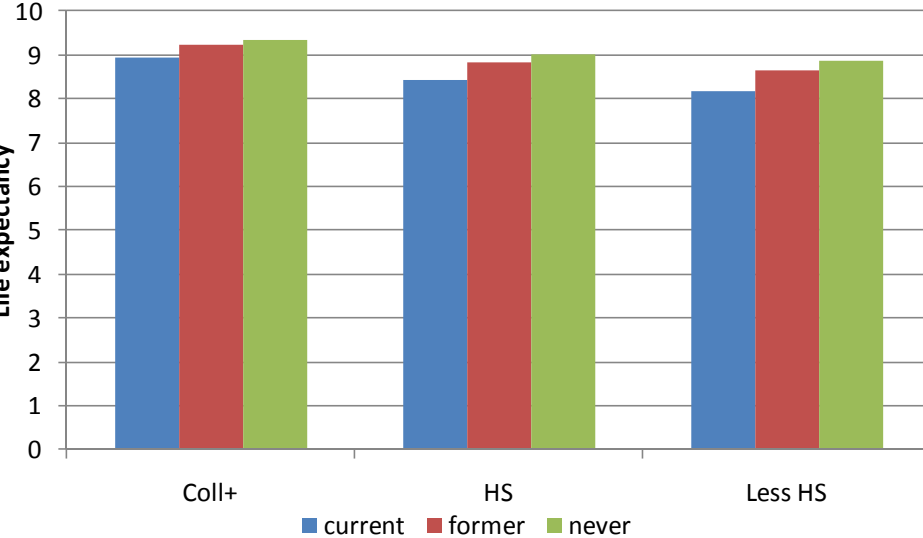
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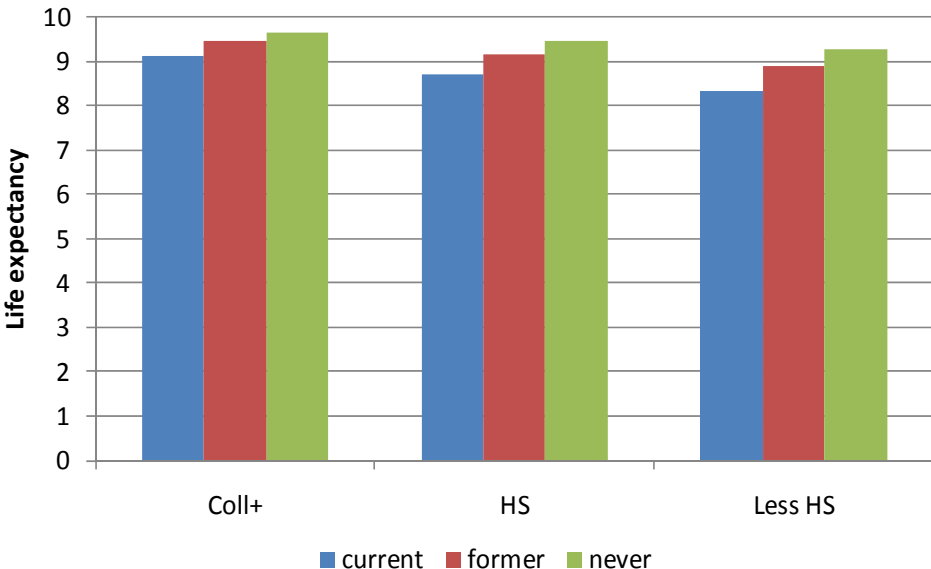


Temporary Life Expectancy between ages 65-74 by Level of Education and Smoking

MEN

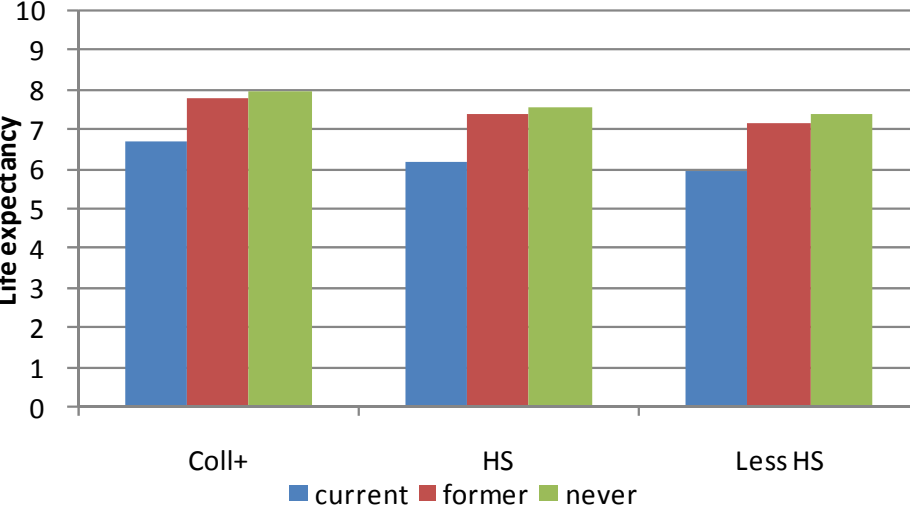


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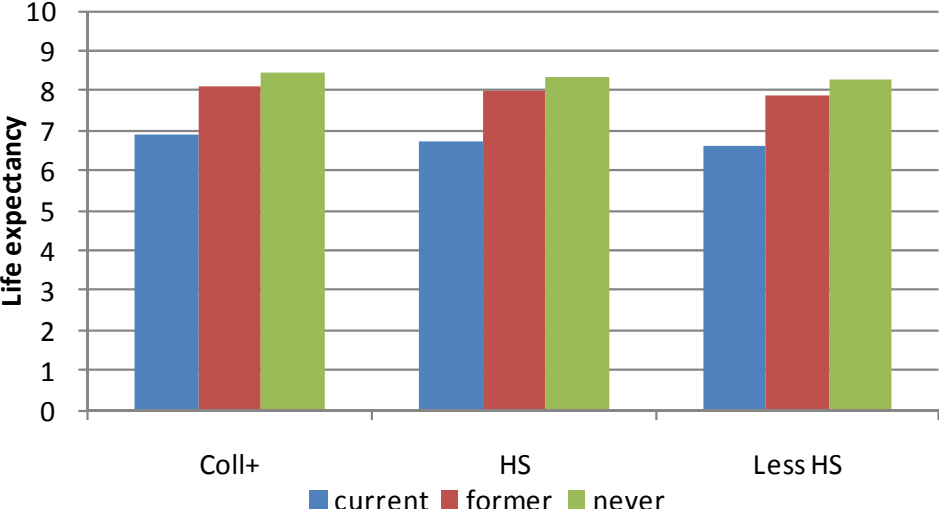


Temporary Life Expectancy between ages 75-84 by Level of Education and Smoking

MEN

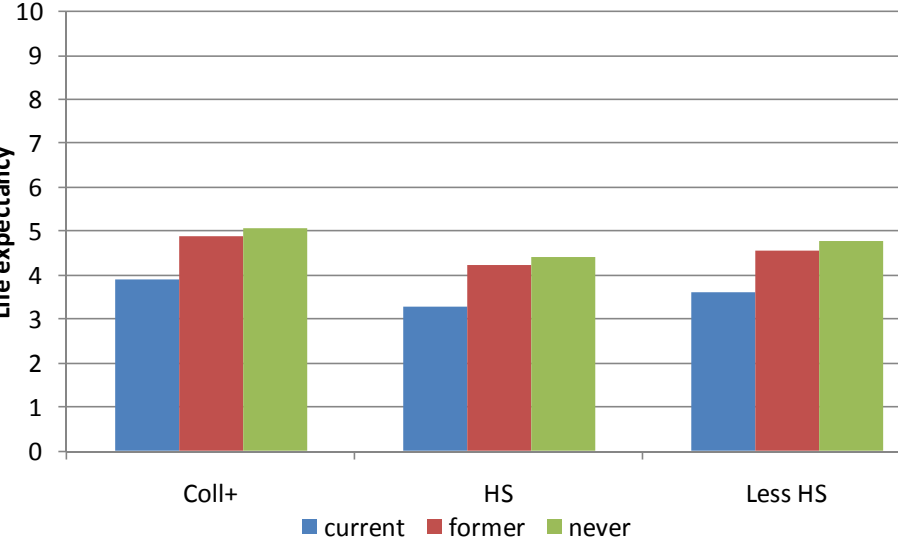


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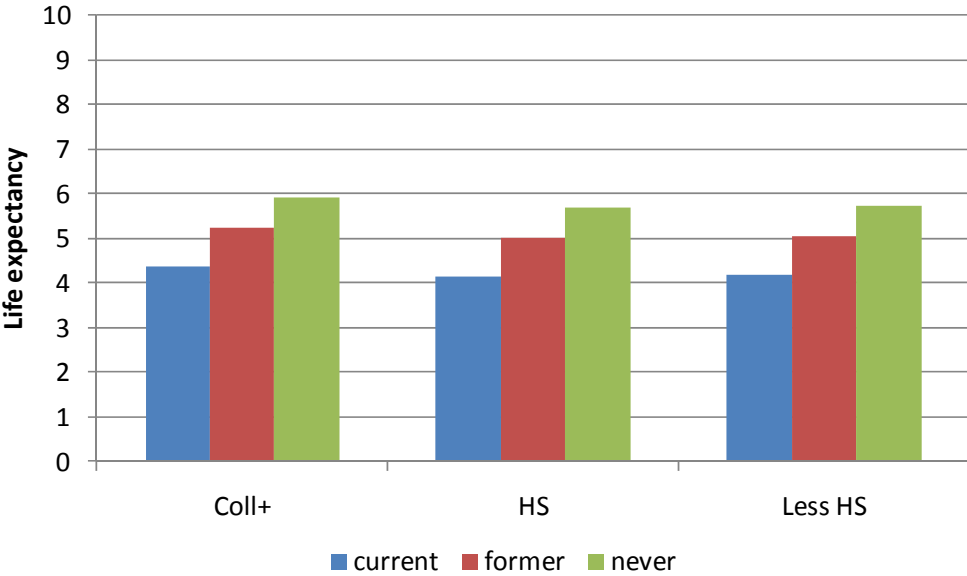


Temporary Life Expectancy between ages 85-94 by Level of Education and Smoking

MEN



WOMEN



Conclusion

Having an activity limitation associates with a larger life expectancy gap among the less educated men at all ages

For women, the pattern is less pronounced at older ages.

Smoking exacerbates the life expectancy gap at older ages, particularly among women