

Personality Traits and Economic Preparation for Retirement

Michael D. Hurd
Susann Rohwedder
RAND

Angela Lee Duckworth
University of Pennsylvania
and
David R. Weir
University of Michigan

14th Annual Joint Conference of the Retirement Research Consortium

August 2-3, 2012
Washington, D.C.

This research was supported by a grant from the U.S. Social Security Administration (SSA) as part of the Retirement Research Consortium (RRC). The findings and conclusions are solely those of the authors and do not represent the views of SSA, any agency of the Federal Government, the NBER Retirement Research Center, CRR, or MRRC. Additional funding for data development and prior model development came from the National Institute on Aging.

Background

Personality traits, defined as patterns of thinking, feeling, and behaving which are relatively stable across time and situations, have recently been recognized as important predictors of economic outcomes (Borghans, Duckworth, Heckman, & Ter Weel, 2008; Paunonen, 2003). The Big Five taxonomy of personality traits is now widely accepted as describing the organization of personality at the broadest level of abstraction. This taxonomy has been replicated across cultures (John & Srivastava, 1999) and developmental stages of the life course (Soto, John, Gosling, & Potter, 2008).

The personality psychology literature has identified conscientiousness as the Big Five factor most robustly related to academic achievement (Poropat, 2009), job performance (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007), marital stability (Roberts et al., 2007), physical health (Hampson, Goldberg, Vogt, & Dubanoski, 2006; Hampson, in press), and longevity (Martin, Friedman, & Schwartz, 2007).

Consistent with these findings, Duckworth and Weir found Big Five conscientiousness to be more strongly associated with both lifetime earnings and wealth conditional upon earnings, than any other Big Five factor. These associations remained significant even when controlling for years of education, demographics, and measures of cognitive ability. The objective of this research is to find whether personality traits are associated with economic preparation for retirement where preparation is defined to be a good balance between economic resources and spending.

In prior work Hurd and Rohwedder developed a simulation model to assess economic preparation for retirement (Hurd & Rohwedder, 2008; Hurd & Rohwedder, 2010). The method is to simulate consumption paths over the remaining life cycle for a sample of households observed shortly after retirement. The consumption path is anchored at the initial post-retirement consumption level and follows the path given by the slopes of consumption paths estimated from the Consumption and Activities Mail Survey (CAMS) panel data. The simulations take into account uncertainty about the length of life, uncertainty about health care spending, differential mortality, taxes and marital status. Broadly speaking a person or couple is adequately prepared if economic resources including wealth, pensions, future earnings, and Social Security benefits can support with high probability the estimated path of consumption.

This research advances previous research linking economic outcomes to personality traits because it accurately compares spending levels with economic resources. While informative, the comparison of spending levels or of saving rates across personality types without controlling for life-cycle effects will be inaccurate. For example, some conscientious persons in their 60s may have already saved adequately and so their optimal saving rate could be close to zero. Persons with reduced life expectancy, which may be correlated with personality traits, should have reduced saving rates. Furthermore, it is necessary to account for pension and Social Security resources, which is difficult prior to retirement. This paper shows, conditional on economic resources and accounting for life-cycle effects, whether the level of consumption (and hence the saving rate) varies with personality traits. It quantifies shortfalls or excesses in consumption as a function of those traits.

Data

The HRS solicited data on an adjective measure of the Big Five for about half the HRS sample (chosen at random) in the 2006 Psychosocial Leave-Behind Participant Lifestyle Questionnaire, which was provided to participants who participated in a face-to-face interview (about 82% of HRS participants responded). In 2008 the other half of the HRS was solicited. An estimated 14,500 individuals completed this paper-and-pencil measure (about 90% response rate for those assigned to a face to face interview). Because not all HRS participants completed the psychosocial questionnaire, survey weights are available to adjust for sample selection.

Measures of personality traits

The Big Five measure (Lachman & Bertrand, 2001) included five adjective markers of Conscientiousness: organized, responsible, hardworking, careless (reversed), and thorough. These were endorsed on a 4-point scale from 1 = “not” to 4 = “a lot.” The Emotional Stability scale included four items endorsed on the same scale: moody (reversed), nervous (reversed), calm, and worrying (reversed). Both scales were reliable, with alphas above .70 (Roberts, Smith, & Jackson, 2009). The remaining Big Five scales

(i.e., extraversion, agreeableness, and openness to experience) will also be included in analyses but are not expected to be robustly associated with outcomes.

A separate scale included four additional items assessing the orderliness facet of conscientiousness and four additional items assessing emotional stability. These items were endorsed on a 5-point scale where 1 = “very accurate” and 5 = “very inaccurate.” Orderliness items included: gets chores done right away, often forget to put things back in their proper place (reversed), like order, and make a mess of things (reversed). Emotional stability items included: have frequent mood swings (reversed), am relaxed most of the time, get upset easily (reversed), and seldom feel blue.

Several other scales in the 2006/2008 questionnaire measured aspects of subjective well-being, including life satisfaction, purpose in life, self-acceptance, personal growth, positive affect, and (lack of) negative affect. These variables will be included as covariates in our analyses.

The same respondents who were selected to receive the 2006 psychosocial leave-behind were selected again in 2010 to receive the leave-behind, providing a two-wave panel observed on about 7,000 respondents. The Great Recession reached its low point in approximately March 2009, and at least in the housing and labor markets had not markedly improved by the time of HRS 2010. Thus on about half the HRS sample we will have observations on personality traits before and during the recession.

Economic data

Our economic analyses are based on data from the HRS and data from the CAMS. In September 2001, CAMS wave 1 was mailed to 5,000 households selected at random from households that participated in HRS 2000. In couple households, it was sent to one of the two spouses at random. In September 2003 and October 2005, 2007 and 2009, CAMS waves 2-5 were sent to the same households.

CAMS asked respondents about their spending in each of 32 categories. This represents almost the totality of household spending. The rates of item nonresponse were small, and some values could be imputed to zero with considerable confidence, due to the information in the linked HRS data. The resulting spending levels are close to

totals from the Consumer Expenditure Survey (CEX) for the age groups 55-74, but CAMS shows higher spending levels among those 75 or over.

Model of life-cycle consumption

We have estimated life-cycle consumption paths for couples and for single persons based on CAMS panel data. Besides accounting for age and marital status, the estimations account for differential mortality as represented by sex and by education. Beginning with the level of spending at ages 65-69 we simulate the consumption path of single persons until death which happens at random according to probabilities that are specific to age, sex, marital status and education. We count the fraction of the simulations in which an individual dies before running out of wealth. If that fraction is high (say 95%), we conclude the person is adequately prepared for retirement. The evaluation involves comparing economic resources with needs as reflected in initial consumption. We account for consumption of health-care services on average in the CAMS data. If there were no spending risk, out-of-pocket spending for health care would need no further treatment. But because spending risk is a factor, a single person's actual consumption of health-care services will differ from the average level by a spending shock that has an expected value of zero, but could be quite large. We construct that shock from HRS data on out-of-pocket spending for health-care services.

Couples will follow the path of couple's consumption path as long as both spouses are alive. Then the surviving spouse will switch to a single person's consumption path. The surviving spouse's level of consumption will depend on returns-to-scale in consumption by the couple. Upon the death of one spouse, the surviving spouse will reduce consumption to the level specified by the returns-to-scale parameter which we have taken from the literature. For example, the poverty line specifies that a couple with 1.26 times the income of a single person who is at the poverty line will also be at the poverty line. This implies that consumption by the surviving spouse should be 79% of consumption by the couple to equate effective consumption.

In addition to longevity and health care spending risk the models take into account taxes including different tax rates for Social Security income and for other income, taxes on retirement accounts, and differential mortality.

We consider a person adequately prepared for retirement if he or she has a high probability of dying with wealth.

Results

We first simulate consumption paths and find economic preparation for retirement. Then we estimate the effect of personality traits controlling for education and marital status which we have found in our prior work to be predictive of economic preparation. Table 1 shows the effect of personality traits on the probability of being economically prepared for retirement.

Among married persons, conscientiousness has a significant positive effect on economic preparation for retirement for husbands; neuroticism has a significant negative effect on preparation for wives. No other coefficients are significant. Among single persons neuroticism has a significant negative effect on preparation for all singles; extraversion has a negative effect for males. No other coefficients are significant. Thus conscientiousness does not predict economic preparation for retirement unlike prior findings that focused on accumulation of economic resources.

As a check on our methods, we do also find that conscientiousness is associated with higher economic resources (not shown); for example among all married persons a one unit increase in conscientiousness (on a scale of 1-4) is associated with increased total economic resources of about 40%. But this greater level of resources is offset by a higher level of spending so that the probability of running out of resources prior to death is no lower among those with high levels of conscientiousness.

We conclude that, in accordance with prior research, conscientiousness is associated with accumulated economic resources. But conscientiousness is not associated with greater preparation for retirement because the higher levels of economic resources lead to high spending levels that offset the greater resources.

Table 1. Marginal change in probability of being economically prepared for retirement

	All	p-value	Males	p-value	Females	p-value
Couples						
neuroticism	-0.05	0.04	0.01	0.71	-0.09	0.00
extraversion	-0.02	0.51	-0.09	0.10	0.02	0.57
agreeable	-0.01	0.84	-0.04	0.48	0.01	0.90
conscientiousness	0.06	0.08	0.14	0.03	0.01	0.88
openness	-0.02	0.49	-0.03	0.60	-0.02	0.53
Singles						
neuroticism	-0.08	0.05	-0.09	0.22	-0.06	0.21
extraversion	-0.07	0.19	-0.20	0.04	-0.02	0.77
agreeable	-0.07	0.20	0.01	0.93	-0.05	0.49
conscientiousness	0.01	0.84	0.08	0.43	0.01	0.86
openness	0.02	0.73	0.05	0.62	-0.02	0.73

References

- Borghans, L., Duckworth, A. L., Heckman, J. J., & Ter Weel, B. (2008). The economics and psychology of personality traits. *Journal of Human Resources*.
- Hampson, S. E., Goldberg, L. R., Vogt, T. M., & Dubanoski, J. P. (2006). Forty Years On: Teachers' Assessments of Children's Personality Traits Predict Self-Reported Health Behaviors and Outcomes at Midlife. *Health Psychology, 25*, 57-64.
- Hampson, S. E. F., Howard S. (in press). Personality and health: A life span perspective. In R. W. R. O. P. John, & L. Pervin (Ed.), *The Handbook of Personality* (3rd ed.). New York Guilford.
- Hurd, M.D & Rohwedder, S. (2008). The Adequacy of Economic Resources in Retirement *Michigan Retirement Research Center Working Paper* WP 2008-184
- Hurd, M.D & Rohwedder, S. (2010). The Effect of the Risk of Out-of-Pocket Spending for Health Care on Economic Preparation for Retirement. *Michigan Retirement Research Center Working Paper* WP 2010-232
- John, O. P., & Srivastava, S. (1999). The Big Five Trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research (2nd ed.)*. (pp. 102-138). New York, NY, US: Guilford Press.
- Lachman, M. E., & Bertrand, R. M. (2001). Personality and the self in midlife. In M. E. Lachman (Ed.), *Handbook of midlife development* (pp. 279-309). New York: Wiley.
- Martin, L. R., Friedman, H. S., & Schwartz, J. E. (2007). Personality and mortality risk across the life span: The importance of conscientiousness as a biopsychosocial attribute. *Health Psychology, 26*, 428-436.

- Paunonen, S. V. (2003). Big Five factors of personality and replicated predictions of behavior. *Journal of Personality and Social Psychology, 84*, 411-422.
- Poropat, A. E. (2009). A meta-analysis of the five-factor model of personality and academic performance. *Psychological Bulletin, 135*, 322-338.
- Roberts, B. W., Kuncel, N. R., Shiner, R., Caspi, A., & Goldberg, L. R. (2007). The power of personality: The comparative validity of personality traits, socioeconomic status, and cognitive ability for predicting important life outcomes. *Perspectives on Psychological Science, 2*, 313-345.
- Roberts, B. W., Smith, J., Jackson, J. J., & Edmonds, G. (2009). Compensatory Conscientiousness and Health in Older Couples. *Psychological Science*.
- Soto, C. J., John, O. P., Gosling, S. D., & Potter, J. (2008). The developmental psychometrics of big five self-reports: Acquiescence, factor structure, coherence, and differentiation from ages 10 to 20. *Journal of Personality and Social Psychology, 94*, 718-737.

