Unmet expectations about retirement and depression in late life:
Differences by gender, race/ethnicity, education, and birth cohort

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Abstract:

The 2008 Great Recession affected American's retirement timing, but it remains unclear how unfulfilled expectations about retirement timing influence psychological well-being. This study examines how unmet expectations about working at age 62 relate to subsequent depressive symptoms. We use longitudinal data from 10,557 adults ages 51+ in the Health and Retirement Study (1994-2014). Expected probability and the association between expectations and reality were significantly lower for racial minorities compared to whites, low education compared to high, and pre-baby-boomers compared to baby-boomers. Those who were unexpectedly not working experienced significantly higher depressive symptoms compared to those who correctly expected to be retired (Unsure: IRR=1.16 p=0.024, Very likely: IRR=1.19, p=0.010). This association was slightly attenuated after adjusting for declines in functioning and was larger in men than women. Our findings indicate that unexpected continued employment does not harm psychological well-being, but earlier than expected retirement may result in higher depressive symptoms.

Background

Retirement is a key life transition that is often planned and expected for decades before its arrival. There is strong evidence that illness can lead to early retirement,[1,2] but there is minimal research and mixed evidence regarding how retirement timing affects health and well-being.[3,4] It is possible that retirement improves health via increased leisure time for healthy behaviors like smoking cessation and exercise.[1] Retirement has also been associated with positive mental health, especially for those with high social status.[5] However, retirement can be associated with depression when the transition involves stressful events such as job loss.[3,6] It remains unknown whether the mental health effect of retirement depends on whether an individual retired earlier or later than intended compared to those who retire when planned.

The effects of retirement timing are important because wealth loss during the 2008 Great Recession resulted in higher expected retirement age of those able to remain employed,[7] as well as increased reported probability of working at age 62.[8] At the same time, unemployment resulting from the recession increased the flow into partial and full retirement.[9,10] Potentially related to these shifts in retirement, a study in New Jersey showed that the recession resulted in increased depression in older adults, with incident depression more common in those who experienced job loss, major illness, caregiving, and ill family members.[11] However, an analysis using national data from the Health and Retirement Study found that losses of wealth during the 2008 recession were not associated with increased depression symptoms.[12]

There is reason to believe that unmet expectations about retirement could be harmful to mental health. Life course evidence on the effects of off-time events shows that achieving lower than expected education levels, unexpectedly becoming a parent, and unexpectedly being out of work at ages 19–27 resulted in higher depressive symptoms at ages 29–37.[13] In a sense, unmet expectations about major life events and transitions may be considered a large stressor, thus predicting poor mental health. Looking later in the lifecourse, life satisfaction was lower for those whose expectations about whether or not they could retire by age 62 were not met.[14] Currently, it is not known whether unmet expectations about retirement increase depression independent from losses in wealth and employment.

Though often preventable and treatable, depression is one of the most common causes of emotional suffering and poor quality of life in older adults.[15] Late life depression has considerable implication for increased hospital visits and outpatient medical services utilization,[17] as well as significantly more caregiving need.[18] Depression can also drive population trends in morbidity and mortality. A rare recent uptick in mortality among middle-aged whites with low educational attainment was attributed to "diseases of despair" such as drug overdose and suicide.[19,20] This increased despair coincided with the Great Recession's financial losses and with social changes that threatened perceived stability.[19,20] More work remains in linking the macro level association between economic change and increased diseases of despair with the individual-level association between economic/social hardship and depression. It is not well understood why the increase in mortality was experienced only by low educated whites. Some studies show blacks to have lower rates of lifetime major depressive episodes than whites,[21] despite increased exposure to psychosocial stressors correlated with depression.[22,23] These racial differences in mental health may be due to white's unmet expectations for success and unhealthy responses to setbacks.[24]

In this study, we ask – have there been more unmet expectations about retirement in cohorts that retired around the recession compared to their predecessors? Are unmet expectations about retirement associated with subsequent depression? Is the relationship between unmet expectations and depression consistent across gender, race, and education level? Our hypothesis is that baby boomers will experience more unmet expectations about retirement than their predecessors, and unmet expectations will predict higher depressive symptoms. Based on prior findings about the racial paradox in depression[21,25] and increased diseases of despair for whites,[19,20] we hypothesize that unmet expectations will be more strongly associated with depressive symptoms in non-Hispanic whites than in non-Hispanic blacks.

Methods

Our data came from the Health and Retirement Study (HRS), an on-going nationally representative longitudinal survey of U.S. men and women aged 51 and older who were not institutionalized at baseline.[26] We included all respondents who reported (between ages 51 and 61) an expected probability of working full time at age 62, reported labor force status at age 62, and were non-missing for depressive symptoms and covariates. These criteria resulted in a sample of 10,557 respondents. The data were weighted to adjust for complex sampling and better represent the U.S. general population over age 51. The average age of reported expectations was about 55 years old. About 51% of the weighted sample was female, 80% of the sample was non-Hispanic White, and 50% had a high school education or less. About 23% of the sample was from the baby boomer birth cohort, born between 1948 and 1960, with the remaining 77% (pre-baby boomers) born before 1947.

We constructed an indicator for unmet expectations about retirement by comparing the year that respondents first stated they planned to retire with the year of complete retirement, resulting in the following categories: retired in correct year, retired in earlier year, retired in later year, and working past planned retirement year (but have not yet retired). Additional analyses will examine those who retired though they thought they never would. As shown by the vertical line in Figure 1, mean expected probability of working full time at age 62 (ranging 0-100) was 40.5 (SD=54.65). We created quartiles: no chance (0 probability, 35% of sample), unlikely (1-30, 16%), unsure (33-80, 28%), and very likely (85-100, 21%).

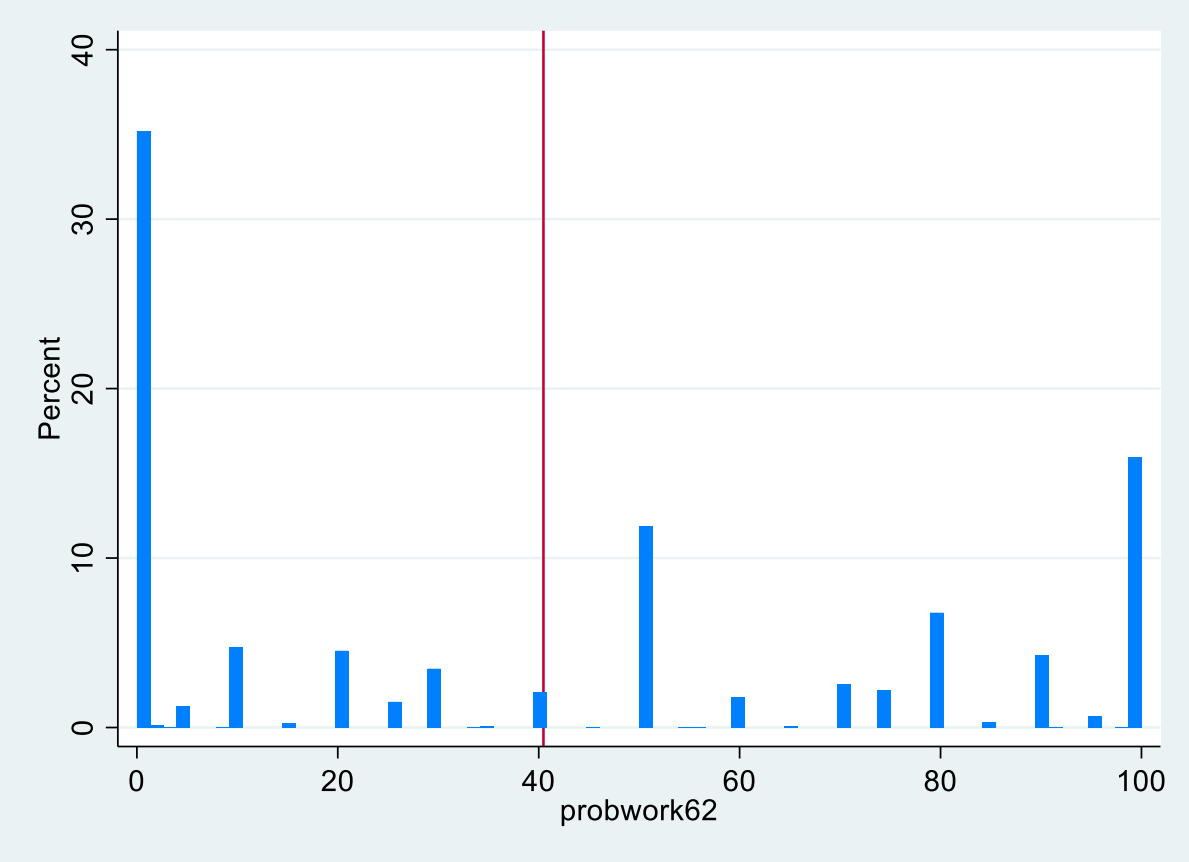
Actual labor force status came from the first wave at or after reaching age 62. This variable was dichotomized to those working full time or not (retired, unemployed, disabled, or out of labor force). Those working part time were not included in our main analysis.

The outcome used the 8-item Center for Epidemiologic Studies Depression scale (CESD), which is a common depression measure in older adults.[28–30] A longer form has been validated against diagnostic interviews in adults ages 50 and older.[29] Depressive symptoms ranged from zero to eight for those who responded to at least five of the CESD items. Depressive symptoms were measured at time that expectations were reported so that we could adjust for history of depressive symptoms. The outcome depressive symptom count came from the first wave at or after reaching age 62 – the wave when labor force status is reported and compared to expectations.

In the statistical analysis, we first examined sociodemographic differences in expectations of working full time at age 62. Attention to differences between birth cohorts that

retired before and after the recession identified trends over time. We then tested the association between expectations and actual labor force status, interacting sociodemographic factors to determine if unmet expectations might be more common in certain groups. We stratified by labor force status to test how expectations related to depressive symptoms at 62. These negative binomial models were adjusted for age at expectation, gender, education, race/ethnicity, birth cohort, and depressive symptoms at expectations. We then adjusted for declines in functioning to test for medication by health status. Finally, we tested for sociodemographic interactions with expectations.

Figure 1: Expected probabilities of working full time at age 62

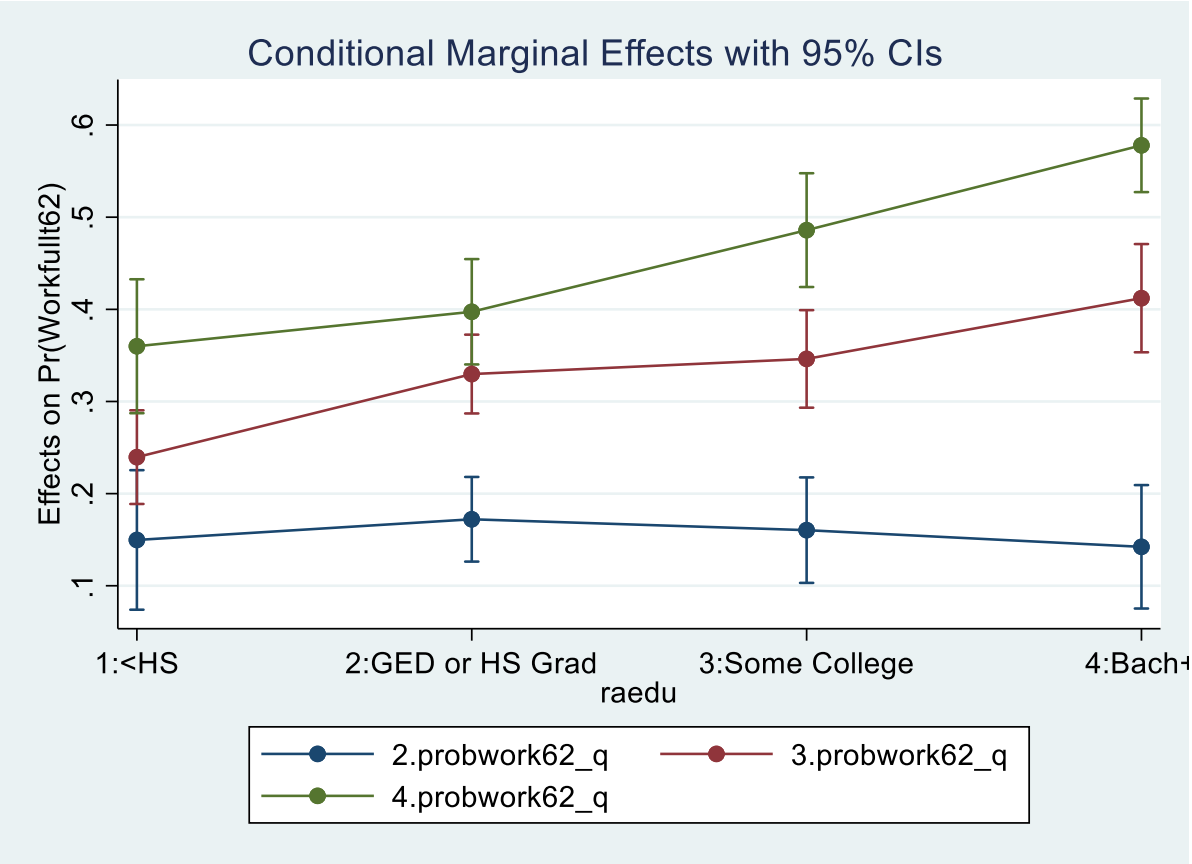


Preliminary Findings

Expectations about working full time at age 62 were higher in men (47%) than women (34%). Expectations were also higher in whites compared to blacks, Hispanics, and other races, higher among those with more education compared to less, and higher in baby boomers (44%) than pre-baby boomers (39%). Expectations were highly associated with actual labor force status. For example, those in Quartile 4 who thought it was very likely (85-100%) that they would be working at age 63 have 11.72 higher odds of working at age 62 compared to those in Quartile 1 who thought there was no chance that they would be working ($p<0.0001$). This association was weaker for blacks and Hispanics compared to whites, low compared to high educational attainment, pre-baby-boomer cohorts compared to baby boomers, and those who

made expectations closer to age 51 compare to 61. Differences by education are depicted in Figure 2. There was no difference by gender.

Figure 2: Marginal effect of expectations on reality differs by educational attainment



Models predicting depressive symptoms revealed that those who were working at age 62 but expected to be retired did not experience elevated depressive symptoms compared to those who correctly expected to be working (Global F test for expectation quartiles, df=3,56, F=1.61, p=0.1970). In contrast, those who were unexpectedly not working experienced significantly higher depressive symptoms compared to those who correctly expected to be retired (Unsure: IRR=1.16 p=0.024, Very likely: IRR=1.19, p=0.010). This association was slightly attenuated after adjusting for declines in functioning (IRR=0.15 and 0.17 respectively), suggesting partial, but not complete, mediation by health status. The association was consistent by race, education, and birth cohort, but was larger in men than women (F(3,54)=7.94,p=0.0002).

We ran a series of robustness tests to check how certain analysis decisions affected our results. For example, using continuous expected probability rather than quartiles results in consistent findings – among those not working, every 10% increase in expected probability associated with 1.02 times higher high depressive symptoms (p=0.003).

Conclusions

Expectations about retirement timing and whether reality matches expectations are both socially patterned in society. Unmet expectations about retirement are more common among those with low educations and racial minorities. Adjusted models revealed no relationship between expectations and depressive symptoms in those working full time at age 62, indicating that unexpectedly long employment does not have detrimental effects of psychological well-being. However, not working when one thought they might be working was significantly associated with higher depressive symptoms at 62. This association was modified by gender, potentially due to increased salience of employment roles to the identity for older men compared to women.

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