

Activities Matter: Personality and Resource Determinants of Activities and their Effect on
Mental and Physical Well-being and Retirement Expectations

Margaret E. Beier

W. Jackeline Torres

Jacqueline M. Gilberto

Rice University

Send correspondence to: Margaret E. Beier
Department of Psychology, MS-25
Rice University
6100 Main Street
Houston, TX 77005
713-348-3920
beier@rice.edu

Submitted to: *Work, Aging, and Retirement*

Submitted: 3/31/2016

Revision submitted: 7/22/16

Accepted: 11/01/16

Published: 12/9/2016

Citation: Margaret E. Beier, W. Jackeline Torres, Jacqueline M. Gilberto; Activities matter: Personality and resource determinants of activities and their effect on mental and physical well-being and retirement expectations. *Work Aging Retirement*.
<https://doi.org/10.1093/workar/waw034>.

Abstract

Remaining active throughout the lifespan is central to healthy aging. The current study tests a model derived from investment and resource theories that examines the extent to which activities mediate the relationship between individual differences in personality and resources on mental and physical well-being and retirement expectations. A subsample (N = 400; 58% female) of participants from the nationally representative Health and Retirement Study (HRS) was used. Self-reported activities were grouped into four broad categories: productive, physical, social, and leisure. Activity variety, operationalized as the number of different activity categories in which a person reported participating over a specified period of time, was also examined. Correlations and path analysis results suggest small but significant effects between personality traits and activity participation, and more consistent effects of personality for predicting activity variety. Personality was also significantly correlated with well-being and retirement expectations as was activity variety. There was limited evidence, however, that activity variety mediated the relationship between personality and resources and mental and physical well-being and retirement expectations as would be predicted by investment theory. (175)

Activities Matter: Personality and Resource Determinants of Activities and their Effect on Mental and Physical Well-being and Retirement Expectations

The news of increased life expectancies around the globe highlights the importance of understanding the determinants of healthy aging. Worldwide, current life expectancy is 71 years (World Health Organization [WHO], 2015) and in the U.S., life expectancy for those born between 2003 and 2013 is 76.4 years for men and 81.2 years for women (Center for Disease Control and Prevention [CDC], 2015). In industrialized countries increased life expectancy is pushing back retirement age as people realize that they might live decades in retirement (Kanfer, Beier, & Ackerman, 2013). In the U.S., for example, where retirement is typically not compulsory, people can expect to live fifteen to twenty years after retirement from a primary job (Munnell, 2011).

Decisions about when to retire are influenced by myriad factors including individual (e.g., health, economic status), psychological (e.g., motivation, values), social (e.g., family), and work (e.g., industry norms of retirement; Fisher, Chaffee, & Sonnegra, 2016; Kanfer et al., 2013). One factor that has garnered attention recently is how people spend their time – the activities in which they participate – and the relationship between these activities and outcomes associated with healthy aging (Carlson et al., 2012; Celen-Demirtas, Konstam, & Tomek, 2015; Gow, Mortensen, & Avlund, 2012; Jopp & Hertzog, 2007; Jopp & Hertzog, 2010; Warr, Butcher, & Robertson, 2004). The purpose of this study is to examine the determinants and benefits of activities for retirement expectations and mental and physical well-being using data from the Health and Retirement Study (HRS).

The Importance of Activities

Evidence suggests that participation in activities is related to healthy aging.

Gerontologists have highlighted the importance of activities for mental health and psychological functioning (Smith & Baltes, 1997) as activities are thought to influence the development of cognitive skill and health outcomes by providing exercise, training, and practice and by creating intellectually stimulating environments. Research has examined the effects of participation in an array of activity types. For example, participation in family and social activities and church and charity (as measured by the frequency with which one participates), was related to affective well-being and to life satisfaction in a sample of older people (Warr et al., 2004). Social activities have also been associated with fewer depressive symptoms and greater mental well-being (Jopp & Hertzog, 2007). There is also evidence that leisure activities, defined as enjoyable activities related to ongoing development that one participates in during one's spare time (Burrus-Bammel & Bammel, 1985), mediate the relationship between social relationships and self-ratings of physical health and subjective well-being (Chang, Wray, & Lin, 2014). More recent meta-analytic research has emphasized the importance of leisure activities for subjective well-being and mental health, finding a small effect for people of any age, and a medium effect of leisure activity participation for retired people (Kuykendall, Tay, & Ng, 2015). Focusing on activity participation allows for the investigation of the relationship between healthy aging and the contextual environment of older adults (Zacher, 2015).

Notably, researchers have described difficulty in researching activity types given that people value activities differently (e.g., one person may view religious activities as social and another may view them as developmental and leisure; Kuykendall et al., 2015). Moreover, activity participation is typically assessed a variety of ways, by asking people to report the activities in which they have participated or by asking about the number of hours spent over a

specified period of time (e.g., a week, month, or year) participating in an activity. In this study, we use measures assessing activity participation duration rather than the value or quality of the time spent on the activity. As such, the construct examined in this study is duration of participation rather than mental engagement in activities.

Although much of the research on activity participation has examined the effects of specific types of activities (e.g., leisure, social, physical), there is evidence that actively participating in any type of activity – or a variety of activities – is important for healthy aging. For example, Warr et al. (2004) found that activity participation in the aggregate was significantly predictive of mental and physical health outcomes. Similarly, the variety of activities in which a person participates – not necessarily the type of activity engaged in – reduced memory declines with age in a longitudinal study of over 400 older women (Carlson et al., 2012).

Although there is a growing body of evidence linking activities to health outcomes, less research supports the link between participation in activities and retirement outcomes, although theoretical linkages can be made. For instance, working people are expected to replace occupational activities with leisure activities after retirement. As such, those who engage in leisure activities should have greater self-efficacy for retirement and desire retirement at earlier ages than people with less experience with leisure activities (Diehl & Berg, 2007). Similarly, people with more experience in work activities may wish to postpone retirement. In support of this hypothesis, a study of employed adults over forty found that those who reported unsatisfactory experiences with leisure activities (e.g., the feeling that they did not know what to do with their free time) had more negative retirement attitudes than those who had more satisfaction with leisure (Gee & Baillie, 1999). There is little evidence, however, that

participation in one activity – such as volunteering, work, or caring for others – substitutes for participating in other activities as people age (Van der Horst, Vickerstaff, Lain, Clark, & Geiger, 2016), rather activity participation is largely independent. One consideration however, is that time-intensive activities such as working full time will necessarily limit participation in other domains.

In the current study, we further research on activity participation over the lifespan by exploring both activity type and activity variety as determinants of outcomes related to healthy aging: mental and physical well-being and retirement expectations. Of these outcomes, retirement expectations is perhaps less directly related to healthy aging than mental and physical well-being. In this study, however, we conceptualize retirement expectations as an indicator of a person's engagement in work (e.g., the more engaged one is, the later the retirement age). We acknowledge that this is a coarse measure; that is, retirement expectations are a function of myriad factors other than work engagement, such as financial status, health, norms for retirement, and so on (Kanfer et al., 2013). Nonetheless, we include retirement expectations as a proxy for work engagement and - to the extent possible - attempt to control for these other influences on this outcome.

Determinants of Activity Participation

Models of cognitive aging that emphasize the benefits of active engagement fit well with investment theories of adult development (Ackerman, 1996; Cattell, 1987). Essentially, investment models posit that a person's resources (i.e., the assets and abilities they bring to any situation) are directed by personality traits and interests toward activity engagement, which in turn leads to growth and development. For example, research in support of investment theory has found that people who are higher in trait agreeableness (empathy and an orientation to help

others) and conscientiousness (dependability and achievement orientation) have higher levels of health knowledge presumably because they are more likely than people low on this trait to attend to the concerns of others and to engage in activities related to health and illness (Beier & Ackerman, 2003; Bogg & Roberts, 2004).

Investment theories examining the role of personality and interest in directing individuals toward experiences and activities have examined a relatively narrow set of outcomes related to intellectual development; namely, domain knowledge maintenance and development (Ackerman & Beier, 2006; Beier & Ackerman, 2001, 2003, 2005). Moreover, as mentioned above, much of this research does not examine the specific activities in which people engage that affect developmental outcomes throughout the lifespan. These theories can be used to examine a broader range of outcomes given that activity participation directed by personality and interests should affect myriad outcomes throughout the lifespan including intellectual development, health, and engagement in work. The current study applies the investment theory framework to outcomes relevant to healthy aging that are available in the HRS: retirement expectations and mental and physical well-being. As cited above, research suggests that activity participation is related to health and retirement expectations. In the current study, we expand existing research on the relationship between activities and these outcomes to study the determinants of activity participation as would be posited by investment theory (e.g., personality and resources). In sum, we are positing that activity engagement is directed by personality and is also a function of the investment of resources, which in turn, lead to outcomes relevant to healthy aging. The HRS assesses these constructs over time, and as such, provides an opportunity to examine the activities that mediate the relationship between personality, resources, and the outcomes of interest.

Personal Factors: Personality and Resources

The role of personality has been examined in the context of healthy aging, retirement decisions, and activity participation. The prominent personality model in psychological research, which is also assessed in the HRS, is the Five Factor Model (FFM; Goldberg, 1993), which is comprised of five broad traits thought to be relatively stable over time. These traits are: (a) openness to experiences (curiosity and intellectually oriented), (b) extraversion (a preference for social interaction/engagement), (c) conscientiousness (dependability and achievement orientation), (d) neuroticism (anxiety and moodiness/reversed emotional stability), and (e) agreeableness (empathy and an orientation toward others). Ample evidence suggests that personality – particularly conscientiousness – is related to better physical health with age. People higher in trait conscientious are more likely to take their medications daily and have regular dental checkups, leading to healthy outcomes throughout the lifespan (Bogg & Roberts, 2004; Shanahan, Hill, Roberts, Eccles, & Friedman, 2014). Neuroticism has also been shown to be negatively related to health outcomes (Ozer & Benet-Martínez, 2006). However, previous research has shown that individuals who score high on both conscientiousness and neuroticism experienced relatively better health (Roberts, Smith, Jackson, & Edmonds, 2009). And although there is less published research on personality and retirement decisions (Feldman & Beehr, 2011), findings suggest that openness to experience and conscientiousness are related to decisions to retire later in life (Filer & Petri, 1988; Löckenhoff, Terracciano, & Costa, 2009), and that neuroticism and conscientiousness are associated with retirement attitudes such that neuroticism is related to negative attitudes about retirement and conscientiousness is related to positive attitudes (Löckenhoff et al., 2009; Robinson, Demetre, & Corney, 2010).

Personality also predicts activity participation. Agency (a facet of extraversion) is related to participation in leisure activities after controlling for health and education (Diehl & Berg, 2007). Emotional stability/neuroticism has been found to predict social and leisure activities (Harlow & Cantor, 1996). And openness to experience, conscientiousness, and agreeableness predict participation in a range of activities including social, religious, developmental, and leisure (Jopp & Hertzog, 2010). In support of an investment hypothesis, there is also evidence that activities mediate the relationship between personality and relevant outcomes associated with healthy aging. In one study, social activities partially explained the relationship between emotional stability and subjective well-being (Herero & Extremera, 2010). Although mediation was not tested directly, researchers have found that social activities, which are predicted by agreeableness and extraversion, were related to mental health outcomes (Jopp & Hertzog, 2007). The current study examines whether activities explain – at least in part – the variance between personality and the outcomes we examine (physical and mental well-being and retirement expectations).

In addition to personality traits, resources available to a person will be related to health, well-being, and retirement expectations. The resource-based dynamic model of retirement adjustment (Wang & Shi, 2014), highlights the role of an array of physical, cognitive, motivational, financial, social, and emotional resources on retirement decisions and healthy aging. For example, a person's financial and physical resources (wealth and health) are associated with retirement intentions such that those who suffer poor health intend to retire earlier as do those who can financially afford to do so. Health and wealth are also related to mental health post-retirement (Kubicek, Korunka, Raymo, & Hoonakker, 2011). A person's education, which can be considered a cognitive resource, has also been associated with later

retirement intentions (Damman, Henkens, & Kalmijn, 2011; Szinovacz, Davey, & Martin, 2015). The HRS provides measures of many of the resources identified in the resource-based dynamic model of retirement adjustment (Wang & Shi, 2014), particularly as related to cognitive, financial, and health resources. These factors are included as determinants of activity engagement and mental and physical well-being and retirement expectations in the current study.

The current study applies investment theory to a broader range of outcomes than have been examined in the past (retirement expectations and mental and physical well-being) using existing data from the HRS. Specifically, we posit that person-related variables (personality traits) and resources (cognitive, health, wealth) will influence activity participation, which in turn, will influence health-related outcomes and retirement decisions. As such, we examine whether activity participation mediates the relationship between personality and resources and the outcomes of interest. The study is exploratory, however, in that we do not have specific hypotheses about the relationships between resources and traits and activity types, but rather investigate the role of personality, resources, and activity participation more generally.

Method

This study used data from the HRS, a longitudinal panel study of more than 37,000 adults age 51 or older (Sonnega et al., 2014) sponsored by the National Institute on Aging (grant number NIA U01AG009740) and conducted by the University of Michigan. The HRS is a complex dataset that includes many components, but the core part of the survey, which assesses work status, income, health, and cognitive abilities is conducted every two years. An exception to the biannual administration of the core elements of the survey is that the psychosocial questionnaire, which was first administered in 2006 and includes personality assessment. The psychosocial battery is administered to an alternating sub-sample of the HRS at each

administration (Smith et al., 2013). As such, HRS participants complete the psychosocial assessment every four years rather than every 2 years. Furthermore, an additional battery assessing activities (Consumption and Activities Mail Survey; CAMS) is distributed to a subsample of HRS households on years that alternate with the core battery (e.g., on the “off years”). Furthermore, to replenish the study new cohorts of participants who are 50 years old are added to the HRS every six years. The current study is focused on the cohort that started participating in the HRS in 2010. More information about the HRS is available online (<http://hrsonline.isr.umich.edu/>; Health and Retirement Study, 1992; Sonnega, et al., 2014).

Participants

The sample comprised a subset of participants from the 2010 cohort who were primary respondents of the survey (not spouses). Both primary respondents and family members/spouses living in the same household are included in HRS assessments. For our purposes, we excluded spouses and family members, and focused on the primary respondents because we felt that activity participation might be somewhat dependent within a household. That is, we assumed that people living in the same household would tend to engage in some activities together (e.g., lectures, social events), and would be less likely to do other things that their partner or spouse was already doing due to division of labor within a household (e.g., chores). We also focused on participants starting the study in 2010 because we wanted to examine a relatively younger sample to enable the examination of retirement expectations. That is, we wanted a larger percentage of the sample to be working than would have been the case if we expanded our sample to older cohorts in the HRS. Furthermore, our interest in examining resources, personality, and activities necessitated a focus on a subset of participants assessed on these constructs.

HRS participants were included in our study if they were part of the 2010 cohort, completed the HRS core assessment and psychosocial battery in 2010, provided information about at least one activity they engaged in on the 2011 CAMS assessment, and completed the 2012 HRS core battery (for assessment of the mental and physical well-being and retirement expectations outcomes). There were a total of 400 participants in the 2010 cohort who met these requirements ($M_{age} = 54.9$, $SD = 3.15$; 58% female; 52% white), and that comprise the sample for this study. Education level of the sample ranged from participants who had not earned a high school diploma (17%), participants who had earned a high school diploma (52%), to participants who had earned at least a two-year degree (31%).

Procedure and Approach

We used data from the HRS that was collected at three time points coinciding with the administration of the 2010 core and psychosocial battery administration (Time 1), the 2011 administration of the CAMS battery (Time 2) and the 2012 administration of the core battery (Time 3). Constructs assessed at each time point, and the timing of the assessments, are shown in Figure 1.

Measures

Personality (Time 1). Twenty-six items were used to assess the FFM personality factors (Goldberg, 1993). These 26 items were derived from the longitudinal health and well-being study, Midlife in the United States (MIDUS; Lachman & Weaver, 1997). The personality measure included 7 items for openness to experience ($\alpha = .77$), 5 items for conscientiousness ($\alpha = .68$), 5 items for extraversion ($\alpha = .73$), 5 items for agreeableness ($\alpha = .76$), and 4 items for neuroticism ($\alpha = .73$). Participants were asked to rate how well various adjectives described themselves using a 4-point Likert scale, where 1 = “A lot” and 4 = “Not at all.” Sample

adjectives included "moody" for neuroticism, "outgoing" for extraversion, "imaginative" for openness to experience, "helpful" for agreeableness, and "organized" for conscientiousness. Responses were scored such that higher scores represented higher personality trait endorsement. All items were reverse coded, except for three items of the conscientiousness sub-scale: "reckless", "careless", and "impulsive", and one item of the neuroticism sub-scale: "calm." Personality factors were created by averaging the items for each of the five facets.

Memory (Time 1). The ability battery in the 2010 core assessment consists of two memory tasks: immediate and delayed word recall. For immediate word recall, participants were read 10 nouns by the interviewers (e.g., book, child, gold) and were asked to recall the words in no particular order. For the delayed word recall task, participants were asked to recall the 10 words previously heard in the immediate word recall task after a delay of approximately five minutes. A memory variable was computed by adding the number of words correct in each task ($\alpha = .78$). Higher scores represented higher memory ability.

Education (Time 1). Participants were asked about the highest educational degree attained. Responses included 0 = "no high school education," 1 = "GED," 2 = "high school diploma," 3 = "associate's degree," 4 = "bachelor's degree," and 5 = "master's degree," and 6 = "professional degree."

Physical well-being (Time 1 and 3). A standardized composite of physical well-being at Time 1 was created using measures of physical functional limitations and number of comorbidities as based on previous literature ($\alpha = .78$ at Time 1, $.73$ at Time 3; Chang et al., 2014). Several indices of physical functional limitations were used, including mobility, activities of daily living (ADLs), and instrumental activities of daily living (IADLs). Respondents were asked to rate whether they had difficulty performing various physical activities (e.g., walking

across the room or bathing), where 0 = “no difficulty” and 1 = “difficulty.” Number of comorbidities was assessed by summing the number of diagnosed chronic conditions (i.e., heart condition, stroke, high blood pressure, cancer, diabetes, and lung disease) reported by each respondent. Participants were asked “Has a doctor has ever diagnosed you with...?” Response items included “Yes,” “No,” “Don’t Know,” or refused to answer. All composite variables were reverse coded, such that higher scores represented better physical well-being (coding was done by RAND and included in the HRS dataset available online). Therefore, the overall physical well-being composite was computed such that higher scores represented better physical well-being

Mental well-being (Time 1 and 3). A composite of mental well-being was created using standardized measures of depression and life satisfaction, as based on previous literature ($\alpha = .68$ at Time 1, $.57$ at Time 3; Chang et al., 2014). Depression was measured using an 8-item version of the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977), where responses were summed and reverse coded such that a higher score reflected less depressive symptoms. A one-item measure of global life satisfaction was also used, which asked the following item: “Please think about your life-as-a-whole. How satisfied are you with it?” Response choices ranged from 1 = “Completely satisfied” to 5 = “Not at all satisfied.” Responses were reversed scored so that higher scores corresponded to higher satisfaction.

Work status (Time 1 and 3). Participants were asked “Are you doing any work for pay at the present time?” Response options included 1 = “Yes,” 0 = “No,” or “Don’t Know” and refused to answer (coded as missing). At Time 1, 64% (256) of participants indicated they were working and at Time 3, 61% (243) of participants indicated they were working.

Wealth (Time 1). This measure represents a net value of respondent's total wealth in nominal dollars, and was calculated by summing all household assets minus all debt. Assets summed in this imputation include household income, including wages, salaries, businesses, investments, pension and annuities, social security, disability, unemployment/veterans/welfare benefits, alimony, insurance, inheritance, and other lump sums.

Activities (Time 2). Activity participation was assessed using responses in the 2011 CAMS battery. Participants were asked to report how many hours they spent either during the last week or during the last month across 33 different activities. Examples of activities assessed weekly included watch television, read papers/magazines; examples of activities assessed monthly were volunteer work, and attend meetings. Participants were asked "How many hours did you actually spend last week..." and "Now think about last month. How many hours did you spend last month..." followed by the activity type. We also assessed activity variety, derived by calculating the total number of different activities participants reported spending some time in.

Retirement expectations (Time 1 and 3). Participants' retirement expectations were operationalized as an assessment of the likelihood they would be working after age 65. Specifically, participants were asked "Thinking about work in general and not just your present job, what do you think the chances are that you will be working full-time after you reach age 65?" Participants responded on a scale from 00 = "absolutely no chance" to 100 = "absolutely certain." If the participant was age 65 or older, or if the participant was not working, this item was not asked. Of the 400 participants in this study, 58% (231) answered this item at Time 1 and 52% (206) answered at Time 2.

Results

Activity Analysis

The CAMS battery assesses participation in a broad array of activities including productive, physical, social, and cognitive (Fultz, Fisher, & Jenkins, 2004). We used these broad categories and previous research (Celen-Demirtas et al., 2015; Chang et al., 2014; Sonnentag, 2001; Vozikaki, Linardakis, Micheli, & Philalithis, 2016) to identify additional activity categories most relevant to the current study. From this review, we propose four activity categories aligned with the original formulation with one exception. We identified a leisure category rather than cognitive, reflecting the trends in current research. Ten raters, who were graduate and undergraduate research assistants in psychology, were used to classify the activities into these categories based on the assumed main utility of each activity. When there was not a majority agreement, a discussion was held to reach a consensus of activity classification. Three activities in the CAMS battery were not included in a category because raters were unable to classify the activity into one of the proposed categories (computer use) or because the activity was not correlated with other activities in the category (walking, working for pay). This approach resulted in activities grouped into four categories: 1) *productive* consisted of nine activities (e.g., meal prep/clean up, house cleaning, and personal grooming; $\alpha = .72$), 2) *physical* consisted of three activities (e.g., sports/exercise, yard work/garden; $\alpha = .67$), 3) *social* consisted of eight activities (e.g., volunteer work, and attend meetings; $\alpha = .66$), and 4) *leisure* consisted of ten activities (e.g., watch TV, read books, arts and crafts; $\alpha = .66$). We created unit-weighted z-score composites for all activity factors. An activity variety variable was calculated by counting the number of different activities in which participants reported participating.

Overall Results

Correlations among personality, memory, and resource variables at Time 1 are shown in Table 1. Personality traits are correlated with many of the predictors assessed at Time 1. In

particular, there were positive correlations between openness to experience, conscientiousness, and extraversion and mental and physical well-being, and between openness and expectations that one would work after the age of 65. Neuroticism was negatively correlated with mental and physical health outcomes at Time 1. In terms of resources, memory, wealth, and education were positively and significantly correlated with mental and physical health. Education was also positively associated with retirement expectations, suggesting that those who are more highly educated are more likely to report a greater probability that they will be working full-time after age 65, which is aligned with prior research (Damman et al., 2011). Work status was significantly positively correlated with openness, conscientiousness, and extraversion, but negatively correlated with neuroticism and positively associated with wealth, memory, education and mental and physical health. The sizes of these effects are small (r 's around .30; Cohen, 1988).

Table 2 shows correlations among the activities and outcomes (mental and physical well-being and retirement expectations at Time 3). Correlations among activities tend to be medium in magnitude (r 's around .50; Cohen, 1988), suggesting that people who are active in one type of activity also spend time doing other activities. Activities were associated with the outcomes, although these correlations were small in magnitude. In particular, productive activities were negatively correlated with mental well-being and physical activities were positively correlated with mental and physical well-being. Social and leisure activities were also positively associated with retirement expectations, suggesting that people who are working and who take time to engage in social and leisure activities are more likely to report expecting to work full-time after age 65 than those who do not spend time participating in these activities. Notably, activity variety had the strongest and most consistent relationship with the outcomes; those who report

participating in a wider variety of activities report better mental and physical well-being, and greater chances of working after age 65.

Table 3 shows correlations between predictors, activities, and outcome variables. Small but significant positive correlations were found between openness, extraversion, and agreeableness and social activities. Activity variety showed the most consistent relationships with the predictors: it was significantly correlated to openness, conscientiousness, agreeableness, and neuroticism. Personality was also associated with mental and physical well-being at Time 3; in particular, openness, conscientiousness, and extraversion were positively associated and neuroticism was negatively associated with these outcomes. Expectations to continue working full-time after age 65 were associated with openness and education. For resources, memory was predictive of physical well-being and wealth was positively associated with both mental and physical well-being, but perhaps surprisingly not retirement expectations. Work status was also positively associated with physical and mental well-being, although surprisingly perhaps, not retirement expectations.

Path Analysis. Two separate path analyses were conducted using MPlus version 7.31 (Muthén & Muthén, 2015) to enable simultaneous estimation of the independent effect of all variables. We included only the activity variety variable in these analyses, given that it had a more consistent relationship with predictors and outcomes than individual activity factors and given that we did not have a priori hypotheses about specific activity types. We analyzed the well-being outcomes separately from retirement expectations because only working people were asked about retirement expectations and we did not want to limit the well-being analysis to only this subset of the sample. The path models represent investment theory whereby individual differences in personality and resources predict activity participation, which is, in turn, predictive

of the outcomes. The hypothesized relationships between distal traits, activity variety, and work and health related outcomes are shown in Figure 2. We controlled for Time 1 measures of each outcome by including a path from Time 1 to Time 3 for mental and physical well-being retirement expectations for each of these outcomes, respectively. Mental and physical well-being at Time 1 are considered to be health resources in both models and paths were included from these variables to activity variety.

The fit of a path model for mental and physical well-being was good, χ^2 ($N = 341$, 20) = 37.65, $p < .01$, CFI = .97, RMSEA = .05. Neuroticism remained the only significant predictor of activity variety after accounting for other variables. The model also showed the significance of resources for activity variety and well-being. Specifically, memory, education, wealth, and physical well-being were each independently predictive of activity variety as was work status. Activity variety was also significantly related to both mental and physical well-being outcomes.

The fit of a path model for retirement expectations was excellent, χ^2 ($N = 200$, 11) = 10.05, $p = .53$, CFI = 1.00, RMSEA = .00. Note that because only working people were used in this analysis, we do not include the work status variable. The results of this analysis mirror those above, particularly as related to the importance of neuroticism and cognitive resources (i.e., education) for activity variety and the relationship between activity variety and retirement expectations.

We tested mediation by examining indirect and direct effects for personality and resources for predicting the outcomes of interest. For each outcome, we examined whether significant indirect effects of personality and resources through activity variety remained in a model that included all indirect effects and direct effects simultaneously. For the mental and physical well-being outcomes (Figure 3), indirect effects were no longer significant after

accounting for direct effects as activity variety was no longer significantly predictive of the outcomes. Moreover, the model showed significant negative direct effects from neuroticism to both outcomes, and significant positive direct effects of work status on physical well-being ($p < .05$). The fit of the model estimating both direct and indirect effects on mental and physical well-being was good, $\chi^2 (N = 341, 2) = 4.28, p > .05$, CFI = .99, RMSEA = .06, and exceeded the fit of the first model, $\Delta\chi^2 (18) = 33.37, p < .05$.

For the retirement expectations outcome (Figure 4), the indirect effect of education on retirement expectations through activity variety remained significant after estimating all direct effects ($p < .05$), and the direct effect of education on retirement expectations was also significant. Our results also showed that the indirect effect of education on retirement expectations through activity variety was marginally significant ($p = .066$), suggesting partial mediation. The fit of the model estimating both direct and indirect effects for the retirement expectations outcome was also excellent, $\chi^2 (N = 200, 1) = .061, p > .05$, CFI = 1.00, RMSEA = .00, and it fit the data significantly better than the first model, $\Delta\chi^2 (10) = 9.98, p < .05$. Notably, activity variety remained a significant predictor after both direct and indirect effects were accounted for.

In total, these results point to unique relationships between the predictors and different outcomes for health and retirement outcomes. For the health outcomes, there was no evidence that activity variety mediated the relationship between the predictors and mental and physical well-being. And activity variety was not related to health after accounting for the direct relationships between personality and resources. For retirement expectations, there was some evidence of mediation and activity variety continued to be related to the outcome even after direct effects were accounted for.

Discussion

This study explored the effect of personality and resources on activity participation and on physical and mental well-being and retirement expectations. The research was framed within investment theories, which are typically used to predict intellectual growth and development (Ackerman, 1996; Cattell, 1987). These theories were expanded to outcomes related to healthy aging and working longer in the current study. In addition to individual differences in personality traits, which are typically considered in the investment theory framework, we used resource theories of retirement (Wang & Shi, 2014) to identify the resources relevant to predict activity engagement and well-being and retirement expectations. Using existing data from the HRS, we tested the direct and indirect effects of personality and resources on well-being and retirement expectations.

Results of the correlational analysis suggest that, with the exception of extraversion, personality has a small but significant relationship with activity participation, particularly as related to activity variety. The lack of effect for extraversion on activity variety is perhaps surprising given that prior research has found this trait to be predictive of activity participation overall (Diehl & Berg, 2007). Although not correlated with activity participation in this study, extraversion was related to mental and physical well-being, however. Future research could continue to explore the types of activities linked to extraversion and other traits that would be most related to healthy and retirement outcomes. Participation in a variety of activities was also significantly correlated with memory, wealth, and health (mental and physical well-being) resources. In general, these findings provide empirical support for the importance of personality for directing people to participate in activities, and also support for the importance of resources for such participation. In this case, resources refer not only to being healthy enough and

financially secure enough to continue to be active; but also to having the intellectual capacity to engage.

Personality, resources, and activity participation were also significantly related to the outcomes of interest: mental and physical well-being and retirement expectations. In particular, correlations show that participating in a variety of activities is significantly positively related to mental and physical well-being, and is also positively related to a person's expectation that they will be working full-time after age 65. Correlations between personality traits, resources and the outcomes also highlight the importance of personality and resources for mental and physical well-being. For the resource predictors, these findings provide further empirical support for the value of education and working for healthy aging, and for the cumulative benefits of mental and physical well-being over time. Personality traits that are particularly important for health outcomes are openness and conscientiousness, which are positively related to health outcomes, and neuroticism, which is negatively related to all outcomes. These results are aligned with prior research showing the benefits of remaining curious and intellectually engaged, the benefits of taking care of oneself in a conscientious manner, and the negative effects of worry and anxiety (Bogg & Roberts, 2004; Ozer & Benet-Martínez, 2006; Shanahan et al., 2014).

For retirement expectations, our findings provide some support for the importance of intellectual engagement predicting expectations to work after age 65, given that openness to experience (e.g., intellectual curiosity, imagination; Goldberg, 1993) was significantly correlated with this outcome. Education was also positively correlated with retirement expectations, although these effects were quite small (e.g., r 's less than .20). Notably, wealth was not correlated with retirement expectations, suggesting that, for this broad sample at least, financial need is not the biggest determinant of retirement decisions.

Although the zero-order correlations provide evidence for the importance of personality, resources, and activity variety for well-being and retirement expectations, only a few predictors remained significant when all variables were estimated simultaneously in our path models, which is likely a function of multicollinearity among predictor variables. Trait neuroticism remained significantly predictive of health outcomes, and resources (i.e., memory, wealth, and education) remained important across both models.

The role of investment theory was tested by examining the direct and indirect effects in the path models for both outcomes. The results of this analysis provide little support for the mediating effects of activity variety on health outcomes as would be predicted by investment theory. Rather, with the exception of evidence for partial mediation for education on retirement expectations, it appears that the effects of personality and resources on activity participation and the outcomes are generally independent and direct. One possible reason we failed to find mediation in the models is that investment theory previously has not been applied to outcomes other than intellectual development (Beier & Ackerman, 2001, 2003, 2005). Perhaps well-being and retirement expectations are too distal and unrelated to the benefits of activity participation to be theoretically interesting in the investment framework. Another possible reason we failed to find evidence for mediation is related to the measures and method of the HRS. For example, perhaps the activities assessed in the CAMs battery are not those that would be most related to the personality and resource predictors or the outcomes we examined in this study. Although it may be the case that investment theory cannot be expanded beyond intellectual development, we tend toward the latter explanation for the lack of significant findings over the former. That is, we are encouraged to find relationships between personality and activities, and between activities and the outcomes, even though we did not find significant mediation. Future research can

examine the theoretical model tested here using finer-grained measures of activities that are more aligned with the personality traits, resources, and outcomes of interest.

Limitations

The limitations of this study are associated with its main strength, the HRS. The large, U.S. nationally representative sample of people over the age of 50 provides a rich set of data on health, retirement behavior, and includes an array of data on each individual participant (personality, memory, income/assets, health, retirement, activities, and so on). Although this study is informative in its examination of the types of activities that are important for retirement expectations and health, the use of existing data is always limited in that researchers are not able to target the measures for specific research questions or control the timing of data collection. For instance, we might have otherwise chosen to use a more in-depth approach for assessing activity participation such as experience sampling to examine daily activities. Even with this limitation, however, we were able to capitalize on the strengths of the HRS to explore of the importance of personality, resources, and activity participation on outcomes related to healthy aging. The current study demonstrates the wide array of variables included in the HRS and we are encouraged to use this rich dataset for further research on healthy aging.

Implications

Although the current study provides limited support for investment theory, it does speak to the importance of personality and resources for activity participation, physical and mental well-being, and for working longer. Moreover, our results suggest that having a well-rounded activity portfolio has an array of benefits for healthy aging and working longer. The idea that a balance of activities is important for remaining healthy and engaged at work is aligned with recent ideas put forth by human resource professionals considering how to engage an

increasingly older workforce (Paullin, 2014). The results of this study suggest that examining how people engage at work and outside of work is a fruitful area of future aging and retirement research.

References

- Ackerman, P. L. (1996). A theory of adult intellectual development: Process, personality, interests, and knowledge. *Intelligence*, 22, 227–257. [http://doi.org/10.1016/S0160-2896\(96\)90016-1](http://doi.org/10.1016/S0160-2896(96)90016-1)
- Ackerman, P. L., & Beier, M. E. (2006). Determinants of domain knowledge and independent study learning in an adult sample. *Journal of Educational Psychology*, 98(2), 366–381. <http://doi.org/10.1037/0022-0663.98.2.366>
- Beier, M. E., & Ackerman, P. L. (2001). Current-events knowledge in adults: An investigation of age, intelligence, and nonability determinants. *Psychology and Aging*, 16, 615–628. <http://doi.org/10.1037/0882-7974.16.4.615>
- Beier, M. E., & Ackerman, P. L. (2003). Determinants of health knowledge: An investigation of age, gender, abilities, personality, and interests. *Journal of Personality and Social Psychology*, 84, 439–447. <http://doi.org/10.1037/0022-3514.84.2.439>
- Beier, M. E., & Ackerman, P. L. (2005). Age, ability, and the role of prior knowledge on the acquisition of new domain knowledge: Promising results in a real-world learning environment. *Psychology and Aging*, 20, 341–355. <http://doi.org/10.1037/0882-7974.20.2.341>
- Bogg, T., & Roberts, B. W. (2004). Conscientiousness and health-related behaviors: A meta-analysis of the leading behavioral contributors to mortality. *Psychological Bulletin*, 130(6), 887–919. <http://doi.org/10.1037/0033-2909.130.6.887>
- Burrus-Bammel, L. L., & Bammel, G. (1985). Leisure and recreation. In J. E. Birren & K. W. Schaie (Eds.), *Handbook of the psychology of aging (2nd ed.)*. (pp. 848–863). New York, NY, US: Van Nostrand Reinhold Co.

- Carlson, M. C., Parisi, J. M., Xia, J., Xue, Q.-L., Rebok, G. W., Bandeen-Roche, K., & Fried, L. P. (2012). Lifestyle activities and memory: Variety may be the spice of life. The women's health and aging study II. *Journal of the International Neuropsychological Society*, 18(2), 286–294. <http://doi.org/10.1017/S135561771100169X>
- Cattell, R. B. (1987). *Intelligence: Its structure, growth, and action*. Amsterdam ; New York: Elsevier Science.
- Celen-Demirtas, S., Konstam, V., & Tomek, S. (2015). Leisure activities in unemployed emerging adults: Links to career adaptability and subjective well-being. *The Career Development Quarterly*, 63(3), 209–222. <http://doi.org/10.1002/cdq.12014>
- Center for Disease Control and Prevention (2015). Health, United States, 2015, with special feature on adults aged 55-64. Retrieved from [http://www.cdc.gov/nchs/data/14.pdf](http://www.cdc.gov/nchs/data/hus/14.pdf)
- Chang, P.-J., Wray, L., & Lin, Y. (2014). Social relationships, leisure activity, and health in older adults. *Health Psychology*, 33(6), 516–523. <http://doi.org/10.1037/hea0000051>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.
- Damman, M., Henkens, K., & Kalmijn, M. (2011). The impact of midlife educational, work, health, and family experiences on men's early retirement. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 66B(5), 617–627. <http://doi.org/10.1093/geronb/gbr092>
- Diehl, M., & Berg, K. M. (2007). Personality and involvement in leisure activities during the third age: Findings from the Ohio longitudinal study. In J. B. James, P. Wink, J. B. (Eds.), *Annual review of gerontology and geriatrics, 2006: The crown of life: Dynamics*

- of the early postretirement period*. (Vol. 26, pp. 211–226). New York, NY, US: Springer Publishing Co.
- Feldman, D. C., & Beehr, T. A. (2011). A three-phase model of retirement decision making. *American Psychologist*, 66(3), 193–203. <http://doi.org/10.1037/a0022153>
- Filer, R. K., & Petri, P. A. (1988). A job-characteristics theory of retirement. *The Review of Economics and Statistics*, 70, 123–128. <http://doi.org/http://dx.doi.org/10.2307/1928158>
- Fisher, G. G., Chaffee, D. S., & Sonnega, A. (2016). Retirement timing: A review and recommendations for future research. *Work, Aging and Retirement*, 2(2), 230–261. <http://doi.org/10.1093/workar/waw001>
- Fultz, N. H., Fisher, G. G., & Jenkins, K. R. (2004). Does urinary incontinence affect middle-aged and older women's time use and activity patterns?: *Obstetrics & Gynecology*, 104(6), 1327–1334. <http://doi.org/10.1097/01.AOG.0000143829.21758.3c>
- Gee, S., & Baillie, J. (1999). Happily ever after? An exploration of retirement expectations. *Educational Gerontology*, 25(2), 109–128. <http://doi.org/10.1080/036012799267909>
- Goldberg, L. R. (1993). “The structure of phenotypic personality traits”: Author's reactions to the six comments. *American Psychologist*, 48, 1303–1304. <http://doi.org/http://dx.doi.org/10.1037/0003-066x.48.12.1303>
- Gow, A. J., Mortensen, E. L., & Avlund, K. (2012). Activity participation and cognitive aging from age 50 to 80 in the Glostrup 1914 cohort. *Journal of the American Geriatrics Society*, 60(10), 1831–1838. <https://doi.org/10.1111/j.1532-5415.2012.04168.x>
- Harlow, R. E., & Cantor, N. (1996). Still participating after all these years: A study of life task participation in later life. *Journal of Personality and Social Psychology*, 71(6), 1235–1249. <http://dx.doi.org/10.1037/0022-3514.71.6.1235>

- Herero, V. G., & Extremera, N. (2010). Daily life activities as mediators of the relationship between personality variables and subjective well-being among older adults. *Personality and Individual Differences*, 49(2), 124–129. <http://doi.org/10.1016/j.paid.2010.03.019>
- Jopp, D., & Hertzog, C. (2007). Activities, self-referent memory beliefs, and cognitive performance: Evidence for direct and mediated relations. *Psychology and Aging*, 22(4), 811–825. <http://doi.org/10.1037/0882-7974.22.4.811>
- Jopp, D. S., & Hertzog, C. (2010). Assessing adult leisure activities: An extension of a self-report activity questionnaire. *Psychological Assessment*, 22(1), 108–120. <http://doi.org/10.1037/a0017662>
- Kanfer, R., Beier, M. E., & Ackerman, P. L. (2013). Goals and motivation related to work in later adulthood: An organizing framework. *European Journal of Work and Organizational Psychology*, 22(3), 253–264. <http://doi.org/10.1080/1359432X.2012.734298>
- Kubicek, B., Korunka, C., Raymo, J. M., & Hoonakker, P. (2011). Psychological well-being in retirement: The effects of personal and gendered contextual resources. *Journal of Occupational Health Psychology*, 16(2), 230–246. <http://doi.org/10.1037/a0022334>
- Kuykendall, L., Tay, L., & Ng, V. (2015). Leisure engagement and subjective well-being: A meta-analysis. *Psychological Bulletin*, 141(2), 364–403. <http://doi.org/10.1037/a0038508>
- Lachman, M. E., & Weaver, S. L. (1997). *The midlife development inventory (MIDI) Personality scales: Scale construction and scoring*. Technical Report. Retrieved from <http://www.brandeis.edu/departments/psych/lachman/pdfs/midi-personality-scales.pdf>

- Löckenhoff, C. E., Terracciano, A., & Costa, P. T. (2009). Five-factor model personality traits and the retirement transition: Longitudinal and cross-sectional associations. *Psychology and Aging, 24*(3), 722–728. <http://doi.org/10.1037/a0015121>
- Munnell, A. (2011). What is the average retirement age? *Center for Retirement Research*. Retrieved from <http://stonestreetequity.com/sites/all/files/stonestreet/attachments/What%20Is%20The%20Average%20Retirement%20Age.pdf>
- Muthén, L. K., & Muthén, B., O. (2015). *MPlus statistical analysis with latent variables: User's guide*. Los Angeles, CA: Muthén & Muthén.
- Ozer, D. J., & Benet-Martínez, V. (2006). Personality and the prediction of consequential outcomes. *Annual Review of Psychology, 57*(1), 401–421. <http://doi.org/10.1146/annurev.psych.57.102904.190127>
- Paullin, C. (2014). *The aging workforce: Leveraging the talents of mature employees*. (SHRM Foundation's Effective Practice Guidelines Series). Retrieved from <http://www.shrm.org/about/foundation/products/Documents/Aging%20Workforce%20EPG-FINAL.pdf>
- Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*(3), 385–401. <http://doi.org/10.1177/014662167700100306>
- Roberts, B. W., Smith, J., Jackson, J. J., & Edmonds, G. (2009). Compensatory conscientiousness and health in older couples. *Psychological Science, 20*(5), 553–559. <https://doi.org/10.1111/j.1467-9280.2009.02339.x>

- Robinson, O. C., Demetre, J. D., & Corney, R. (2010). Personality and retirement: Exploring the links between the Big Five personality traits, reasons for retirement and the experience of being retired. *Personality and Individual Differences*, 48(7), 792–797.
<http://doi.org/10.1016/j.paid.2010.01.014>
- Shanahan, M. J., Hill, P. L., Roberts, B. W., Eccles, J., & Friedman, H. S. (2014). Conscientiousness, health, and aging: The life course of personality model. *Developmental Psychology*, 50(5), 1407–1425. <http://doi.org/10.1037/a0031130>
- Smith, J., & Baltes, P. B. (1997). Profiles of psychological functioning in the old and oldest old. *Psychology and Aging*, 12(3), 458–472. <http://dx.doi.org/10.1037/0882-7974.12.3.458>
- Smith, J., Fisher, G., Ryan, L., Clarke, P., House, J., & Weir, D. (2013). *HRS psychosocial and lifestyle questionnaire 2006-2010: Documentation report*. Institute for Social Research, University of Michigan, Ann Arbor, MI. Retrieved from
<http://hrsonline.isr.umich.edu/sitedocs/userg/HRS2006-2010SAQdoc.pdf>
- Sonnega, A., Faul, J. D., Ofstedal, M. B., Langa, K. M., Phillips, J. W., & Weir, D. R. (2014). Cohort profile: the Health and Retirement Study (HRS). *International Journal of Epidemiology*, 43(2), 576–585. <http://doi.org/10.1093/ije/dyu067>
- Sonnentag, S. (2001). Work, recovery activities, and individual well-being: a diary study. *Journal of Occupational Health Psychology*, 6(3), 196–210. <http://doi.org/10.1037/1076-8998.6.3.196>
- Szinovacz, M. E., Davey, A., & Martin, L. (2015). Did the great recession influence retirement plans? *Research on Aging*, 37(3), 275–305. <http://doi.org/10.1177/0164027514530171>

- van der Horst, M., Vickerstaff, S., Lain, D., Clark, C., & Geiger, B. B. (2016). Pathways of paid work, care provision, and volunteering in later careers: Activity substitution or extension? *Work, Aging and Retirement*. Retrieved from <https://doi.org/10.1093/workar/waw028>
- Vozikaki, M., Linardakis, M., Micheli, K., & Philalithis, A. (2016). Activity participation and well-being among European adults aged 65 years and older. *Social Indicators Research*. <http://doi.org/10.1007/s11205-016-1256-y>
- Wang, M., & Shi, J. (2014). Psychological research on retirement. *Annual Review of Psychology*, 65(1), 209–233. <http://doi.org/10.1146/annurev-psych-010213-115131>
- Warr, P., Butcher, V., & Robertson, I. (2004). Activity and psychological well-being in older people. *Aging & Mental Health*, 8, 172–183. <http://doi.org/10.1080/13607860410001649662>
- World Health Organization (2015). World health statistics 2015. Retrieved from http://apps.who.int/iris/bitstream/10665/170250/1/9789240694439_eng.pdf
- Zacher, H. (2015). Successful Aging at Work. *Work, Aging and Retirement*, 1(1), 4–25. <https://doi.org/10.1093/workar/wau006>

Table 1.

Inter-correlations of Predictor Variables

	<i>M</i>	<i>SD</i>	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Openness	3.01	.55	1.00											
2. Conscientiousness	3.27	.39	.31**	1.00										
3. Extraversion	3.20	.55	.52**	.28**	1.00									
4. Agreeableness	3.51	.48	.36**	.30**	.51**	1.00								
5. Neuroticism	2.11	.68	-.13*	-.21**	-.19**	-.03	1.00							
6. Memory	10.07	2.81	.13*	.10	.03	.06	.01	1.00						
7. Wealth	208,859.00	496,349.00	.18**	.11*	.12*	.03	-.08	.25**	1.00					
8. Work Status	.64	.48	.16**	.29**	.12*	.06	-.18**	.17**	.17**	1.00				
9. Education	2.23	1.49	.23**	.23**	.02	.03	-.09	.32**	.32**	.26**	1.00			
10. Mental WB T1	.01	.76	.17**	.18**	.24**	.03	-.44**	.16**	.31**	.36**	.18**	1.00		
11. Physical WB T1	.07	.63	.17**	.24**	.11*	.06	-.26**	.25**	.22**	.42**	.27**	.41**	1.00	
12. Ret. Expect. T1	38.08	33.64	.14*	-.06	-.01	.01	-.01	.12	.01	--	.17**	-.05	.06	1.00

Note: * $p < .05$, ** $p < .01$. *n*'s for each correlation range from 206 for retirement expectations at time 1, but are between 363 and 400 for all other variables. T1 = 2010. Wealth represents an unstandardized net value of total wealth in nominal dollars, including all assets minus debt. Work Status coded as working = 1 and not working = 0. Education coded as 0 = no high school education, 1 = GED, 2 = high school diploma, 3 = 2-year or associate's degree equivalent, 4 = bachelor's degree, 5 = Master's degree, 6 = Professional degree. WB = Well-

Being. Mental Well-Being and Physical Well-Being are unit-weighted z-score composites. Ret. Expect. T1 = Retirement Expectations T1 (i.e., participants self-reported likelihood of working full-time after reaching age 65) is measured on a scale where 0 = absolutely no chance and 100 = absolutely certain. The correlation between work status and retirement expectations cannot be computed because retirement expectations was only asked of working participants.

Table 2.

Inter-correlations of Mediator and Outcome Variables

	<i>M</i>	<i>SD</i>	1.	2.	3.	4.	5.	6.	7.	8.
1. Productive Activities	.07	4.97	1.00							
2. Physical Activities	.07	2.24	.52**	1.00						
3. Social Activities	-.02	4.21	.54**	.55**	1.00					
4. Leisure Activities	.14	4.85	.51**	.47**	.56**	1.00				
5. Activity Variety	21.37	5.16	.14**	.34**	.31**	.28**	1.00			
6. Mental WB T3	.01	.82	-.11*	.17**	.10	-.09	.24**	1.00		
7. Physical WB T3	.07	.63	-.09	.14**	.05	-.03	.29**	.43**	1.00	
8. Ret. Expect. T3	42.23	32.25	-.03	.05	.17*	.18*	.17*	-.01	.10	1.00

Note: * $p < .05$, ** $p < .01$. *n*'s for each correlation range from 206 for retirement expectations at time 3, but are between 384 and 400 for all other variables. T3 = 2012. WB = Well-Being. Ret. Expect. T3 = Retirement Expectations T3 (i.e., participants self-reported likelihood of working full-time after reaching age 65) is measured on a scale where 0 = absolutely no chance and 100 = absolutely certain. Mental Well-Being, Physical Well-Being, and Activities are unit-weighted z-score composites.

Table 3.

Inter-correlations between Predictor and Outcomes Variables

Predictor Variable	Outcome Variable							
	Productive Activities	Physical Activities	Social Activities	Leisure Activities	Activity Variety	Mental WB T3	Physical WB T3	Ret. Expect. T3
Openness	.05	.10	.14**	.05	.19**	.20**	.17**	.16*
Conscientiousness	-.01	.06	.06	.01	.11*	.16**	.24**	-.06
Extraversion	.06	.04	.11*	-.06	.07	.20**	.11*	.05
Agreeableness	.08	.04	.14**	.03	.11*	.02	.05	-.07
Neuroticism	.02	-.13*	-.03	-.01	-.14**	-.40**	-.30**	-.12
Memory	-.08	.03	.07	.06	.24**	.09	.23**	.08
Wealth	-.07	.11*	.02	-.02	.22**	.28**	.24**	-.08
Work Status	-.11*	.04	-.02	-.03	.23**	.35**	.40**	-.03
Education	-.09	.02	.00	.06	.32**	.16**	.27**	.15*
Mental WB T1	-.12*	.11*	.01	-.06	.18**	.67**	.39**	-.06
Physical WB T1	-.10*	.13**	.02	-.04	.28**	.40**	.80**	-.01
Ret. Expect. T1	.01	.02	.02	.01	.10	.04	.09	.58**

Note: * $p < .05$, ** $p < .01$. n 's for each correlation range from 180 for retirement expectations at time 1 and 3, but are between 362 and 400 for all other variables. T1 = 2010 and T3 = 2012. Work Status coded as working = 1 and not working = 0. Education coded as 0 = no high school education, 1 = GED, 2 = high school diploma, 3 = 2-year or associate's degree equivalent, 4 = bachelor's degree, 5 = Master's

degree, 6 = Professional degree. WB = Well-Being. Ret. Expect. T1 and T3 = Retirement Expectations T1 and T3 (i.e., participants self-reported likelihood of working full-time after reaching age 65) are measured on a scale where 0 = absolutely no chance and 100 = absolutely certain.

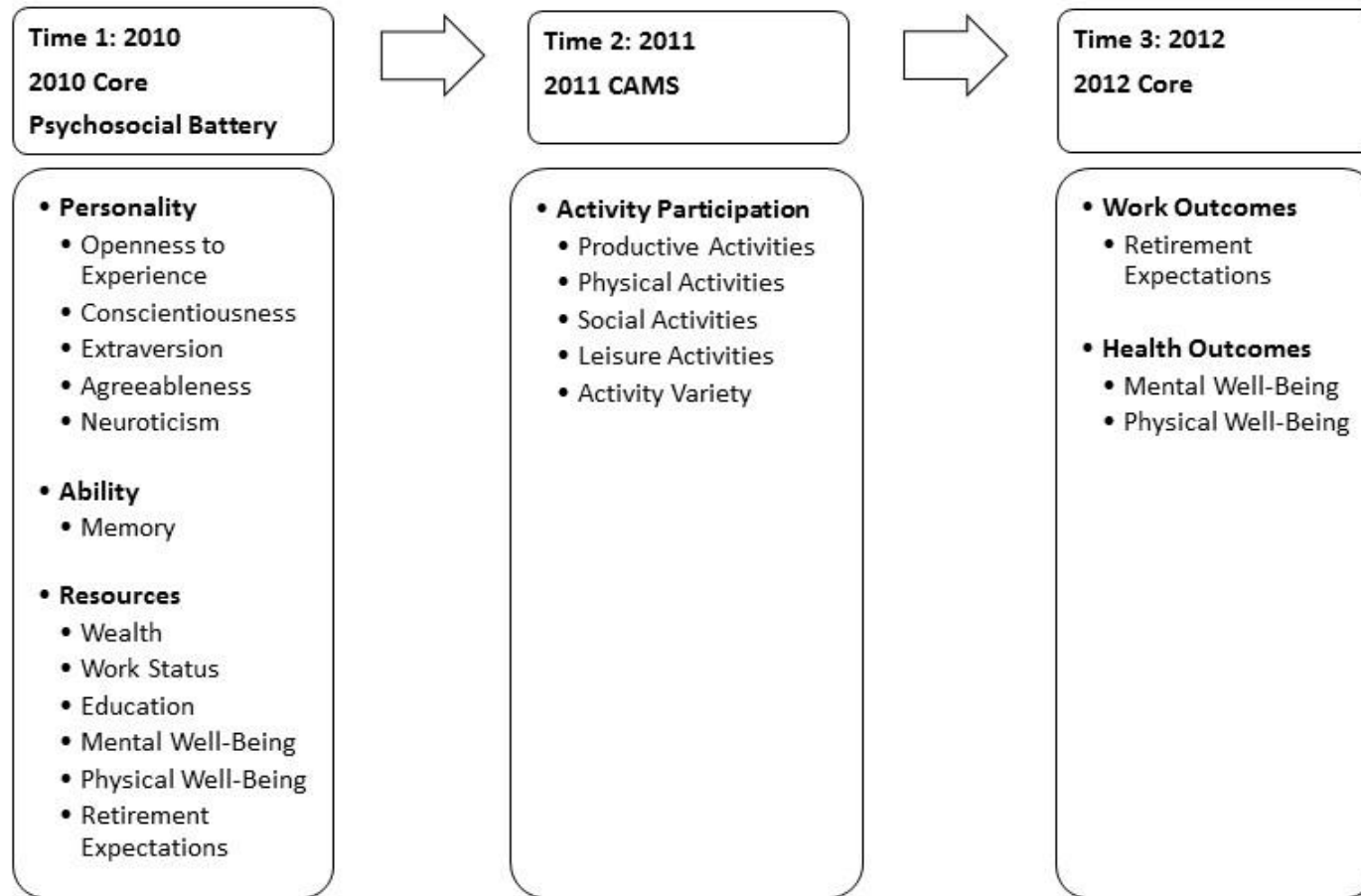


Figure 1. Constructs measured at each time point.

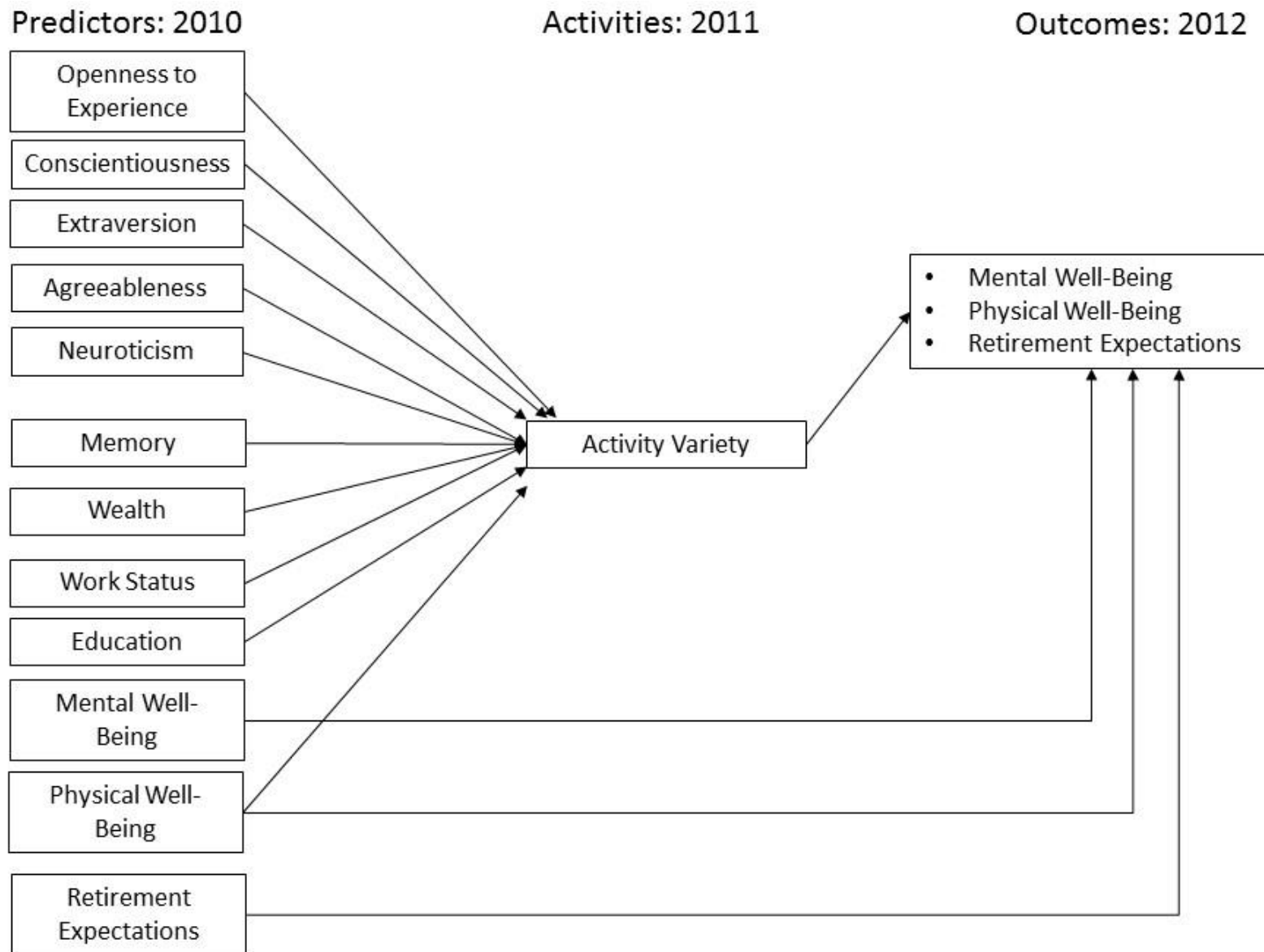


Figure 2. Hypothesized relationships between distal traits and resources, activity variety, and work and health related outcomes using the HRS.

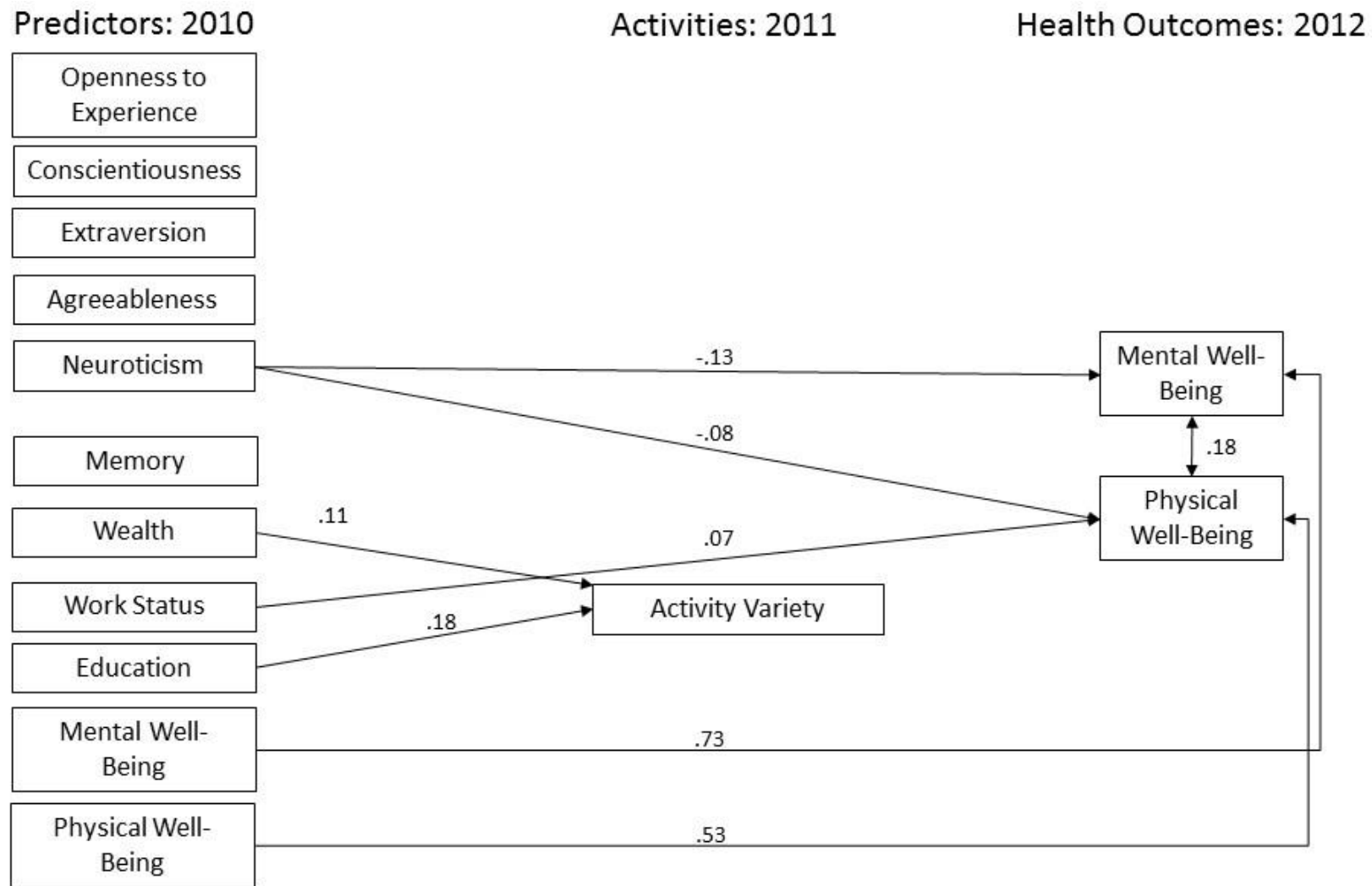


Figure 3. Path analysis showing significant relationships between distal traits and resources, activities, and mental and physical well-being; $\chi^2 (N = 341, 2) = 4.28, p > .05, CFI = .99, RMSEA = .06$

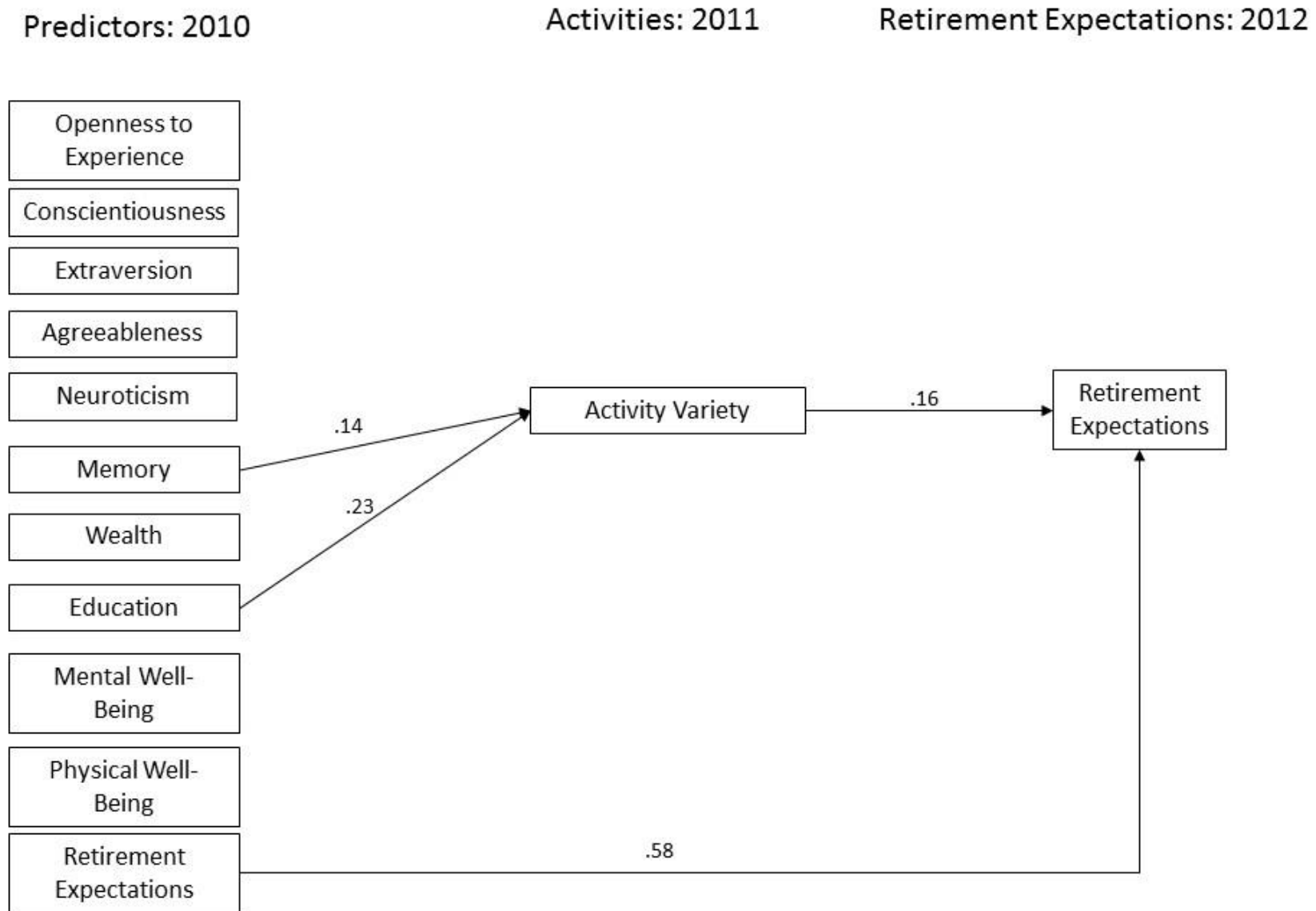


Figure 4. Path analysis showing significant relationships between distal traits and resources, activities, and retirement expectations; $\chi^2 (N = 200, 1) = .061, p > .05$, CFI = 1.00, RMSEA = .00