

The Psychology of Portfolio Withdrawal Rates

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Background

Little is known about what motivates the portfolio withdrawal decisions of retirees, as most studies on portfolio withdrawal rates are technical in nature. Studies that address safe withdrawals rates, income portfolio product combinations, and retiree spending profiles help create a better understanding for the market factors that must be considered when developing retirement income plans, but do little to inform the human side of the decision-making process. With a wealth of knowledge related to technical planning issues, there is a gap in the literature regarding the behavioral characteristics that influence portfolio drawdown decisions.

Purpose

The purpose of this study is to investigate how personality and psychological characteristics combine to affect the portfolio withdrawal behavior of retirees. This study builds upon existing literature by using psychological theory to examine portfolio withdrawal decisions and addresses the human dimension that must be considered when developing optimal portfolio drawdown strategies.

Theory

Psychological characteristics are connected to portfolio withdrawal rates through the Meta-Theoretic Model of Motivation and Personality (3M) (Mowen, 2000). As depicted in Figure 1, the 3M posits that consumer behavior can be explained through a hierarchy of traits, ranging from abstract personality characteristics to concrete behavioral dispositions (Mowen, 2000): (a) Elemental traits, (b) Compound traits, (c) Situational traits, and (d) Surface traits. The 3M indicates that each trait level is connected to surface level traits (e.g., portfolio withdrawal rates), with situational traits exhibiting the strongest association given their adjacent location to surface traits within the hierarchy. Moreover, with compound traits and situational traits in the middle of the hierarchy, it is possible for full or partial mediation to occur.

Hypotheses

The below hypotheses were derived from existing literature in addition to the 3M model. The elemental traits were operationalized through the widely known Big Five personality traits (Costa & McCrae, 1992). The compound traits were selected according to the criteria of the 3M and existing literature. Financial self-efficacy was the situational trait of interest. Lastly portfolio withdrawal rates served as the outcome variable at the surface trait level.

Personality and Psychological Traits	Association with Portfolio Withdrawal Rates
Elemental traits:	
Openness	+
Conscientiousness	-
Extroversion	-
Agreeableness	+
Neuroticism	+
Compound Traits:	
Positive Affect	-
Negative Affect	+
Situational Traits:	
Financial Self-Efficacy	-

Mediating Relationships:

- Compound traits are indirectly connected to portfolio withdrawal rates through situational traits (i.e., FSE).
- Elemental traits are indirectly connected to portfolio withdrawal rates through combinations of situational and compound traits.

Method

Data Source: The Health and Retirement Study served as the data source for this study. Specifically, the 2014 RAND HRS was paired with personality and psychological data from the 2012 and 2014 waves of the HRS Leave-Behind (LB) Psychosocial and Lifestyle HRS Questionnaire, which collects information from half the sample on a rotating basis at each collection cycle. IRA withdrawals for the respondent and spouse were incorporated from the RAND HRS Tax Calculations 2000 – 2014 (v1) data file.

Sample: The final sample included 3,935 observations, representing over twenty-two million individuals age 50 and older after incorporating weighting information.

Analysis: This study employed structural equation modeling with a confirmatory factor analysis measurement model.

Variables

Dependent Variable. Portfolio withdrawal rate levels in 2014 were the outcome of interest and were computed as portfolio distributions divided by financial assets. Portfolio withdrawal rates were transformed through a natural logarithmic function.

Elemental Traits. Big Five Personality Traits: Openness, conscientiousness, extroversion, agreeableness, and neuroticism.

Compound Traits. Positive affect and negative affect.

Situational Traits. Financial self-efficacy beliefs.

Control Variables. Age, working status, couple status, gender, race, education, non-mortgage debt, homeowner and mortgage status, self-reported health status, financial planning time horizon, and bequest likelihood.

Results

In accordance with the 3M Model of Motivation and Personality, structural equation model results revealed that those with greater conscientiousness and extroversion have lower portfolio withdrawal rates (PWR); whereas those with greater agreeableness and neuroticism have higher portfolio withdrawal rates. These effects were primarily indirect, with conscientiousness being the only elemental trait with a direct relationship with PWR. Results also revealed that positive affect and negative affect were indirectly associated with portfolio withdrawal rates through FSE. Specifically, those with greater positive affect had lower PWR due to higher FSE, whereas those with greater negative affect had higher PWR due to lower FSE.

Moreover, greater portfolio withdrawal rates were associated with older individuals, couples (compared to singles), and those with non-mortgage debt (e.g., credit card, family loans, etc). Lower portfolio withdrawal rates were associated with employment activity, being White, having a college education, owning a home without a mortgage, and having a bequest motive.

Discussion and Financial Planning Implications

Findings from this study provide insight to practitioners as they explore retirement income planning beyond its technical aspects and seek to maximize their clients' satisfaction from the consumption of their retirement portfolios. The significant direct and indirect effects of the personality and psychological factors in the model suggest that performing a personality assessment on clients may reveal characteristics and attitudes that influence their portfolio withdrawal decisions. Characteristics more commonly associated with responsible financial behavior and/or financial success (conscientiousness, extroversion, positive affect, and financial self-efficacy) were directly and/or indirectly associated with lower portfolio withdrawal rates. This is a positive outcome if it protects clients from overspending. However, if these characteristics relate to overly conservative spending, clients may lose utility from forgone consumption. Conversely, agreeableness, neuroticism, and negative affect (characteristics commonly associated with less favorable financial decisions and outcomes) are directly and/or indirectly related to higher portfolio withdrawal rates. Clients possessing these characteristics may be more prone to impulsive spending and be at greater risk of depleting their retirement portfolio. Identifying and understanding these relationships can better inform planners about the characteristics and attitudes that clients bring to the relationship. With this insight planners can more actively engage their clients, understand what triggers their positive and negative financial choices, and guide clients to more favorable long-term financial outcomes.

References

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- Mowen, J. C. (2000). *The 3M model of motivation and personality: Theory and empirical applications to consumer behavior*. Norwell, MA: Kluwer Academic Publishers.
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Figure 1. 3M Hierarchical Personality Structure, adapted from Mowen (2000).

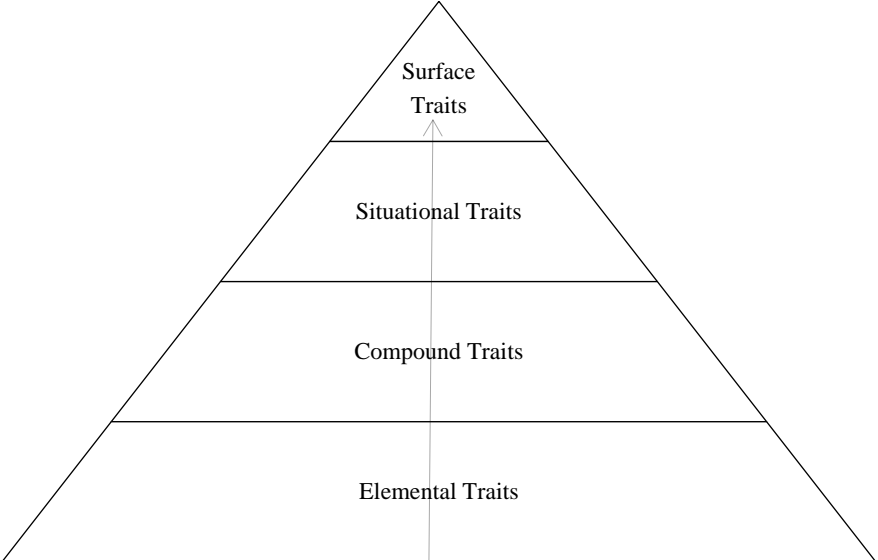
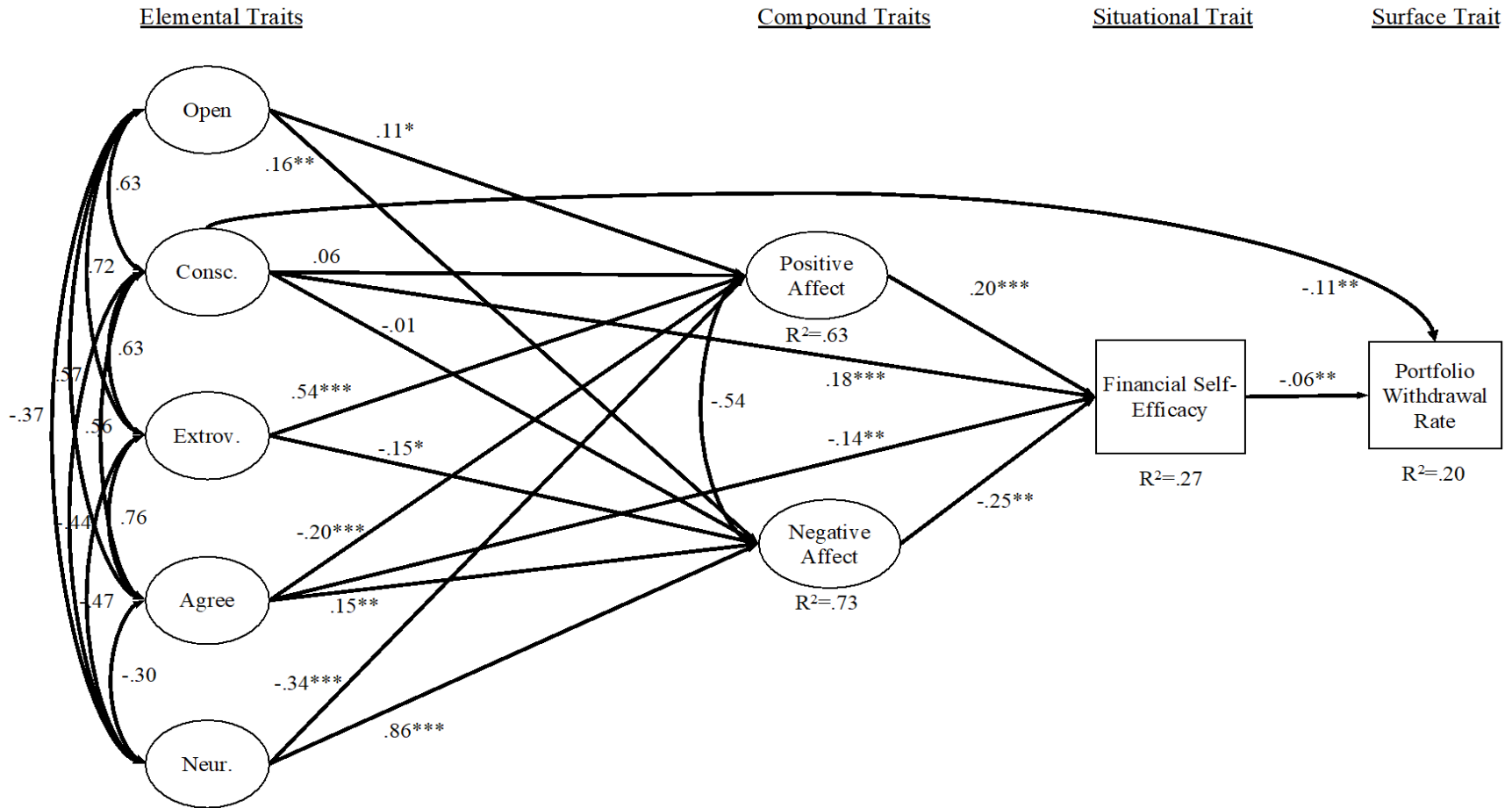


Figure 2. Structural Equation Model Results



Note: * $p < .05$; ** $p < .01$; *** $p < .001$. Model fit indices are: $\chi^2(293) = 2553.81$, $p < .001$; RMSEA = .044, 90% CI [.043, .046], CFI = .91, TLI = .85. N=3,935. All results were computed with Mplus in STDYX standardization. The structural model was estimated with indicators from the measurement model for the latent variables and included control variables according to the full partial method (Little, 2013): age, working status, couple status, gender, race, education, non-mortgage debt, homeowner and mortgage status, self-reported health status, financial planning time horizon, and bequest likelihood. The indirect effects were tested and reported using a bootstrap estimation approach with 5,000 samples (Shrout & Bolger, 2002).

TABLE 1

Sample Characteristics of Categorical Variables (N=3,935)

Variable	n	% (weighted)*
Gender		
Female	2150	50.13%
Male	1785	49.87%
Household status		
Couple	2243	59.27%
Single	1692	40.73%
Race		
White	3340	91.13%
Other	595	8.87%
Education		
Less than college	1509	33.07%
College or higher	2426	66.93%
Employment activity		
Yes	980	32.10%
No	2955	67.90%
Homeownership & mortgage		
Homeowner, with mortgage	1212	35.62%
Homeowner, no mortgage	2108	50.22%
Non-homeowner	615	14.17%
Presence of other debt		
Yes	1289	33.92%
No	2646	66.08%
Bequest likelihood of \$100k		
0%	811	17.36%
1% to 49%	657	15.56%
50% to 99%	1353	37.02%
100%	1114	30.06%
Financial assets (\$0 excluded)		
\$1 to \$24,999	1091	24.25%
\$25,000 to \$99,999	799	19.60%
\$100,000 to \$249,999	703	17.45%
\$250,000 to \$499,999	541	15.14%
\$500,000 and above	801	23.56%
Household income (excluding IRA withdrawals)		
\$0 to \$24,999	715	15.32%
\$25,000 to \$49,999	1134	24.85%
\$50,000 to \$74,999	716	18.27%
\$75,000 to \$99,999	450	12.10%
\$100,000 and above	920	29.46%

Note: Weighted percentages are provided to account for the oversampling techniques utilized by the HRS. The weighted sample represents 22,451,571 Americans age 50 and above. N = 3,935.

TABLE 2

Sample Characteristics of Scales and Continuous Variables (N=3,935)

Variable	Mean	se	Min	Max	Cronbach's Alpha
Log portfolio withdrawal rate	-3.20	0.06	-15.18	9.49	-
Age	68.08	0.35	54.00	98.00	-
Financial planning horizon	3.28	0.02	1.00	5.00	-
Self reported health	3.40	0.02	1.00	5.00	-
<u>Situational Trait</u>					
Financial self efficacy	7.62	0.05	0.00	10.00	-
<u>Compound Traits</u>					
Positive affect	3.62	0.02	1.00	5.00	0.93
Negative affect	1.73	0.01	1.00	5.00	0.90
<u>Elemental Traits</u>					
Openness to experience	2.99	0.01	1.00	4.00	0.80
Conscientiousness	3.33	0.01	1.00	4.00	0.73
Extroversion	3.17	0.01	1.00	4.00	0.78
Agreeableness	3.50	0.01	1.00	4.00	0.81
Neuroticism	1.96	0.01	1.00	4.00	0.73

Notes: The Taylor Series method was employed to incorporate the HRS's complex sampling design information (Muthén and Muthén 2015). The weighted sample represents 22,451,571 American adults age 50 and over. N=3,935.