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Johnston, D. W., and W. S. Lee. 2009. "Retiring to the Good Life? The Short-Term Effects of Retirement on Health." *Economics Letters* 103 (1): 8–11.
Lee, J. 2007. "Harmonization of Ageing Surveys and Cross-national Studies of Ageing." Report, Behavioral and Social Research Program, National Institute on Aging. http://www.nia.nih.gov/sites/default/files/meeting-report_5.pdf.
Lee, J., and J. Smith. 2009. "Work, Retirement, and Depression." *Journal of Population and Aging* 2:57–71.
Lucas, R. E., A. E. Clark, Y. Georgellis, and E. Diener. 2004. "Unemployment Alters the Setpoint for Life Satisfaction." *Psychological Science* 15 (1): 8–13.
Mein, G., P. Martikainen, H. Hemingway, S. Stansfeld, and M. Marmot. 2003. "Is Retirement Good or Bad for Mental and Physical Health Functioning? Whitehall II Longitudinal Study of Civil Servants." *Journal of Epidemiology and Community Health* 57 (1): 46–49.
Mundlak, Y. 1978. "On the Pooling of Time Series and Cross Section Data." *Econometrica* 46:69–85.
Okasanen, T., J. Vahtera, H. Westerlund, J. Pentti, N. Sjösten, M. Virtanen, I. Kawachi, and M. Kivimäki. 2011. "Is Retirement Beneficial for Mental Health? Antidepressant Use before and after Retirement." *Epidemiology* 22 (4): 560–62.
Pinquart, M., and I. Schindle. 2007. "Changes of Life Satisfaction in the Transition to Retirement: A Latent-Class Approach." *Psychology and Aging* 22 (3): 442–55.
Salokangas, R. K., and M. Joukamaa. 1991. "Physical and Mental Health Changes in Retirement Age." *Psychotherapy and Phychosomatics* 55 (2–4): 100–07.
Szinovacz, M. E., and A. Davey. 2004. "Retirement Transitions and Spouse Disability: Effects on Depressive Symptoms." *Journal of Gerontology B: Psychology* 59 (6): S333–42.
van Landeghem, B. 2012. "A Test for the Convexity of Human Well-Being over the Life Cycle: Longitudinal Evidence from a 20-Year Panel." *Journal of Economic Behavior and Organization* 81 (2): 571–82.
Winkelmann, L., and R. Winkelmann. 1998. "Why are the Unemployed So Unhappy? Evidence from Panel Data." *Economica* 65:1–15.

Comment Anne Case

This is an interesting chapter on an important topic. At a fundamental level, the question of whether retirement makes people happy (or, more specifically here, increases their reported life satisfaction) would appear to be unanswerable with observational data, and is much like trying to quantify whether having children makes one happy. If people who want children have children, and those who do not choose away from parenthood, then in expectation people in both groups are happier than they would be in the alternative state. And so it should be with respect to retirement.

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But working people reflecting on retirement may have a difficult time forming expectations: they face a multidimensional problem, one in which information gaps and uncertainty about future states of the world can leave decision making overwhelming. For many people, work is an important component in self-definition, and an important pillar in self-worth. They may have little idea how they will define themselves after retirement. Individuals may not know (or it may be unknowable) how days and social interactions will be structured; how health will evolve, and the speed at which it will decline; and whether savings will be adequate to buffer themselves, and possibly their children and grandchildren, in later years. Many ordinary least squares estimates of the impact of retirement on well-being implicitly assume people stumble into retirement (or not), perhaps for some of the reasons stated above, and in this way sidestep the issue of the joint endogeneity of life satisfaction and retirement.

To overcome obstacles caused by the joint determination of income, life satisfaction, and the decision to retire, Fonseca et al. develop and estimate a simultaneous equation system in which retirement, income, and life satisfaction are jointly determined. To identify the impact of retirement on well-being, the authors use country-year statutory early and full-retirement ages, and those age cutoffs interacted with pension generosity, as instruments for retirement, and country-year generosity in average pension replacement rates and those of the unemployment insurance system as instruments for household income. Their results, presented in table 11.8, suggest that retirement is negatively associated with depression and positively associated with life satisfaction.

These results may offer some comfort to those in the throes of making retirement decisions. However, many questions about how the authors arrive at these results remain. In their simultaneous equations model, the authors control for a host of household and individual characteristics that may affect retirement, income, and well-being. These include household net wealth, and individuals' sex, marital status, and education. But household net wealth must be determined by household income, as well as being a determinant of it. This question of joint determination of income and wealth would seem especially acute in the authors' specification, which includes individual-level fixed effects (so that the coefficient on log-household net wealth is being identified off of deviations in household income from its mean over the sample period relative to deviations in household net wealth from its mean). Endogeneity of any one right-side variable will render all coefficients biased and inconsistent, so this is more than an academic concern. A similar problem arises in the inclusion of measures of health and disability as right-hand-side controls. Disability and the presence of a major health condition may cause incomes to fall, but it is also the case that lower income is thought to be a major determinant in individuals' health status. Depression is likely to manifest in lower health status, and more difficulties with activities of

daily living, in addition to difficulties with ADLs leading to higher depression. Again, the endogeneity of right-side variables is a concern here.

A second set of concerns involves functional form. The authors' individual and household level controls may have different effects when a person is retired or is still working. The impact of retirement on life satisfaction may be different if one is better educated or if one is married, for example. Such nuances are not allowed for here. Perhaps more importantly, the authors include a quadratic term in age in all of their equations—to capture any curvature in the underlying relationship between age and retirement, income, and well-being. Restricting the underlying relationships in this way frees the authors to use indicators that an individual is above early or full-retirement age as instruments for retirement in their well-being equations. If the underlying relationship is not well captured by the quadratic term in age, then using indicators that a person is above (say) sixty, and eligible for early retirement benefits, or above (say) age sixty-five and eligible for full retirement benefits as instruments may be problematic.

I have on hand recent data for white non-Hispanic respondents from the National Health Interview Survey (NHIS) that allows me to plot the relationship between a respondent's age and a marker for serious mental distress in the United States from 2010 to 2013. The mental distress indicator is constructed using the Kessler 6 questionnaire, which has been included in the annual NHIS survey since 1997. Individuals are asked how often they have felt sad, nervous, restless, hopeless, "everything was an effort," and worthless. Scoring answers as 1 = all of the time, 2 = most of the time, 3 = some of the time, 4 = little of the time, and 5 = none of the time, and adding the scores on the six questions together, I use an aggregate score of 18 or lower as a marker for "serious mental distress."[1] The relationship between age and the Kessler-6 indicator is shown as the solid line in figure 11C.1. The fraction of individuals at risk for serious mental distress increases from age fifty into the late fifties, and then begins to fall with age, to approximately age seventy-two, above which age it flattens out. That an equation including only a quadratic in age would not capture this pattern well can be seen by examining the dashed line in figure 11C.1, which is the age pattern one would estimate using age and age squared as explanatory variables. Adding to such an equation an indicator for age greater than sixty, and an indicator for age greater than sixty-five, would improve the fit of the predicted age-distress relationship, with the indicators lowering the estimated distress for individuals above those ages. In the current chapter, that lowering is attributed to retirement. However, the fall in distress began much earlier—in the late fifties—and falls smoothly through age seventy-two, suggesting something else may be driving the decline in reports of distress. (I have replicated figure 11C.1 using only individuals who are currently working, and find a similar

1. For details on this measure, see http://www.hcp.med.harvard.edu/ncs/k6_scales.php.

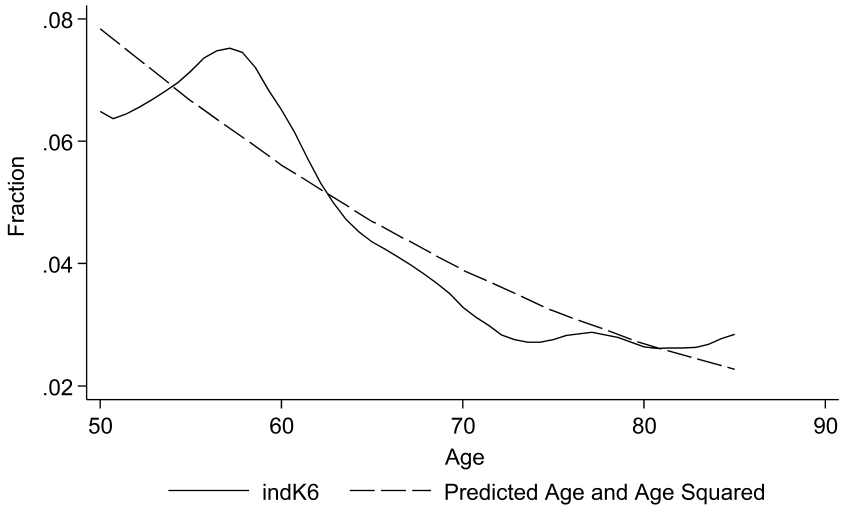

Fig. 11C.1 Fraction with Kessler 6 score ≤ 18, white non-Hispanics, NHIS

pattern throughout the age range studied here.) Understanding the underlying age pattern is important for the present chapter, as identification relies on statutory retirement ages as instruments.

In sum, this chapter contributes to what we know (and do not know) about whether retirement leads to happiness. I am certain it will stimulate more research on this important topic.