



# TECHNICAL MANUAL

BUILDING WEALTH V2.0

DataPoints

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## INTRODUCTION

DataPoints offers financial advisors and their clients a series of behavioral finance tools, allowing advisors to engage clients in the improvement of wealth-building behaviors and, ultimately, long-term financial outcomes. The tools are psychometric assessments, developed using best practices from the field of industrial and organizational psychology, a science with an established methodology for demonstrating value and return on investment from the use of such assessments. The assessments and model underlying the assessments are based in part on the data from and research of Dr. Thomas J. Stanley, author of *The Millionaire Next Door* (Stanley & Danko, 1996) and *The Millionaire Mind* (Stanley, 2000).

This report details the development and validation of the Building Wealth assessment and related short versions offered on the DataPoints platform. The test development process was guided by several professional and well-established guidelines, including *The Standards for Educational and Psychological Testing* (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2004; *The Standards*).

## PSYCHOMETRIC ASSESSMENT AND BEHAVIORAL FINANCE

Psychometrics is the science and practice associated with the measurement of human characteristics. These characteristics range from abilities to personality, and from behaviors to attitudes. Typically, psychometricians are borne out of applied psychological and educational fields. Best practices in the field require psychometricians to meet *The Standards* when creating commercially-available. Psychometrics has been used for over a century in a variety of fields for decision-making, counseling and coaching, and self-assessment, including, but not limited to:

- Clinical psychology and psychiatry
- Educational measurement
- Human resources, primarily for personnel selection, promotion, leadership development, and training

Psychometrics has also been used in the financial services industry to assess individual characteristics related to money personality, investor risk tolerance (see below), and financial literacy, among others. Likewise, psychometrics has been used by psychologists and counselors working with individual clients who are experiencing clinical issues related to money that are impacting other aspects of their lives.

Behavioral coaching is becoming more of a fundamental part of the holistic practice associated with financial planning (Collins & O'Rourke, 2012; Dubofsky & Sussman, 2009; Sussman & Dubofsky, 2009), and with this rise comes the use of psychological assessments as part of the coaching process to focus efforts on areas that will ultimately lead to improving client opportunities for financial success. It is critical for advisors and coaches to utilize psychometrically sound and meaningful assessments to provide relevant and actionable advice to their clients.

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## ASSESSMENT OF INVESTOR RISK

Psychometrics is often associated with the measurement of investor risk tolerance. For example, a survey of financial advisors (T3 Advisor Perspectives & Inside Information, 2017) provided categories of software used in the financial advisory space. This survey included a specific review of risk tolerance assessments, but did not include any mention of other types of assessments that might be used in the world of financial planning/wealth management. The Finance Industry Regulatory Association (FINRA) mandates that advisors require the assessment of risk tolerance to allocate assets to types of investments (FINRA, 2014). In other words, to create a “suitable”

portfolio of investments which may differ in terms of their risk, the advisor must understand the tolerance of the investor for potential changes in the value of those investments. Like the academic field of financial planning, the area of risk tolerance assessment is young, and experts disagree both on the operationalizations of risk tolerance (Brayman, Grable, & Griffin, Finke, 2017; Nobre & Grable, 2015) and on the merits of such measurement. Likewise, other fields, namely economics (Dong, Eil, Pew, & Smith, 2015), offer alternative ways in which risk tolerance can be measured, adding to the confusion but not ameliorating the need for appropriate measurement to help investors in their financial decision-making.

While the concept of understanding an individual's risk tolerance is critical for investment decision-making, it is only one aspect of financial management, and typically serves as a "snapshot in time" of someone's preferences, attitudes, or behaviors. For advisors to provide holistic services, they must focus on a broad range of characteristics that have been shown to impact overall financial success.

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### PATTERNS OF FINANCIAL LIFE EXPERIENCES & BEHAVIORS

Psychometrics may also be used to help individuals understand their behaviors, attitudes, and personality related to money in general and for the intention of helping clients engage in the behaviors that will allow them to be financially successful in the future. This is a broader perspective than simply assessing risk tolerance, and more applicable to the general population than clinical assessment of money-related psychoses. With few exceptions, psychometrics and client assessments in financial services has provided little in the way of assessing the numerous other important factors that might impact how an individual client manages their finances.

To help clients achieve financial success, it is critical to understand the behaviors that impact success and then coach and develop those behaviors. Specifically, DataPoints maintains that a broad competency model can define the "job" of personal financial management, and from this model, key factors that predict future success can be identified. Likewise, we argue that the measurement of *behaviors and life experiences, or biodata*, is a powerful means by which advisors and firms can assess patterns of financial behaviors that impact the ability to build and maintain wealth.

Biodata (short for *biographical data*) is the systematic assessment of patterns of life experiences and behaviors. While other methods exist to gather biographical information about an individual, biodata has a long history and favor in industrial-organizational psychology (Stokes, Mumford, & Owens, 1994), and has consistently been found to predict future job performance (Schmidt & Hunter, 1998) as well as other critical life outcomes such as career attainment (Snell, Stokes, Sands, & McBride, 1994; Stokes, Mumford, & Owens, 1989).

The purpose and approach documented here demonstrates the use of psychometrics to assess patterns of behaviors and life experiences that are associated with building wealth over time for the express purpose of establishing a *benchmark* of financial management behaviors. This benchmark serves to help the advisor and the client improve behaviors that have been shown to predict net worth, independent of age and income. We operationalize this using *net worth*, or a household's total assets minus its liabilities. We use this criterion because it captures both "good offense" (income; investing) and "good defense" (saving; debt management). Likewise, we use this criterion because it is most closely associated with financial health, versus income which does not consider spending, savings, or investment related behaviors.

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### THE BUILDING WEALTH ASSESSMENT

The Building Wealth assessment is a 45-item, psychometrically sound, *biodata-based* measure of individual life experiences and behaviors intended to relate to success in overall financial management. The assessment includes

the measurement of six wealth factors (see Table 1) and an overall score, called Wealth Potential. The wealth factors measure different types of financial behaviors, and can be used by advisors to a) identify a benchmark of behavioral patterns of their clients related to financial management, b) create behavioral-based plans for improving those behaviors, and c) coach their clients in the areas where improvement is needed or consistency is required.

Net worth is strongly influenced by income and age: higher income gives individuals more potential to build wealth. The older an individual is, the longer he or she has had to build wealth. Based on the results of studies that support the development of the Building Wealth assessment, the overall score - Wealth Potential - may be used instead of net worth as an indicator of how well someone manages or will manage their financial affairs. It is related to net worth but adds to its prediction. Therefore, it is an important indicator of potential financial success for clients who are just beginning their financial management responsibilities as well as those who have already built considerable wealth.

A host of additional dependent variables have also been studied in relationship to Wealth Potential (see DataPoints' white paper, Fallaw, 2016). The remaining report describes the development of this assessment and appropriate uses for the assessment. Advisors and firms should use this guide to determine if the Building Wealth assessment and its related recommendations and planning features are appropriate for use with their clients as part of the client onboarding, coaching, and development process.

**TABLE 1. DEFINITIONS OF MEASUREMENTS OF THE BUILDING WEALTH ASSESSMENT**

Wealth Factor/ Scale	Definition	Example Item
<b>Wealth Potential</b>	An overall indication of the propensity to build or maintain wealth over time, based on behaviors and experiences.	Not applicable
<b>Confidence</b>	Demonstration of confidence and collaboration in financial management, investing, and household leadership.	<i>How comfortable are you making significant financial decisions for your household?</i>
<b>Frugality</b>	Financial behaviors associated with consistent saving, dedicated commitment to lower spending, and rigorous adherence to a budget.	<i>My friends and/or family members would describe me as frugal.</i>
<b>Responsibility</b>	Acceptance of the role of actions, abilities, and experiences in financial outcomes. Belief that luck plays a small part in achievement.	<i>I take responsibility for the financial outcomes of my household.</i>
<b>Social Indifference</b>	Spending and saving behaviors that reflect immunity to social pressure to purchase the latest in consumer and/or luxury goods, clothing, & cars.	<i>How often do you feel pressure to shop and spend as your neighbors or friends do? (Reverse scored)</i>
<b>Focus</b>	Demonstration of the ability to focus on detailed tasks through completion without becoming distracted	<i>I find it difficult to complete tasks without becoming distracted. (Reverse scored)</i>
<b>Planning</b>	Behaviors related to goal-setting, planning, and anticipating future needs	<i>I have a clearly defined set of daily, weekly, monthly, annual, and/or lifetime goals.</i>

## RESEARCH BACKGROUND

The research that underlies the Building Wealth assessment is based on the concept that personal financial management is a job that most individuals – like it or not – are required to perform. Like a traditional job, there are objective criteria by which success in the job can be measured (such as income level, monthly savings goals, net worth goals), there are tasks which must be performed (e.g., maintaining financial records, paying bills, generating revenue, spending money), and, therefore, there are clear competencies that relate to the ability and potential to perform those tasks and achieve success.

For a variety of reasons, financial planners and advisors are beginning to appreciate the value of providing holistic financial advice to their clients, encouraging basics such as thrift and prudent goal-setting in addition to more sophisticated advice in the areas of estate planning, taxes, and investing. Many areas that advisors are now focusing on are similar to those highlighted in *The Millionaire Next Door* and other works by author and researcher Thomas J. Stanley. His research, spanning nearly 40 years and including over 14,000 interviews, survey results, and the like with self-made, wealthy individuals, served as the basis for the model of personal financial management and the assessments created by DataPoints. *The Millionaire Next Door*, published in 1996, highlighted the seemingly mundane habits, behaviors, and experiences of self-made, financially successful Americans. The book went on to be considered one of the classics of personal financial management (Lieber, 2015). It has spawned an industry of personal finance books, blogs, newsletters, and general resources. With the birth of personal financial management media, myriad popular and untested sets of recommendations and advice by which individuals might try to improve were also provided to the public.

To differentiate “good advice” from less helpful/tested advice, we can apply scientific methods to the study of the tasks and competencies needed to perform those tasks within the personal financial management “job.” The academic field of financial planning is developing methodologies for the study and improvement of the financial planning field. DataPoints believes that the use of established methodologies from industrial and organizational psychology can add to the academic and practical sides of this industry, specifically in the area of determining the tasks and related competencies that are required of those who manage the finances within a household. If advisors are going to provide holistic financial advice and coaching, then the key behaviors that impact financial success need to be identified, assessment of clients’ current behaviors need to be taken, and advisors need to coach and develop their clients on the key factors.

Through a series of research studies (Fallaw, Krueger, & Grable<sup>a</sup>, manuscript in preparation; Fallaw, Krueger, & Grable<sup>b</sup>, manuscript in preparation; Grable, Krueger, & Fallaw, 2017), DataPoints created a) a proprietary list of financial management tasks, b) a proprietary competency model of personal financial management, and c) a series of assessments that measure patterns of financial behaviors. The following is a summary of the research background that supports the creation and implementation of the Building Wealth assessment and three related short assessments (see Appendix).

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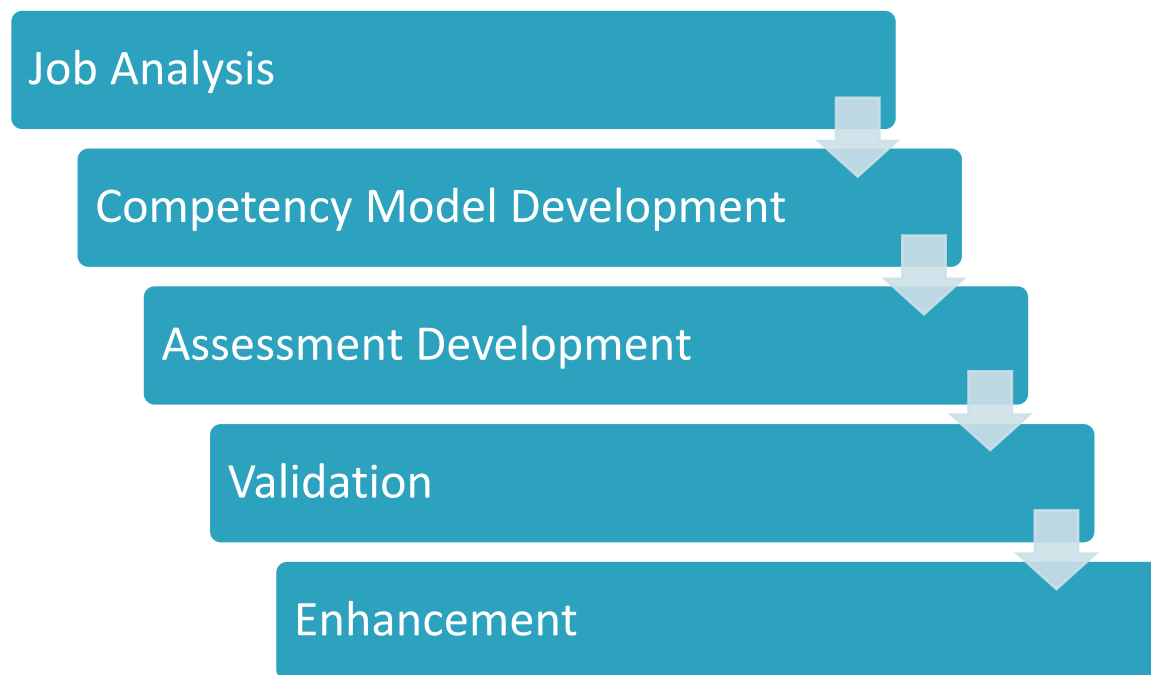
### HOUSEHOLD FINANCIAL MANAGER: JOB ANALYSIS

The first step in understand the types of psychological constructs or competencies that would serve as effective predictors of success in a job is job analysis. Job analysis is the systematic identification of the tasks, behaviors, and requirements of a job, as well as the knowledge, skills, abilities, and other characteristics (KSAOs) required to perform those tasks. Specifically, job analysis is “a purposeful, systematic process for collecting information on the important work-related aspects of a job” (Gatewood & Feild, 1998). Job analysis is considered the foundation of

human resources, and serves as the basis for decision-making and job design, including: personnel section, recruitment, training and development, job design, job classifications, and promotion (Cascio, 1998).

This technique, borrowed from industrial-organizational psychology, provides a scientific and systematic way to identify the tasks included in a job, and the requisite competencies required to complete those tasks. By approaching personal financial management in this nature, assessments of critical competencies can be made, and advisors and clients can work to improve on those competencies (see Figure 1).

FIGURE 1. DATAPOINTS ASSESSMENT DESIGN PROCESS



*Note: Adopted from Gatewood & Field, 1998; Cascio, 1998; Levine et al., 1998; Guion, 1998.*

DataPoints underwent an exhaustive examination of these tasks in preparation for the development of the Building Wealth assessment. The methodology and results of this process are outlined in Fallaw et al. (manuscripts in preparation) and Grable, Kruger, and Fallaw (2017).

In summary, this process involved multiple steps and data collection efforts including:

- Review of task lists, when available, from academic journals, popular media, governmental resources (e.g., O\*NET; National Center for O\*NET Development, 2010)
- Creation of the initial task list
- Identification of the most frequently performed tasks and the most critical tasks
- Examination of differences in frequency between different net worth groups

- Identification of potential KSAOs/competencies for inclusion in a competency model of personal financial management

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## COMPETENCY MODEL/WEALTH FACTOR DEVELOPMENT

To adequately assess one's ability and potential for building and maintaining wealth, DataPoints created a model of personal financial management competencies. Competency modeling is a technique that is often applied to complex or higher-level jobs where broad sets of tasks and KSAOs can be derived from a variety of data sources (Campion, Fink, Ruggeberg, Carr, Phillips, & Odman, 2011).

This model was created based on a variety of sources, including the following:

- Tasks and related KSAOs identified through the job analysis process
- Life experiences that were well-documented in the field of applied psychology and biographical data (e.g., Stokes, Mumford, & Owens, 2004)
- Constructs/competencies listed in *The Millionaire Next Door*, *The Millionaire Mind*, *Millionaire Women Next Door*, and *Stop Acting Rich*
- Factors identified from predictors of future job performance (e.g., Ones, Viswesvaran, & Schmidt, 1993; Schmidt & Hunter, 1998)
- Factors identified in the study of personal financial management that related to success outcomes such as investing behaviors (Barber & Odean, 2001); financial planning behaviors (Lusardi & Mitchell, 2009), borrowing behaviors, and saving behaviors (Nyhus & Webley, 2001).

This proprietary model of personal financial management served as the basis for the construction of items. The creation of this model is outlined in more detail in Fallaw et al. (manuscript in preparation).

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## ITEM DEVELOPMENT

Biodata was the chosen methodology for the Building Wealth test, as documented previously. The item writing team consisted of two Ph.D.'s in industrial-organizational psychology and extensive expertise in psychometric assessments and biodata item creation, and one Ph.D. in marketing research, with extensive expertise in the study of the behaviors, habits, and personality characteristics of self-made, affluent individuals. The goal of item writing was to create a comprehensive pool of items that would cover the wide range of behaviors and experiences that could operationalize each competency effectively.

Item development came from two sources: a) archival items included in the original surveys conducted with high- and ultra-high net worth individuals between 1982 and 2007 by the Affluent Market Institute, and b) items written by the items writing team specifically for assessing the competencies from the model above.

In the case of the former, survey items were reviewed by the team to determine if a) the item was biographical in nature (as opposed to attitudinal), and b) if the language, tone, and clarity of the item allowed it to be considered for the initial item pool. In other words, some items that were included in the item pool originated from the research that led to *The Millionaire Next Door*, *The Millionaire Mind*, and other works by Dr. Stanley.

For the new items, the team wrote items specifically to assess each of the competencies in the model mentioned in the section above. Item writing for each competency ensured that items included a variety of types (e.g., see Mael, 1991, McManus & Maztal, 1999), and attempted to assess the pattern of behaviors using multiple methods.



In addition, an effort was made to ensure that language was generic, and that there were no gender biases in the items.

In total, over 650 items were included in the initial item pool to assess the competencies identified. Items were reviewed by the team for clarity, tone, readability, and face validity related to the competency/construct being measured. The final item pool included approximately 597 items, along with several background and demographic questions to be included in the studies.

## SCALE AND TEST DEVELOPMENT

Several studies were undertaken as part of the scale confirmation, validation, and cross-validation of the competencies. For purposes of the Building Wealth assessment, we will focus on the research for the factors that were included in the beta version of the version 1.0 assessment. Below is a summary of the studies used in the creation of Building Wealth v1.0.

Tables 2 and 3 describe each of the samples included in the studies.

TABLE 2. DESCRIPTION OF STUDIES

Study	Purpose	Study Details
Study 1 (Sample 1)	Scale Development (internal consistency, item response analyses)  Development of empirical keys  Criterion Related Validation	<b>mTurk Sample (A) - Fall 2013</b> <ul style="list-style-type: none"> <li>Screened for knowledge of net worth, income level</li> <li>Completed three different surveys across 3-5 weeks</li> <li>Incentive - paid \$2/survey</li> <li>n = 657</li> </ul>
Study 1 (Sample 2)	Cross Validation  Assessment of key in affluent population	<b>AMI Sample - Spring 2014</b> <ul style="list-style-type: none"> <li>No screening for inclusion in study</li> <li>Completed three different surveys across 3-5 weeks</li> <li>Incentive - donation to Salvation Army</li> <li>n = 272</li> </ul>
Studies 2 and 3 (Sample 3)	Cross Validation  Rational Key Validation  Criterion Related Validation	<b>mTurk Sample (B) - Fall 2015</b> <ul style="list-style-type: none"> <li>Screened for knowledge of net worth, income level</li> <li>Incentive - paid \$2/survey</li> <li>n = 494</li> </ul>

TABLE 3. DEMOGRAPHIC CHARACTERISTICS OF SAMPLES IN STUDIES

Sample	Description	N	% Men	Average Age	Median Income	Median Net Worth	Average % of Inherited Wealth
1	mTurk Sample A	657	55.3%	36.47	\$55,000	\$10,000.00	4.26%
2	AMI Panel Sample	252	80.1%	40.78	\$141,000	\$497,500.00	4.48%
3	mTurk Sample B	494	50.0%	37.39	\$70,000	\$35,000.00	6.23%

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## STUDY 1

The purpose of the first study was to a) assess item-level validity, b) confirm the unidimensionality of the factors, c) assess internal-consistency reliability for rational versions of the scales while also finding parsimonious sets of items for use in the assessment, and d) to examine the initial validation of the factors in the prediction of net worth. The factors that were found to be most predictive of net worth were included for the next stages of analyses and in the creation of an overall score. Two samples were included in this initial step: a sample derived from Amazon's Mechanical Turk service, as well as a sample of individuals from the Affluent Market Institute (AMI) panel. These two samples differed in terms of critical variables, and the purpose was to determine if the same relationships among the variables and between Wealth Potential and net worth independent of age, income, and percentage of inherited wealth were consistent across the two samples.

Four of the predictive factors were included in the v1.0 assessment (see Table 2) for inclusion in the Building Wealth test, and for purposes of this report, we will refer to them as *wealth factors*. Details of these analyses are available in Fallaw et al. (manuscript in preparation). For the purposes of this report, descriptive statistics, level reliabilities, and validities are provided (see Tables 4 and 5). The composite score, named Wealth Potential, was created as a unit-weighted score to provide advisors and clients a parsimonious and useful tool to efficiently understand an individual's standing on all wealth factors.

Hierarchical regression analyses were conducted to examine the usefulness of the overall score in the prediction of net worth. Specifically, age and income were entered first, followed by percentage of inherited wealth. Finally, the overall score, Wealth Potential, was entered into the equation.

In the first sample, each of the three models had significant zero-order correlations with net worth (see Tables 6 and 7). In the second sample, two of the three predictor models - (1) age and income and (2) age, income, and percent of inherited wealth and Wealth Potential - had a significant zero-order correlation with Net Worth, and the inclusion of Wealth Potential results in a significant change in overall variance explained ( $F(1,575) = 24.44, p < .01, \Delta R^2 = .04$  for Sample 1, and  $F(1,267) = 4.553, p < .05, \Delta R^2 = .01$  for Sample 2). Therefore, regression results indicate that Wealth Potential is a significant predictor of net worth, even after controlling for age, income, and percent of inherited wealth.

The results of the validation study demonstrated the overall usefulness of the factors in the prediction of net worth. Specifically, we found that the incremental variance associated with the introduction of Wealth Potential was significant in both samples, even though there were differences in the weights and intercorrelations in the overall models. Therefore, variance in an individual's net worth could be explained by their overall wealth behaviors (Wealth Potential), regardless of their age or income.

TABLE 4. DESCRIPTIVE STATISTICS, RELIABILITY, AND INTERCORRELATIONS BETWEEN SCALES: SAMPLE 1

Scale	N	M	SD	1	2	3	4	5	6	7	8
1 Confidence	593	0.57	0.30	.57							
2 Frugality	561	0.89	0.42	.45**	.78						
3 Responsibility	593	0.98	0.28	.49**	.21**	.59					
4 Social Indifference	592	0.86	0.52	.08	.35**	.08	.80				
5 Wealth Potential	593	0.78	0.27	.78**	.77**	.63**	.23**	-			
6 Age	657	36.11	10.31	-.07	.07	.00	.21**	-.01	-		
7 Income	657	65682.64	44281.29	.12**	.09*	.14**	.00	.15**	.02	-	
8 % of Wealth Inherited	657	4.27	14.90	.02	.02	.00	.06	.04	.02	.04	-
9 Net Worth	641	90683.31	449633.07	.19**	.20**	.15**	.13**	.23**	.15**	.27**	.26**

\* $p < .05$  \*\* $p < .01$

Internal consistency reliabilities (alpha) are found in the diagonal for the scales.

TABLE 5. DESCRIPTIVE STATISTICS, RELIABILITY, AND INTERCORRELATIONS BETWEEN SCALES: SAMPLE 2

Scale	N	M	SD	1	2	3	4	5	6	7	8
1 Confidence	272	0.88	0.30	.64							
2 Frugality	272	1.40	0.36	.46**	.73						
3 Responsibility	272	1.22	0.24	.46**	.37**	.46					
4 Social Indifference	272	1.11	0.50	.22**	.46**	.28**	.74				
5 Wealth Potential	272	1.14	0.25	.75**	.80**	.65**	.40**	-			
6 Age	272	40.78	10.30	-.05	.07	-.12	.11	-.02	-		
7 Income	272	184616.61	140532.96	.15*	.06	.08	-.06	.13*	.18**	-	
8 % of Wealth Inherited	272	3.48	11.36	.01	-.11	-.05	-.05	-.09	.07	-.09	-
9 Net Worth	272	1103748.67	1672939.80	.18**	.11	.04	-.01	.14*	.56**	.53**	.02

\* $p < .05$  \*\* $p < .01$

Internal consistency reliabilities (alpha) are found in the diagonal for the scales.

TABLE 6. REGRESSION OF NETWORTH AS A FUNCTION OF WEALTH POTENTIAL, AGE, INCOME, AND PERCENT OF INHERITED WEALTH: STUDY 1, SAMPLE 1

Variable	Model 1			Model 2			Model 3		
	B	SE B	$\beta$	B	SE B	$\beta$	B	SE B	$\beta$
Age	6669.12	1771.56	.15	6313.41	1710.66	.14	6406.42	1675.58	.14
Income	2.76	.41	.27	2.68	.39	.26	2.37	.39	.23
% Inherited from Estates & Trusts				7847.33	1190.78	.25	7695.29	1166.68	.25
Wealth Potential							331027.76	65628.26	.19
R <sup>2</sup>		.10			.16			.20	
F for change in R <sup>2</sup>		30.53*			43.43*			25.44*	

\*  $p < .01$

TABLE 7. REGRESSION OF NETWORTH AS A FUNCTION OF WEALTH POTENTIAL, AGE, INCOME, AND PERCENT OF INHERITED WEALTH: STUDY 1, SAMPLE 2

Variable	Model 1			Model 2			Model 3		
	B	SE B	$\beta$	B	SE B	$\beta$	B	SE B	$\beta$
Age	77656.160	7116.226	.478	77371.586	7154.588	.477	77927.876	7112.415	.480
Income	5.266	.522	.442	5.290	.525	.444	5.145	.526	.432
% Inherited from Estates & Trusts				2894.609	6410.171	.020	3859.037	6384.124	.026
Wealth Potential							614604.926	288050.337	.093
R <sup>2</sup>		.499			.500			.501	
F for change in R <sup>2</sup>		134.17**			.204			4.553*	

\*  $p < .05$     \*\*  $p < .01$

## STUDY 2

The purpose of the second study was to cross-validate the findings from Study 1 using a short version of the original survey instrument. A sample of participants were recruited from mTurk, and 494 participants completed the survey in a single administration. This contrasts with Study 1: the participants in Study 2 completed one survey instrument that included the four wealth factors that were identified for the first Building Wealth test (Confidence, Frugality, Responsibility, and Social Indifference) and also included two other factors that were found to be predictive in the original study, but were not included in the overall score of Wealth Potential because of the potential test length: Focus and Planning & Monitoring.

Cross-validation provides evidence that the key, or the assignments of scores to particular item responses, was not sample specific, and the validity of the scale is similar across studies and samples. As in Study 1, hierarchical regression analyses were conducted to examine the usefulness of Wealth Potential in the prediction of net worth. Age and income were entered in to the equation in the first step, followed by percentage of inherited wealth, and finally, Wealth Potential.

Each model had a significant zero-order correlation with net worth. Like in Study 1, the inclusion of Wealth Potential resulted in a significant change in overall variance explained ( $F(1,486) = 36.16, p < .01, \Delta R^2 = .06$ ; see Table 9). The model accounted for 24% of the variance in net worth. Therefore, the results indicate that Wealth Potential is a significant predictor of net worth, even after controlling for age, income, and percent of inherited wealth in this sample as well and under the conditions mentioned above.

<sup>1</sup> Note we report the 3<sup>rd</sup> decimal place in this finding to demonstrate the overall change in R<sup>2</sup> was greater than .00.

TABLE 8. DESCRIPTIVE STATISTICS, RELIABILITY, AND INTERCORRELATIONS BETWEEN SCALES: STUDY 2, SAMPLE 3

Scale	N	M	SD	1	2	3	4	5	6	7	8
1 Confidence	494	0.70	0.32	.74							
2 Frugality	494	0.88	0.46	.56**	.82						
3 Responsibility	494	1.03	0.29	.52**	.30**	.67					
4 Social Indifference	494	0.91	0.53	.10*	.41**	.21**	.80				
5 Wealth Potential	494	0.85	0.27	.69**	.8**	.62**	.70**	-			
6 Age	494	37.39	10.07	-.18**	-.09*	-.03	.09*	-.05	-		
7 Income	494	82257.64	63601.35	.11*	-.03	.13**	-.02	.04	.01	-	
8 % of Wealth Inherited	494	6.26	18.57	.02	.00	-.10*	-.03	-.04	.07	-.05	-
9 Net Worth	491	150941.40	350601.85	.18**	.21**	.13**	.12**	.22**	.37**	.19**	.11*

\* $p < .05$  \*\*  $p < .01$

Internal consistency reliabilities (alpha) are found in the diagonal for the scales.

TABLE 9. REGRESSION OF NETWORTH AS A FUNCTION OF WEALTH POTENTIAL, AGE, INCOME, AND PERCENT OF INHERITED WEALTH: STUDY 2, SAMPLE 3

Variable	Model 1			Model 2			Model 3		
	B	SE B	$\beta$	B	SE B	$\beta$	B	SE B	$\beta$
Age	12750.42	1433.13	.37	12496.43	1430.19	.36	12904.56	1382.86	.37
Income	1.03	.25	.19	1.06	.23	.19	1.01	.22	.18
% Inherited from Estates & Trusts				1858.91	777.22	.10	2004.23	750.99	.12
Wealth Potential							290137.94	48246.74	.24
R <sup>2</sup>		.17			.18			.24	
F for change in R <sup>2</sup>		49.95**			5.72*			36.16**	

\* $p < .05$  \*\*  $p < .01$

### STUDY 3 & BUILDING WEALTH V2.0

In December 2016, a revision to the original Building Wealth v1.0 assessment took place based on feedback and applications of the test. Specifically, the purpose of the revised version of Building Wealth (v2.0) was to:

1. Provide additional information to advisors and their clients about their financial management behaviors (i.e., to include more wealth factors);
2. Decrease the number of items per scale for the original four wealth factors;
3. Add experimental content to ensure enhancements are available over time;
4. Enhance the overall score by approximating a z-score transformation through weighting of the factors; and
5. Increase the variability in scoring with rational (versus empirical) keys.

The analyses for the newly created, rationally-keyed version of the Building Wealth test (version 2.0) may be found in Tables 10 and 11. Like the other studies, a hierarchical regression analysis was conducted to examine the usefulness of Wealth Potential in the prediction of net worth. Age and income were entered in to the equation in the first step, followed by percentage of inherited wealth, and finally, Wealth Potential.

Each model and Wealth Potential had a significant ( $p < .01$ ) zero-order correlation with net worth. Like in Study 1, the inclusion of Wealth Potential resulted in a significant change in overall variance explained ( $F(1,486) = 46.86, p < .01, \Delta R^2 = .07$ ; see Table 11). The four predictor model accounted for 25% of the variance in net worth. The results supported the use of the rational key in the prediction of net worth, and had similar patterns of findings as compared to the empirical key.

TABLE 10. DESCRIPTIVE STATISTICS, RELIABILITY, AND INTERCORRELATIONS BETWEEN SCALES: RATIONAL KEYING: STUDY 3, SAMPLE 3

Scale	N	M	SD	1	2	3	4	5	6	7	8	9	10
1 Confidence	494	2.99	.67	.82									
2 Focus	494	3.34	.60	.23**	.73								
3 Frugality	494	3.85	.86	.48**	.36**	.81							
4 Planning	494	3.49	.81	.59**	.43**	.62**	.68						
5 Responsibility	494	3.69	.66	.24**	.35**	.18**	.31**	.69					
6 Social Indifference	494	3.60	.75	.07	.31**	.31**	.18**	.20**	.83				
7 Wealth Potential	494	3.53	.49	.68**	.65**	.77**	.81**	.54**	.52**	-			
8 Age	494	37.39	10.07	-.11*	.09	-.10*	-.18**	-.01	.11*	-.06	-		
9 Income	494	82257.64	63601.35	.12**	-.05	.01	.03	.13**	-.01	.05	.01	-	
10 % of Wealth Inherited	494	6.26	18.57	.05	-.01	-.01	.00	-.13	-.03	-.03	.07	-.05	-
11 Net Worth	491	150941.40	350601.85	.23**	.14**	.19**	.18**	.13**	.13**	.25**	.37**	.19**	.11*

\* $p < .05$  \*\* $p < .01$

Internal consistency reliabilities (alpha) are found in the diagonal for the scales.

TABLE 11. REGRESSION OF NETWORTH AS A FUNCTION OF WEALTH POTENTIAL, AGE, INCOME, AND PERCENT OF INHERITED WEALTH: STUDY 3, SAMPLE 3

Variable	Model 1			Model 2			Model 3		
	B	SE B	$\beta$	B	SE B	$\beta$	B	SE B	$\beta$
Age	12750.42	1433.13	.37	12496.43	1430.19	.36	13035.41	1369.53	.38
Income	1.03	.23	.19	1.06	.23	.19	.98	.22	.18
% Inherited from Estates & Trusts				1858.91	777.22	.10	1982.09	743.25	.11
Wealth Potential							193384.15	28250.71	.27
R <sup>2</sup>			.17			.18			.25
F for change in R <sup>2</sup>			49.95**			5.72*			46.86**

\* $p < .05$  \*\* $p < .01$

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## OVERALL SCORE, NORMATIVE DATA, AND PERCENTILES

Overall score is calculated by rational weighting with some alteration to approximate a raw score transformation to Z-scores. This was conducted to ameliorate issues related to differences in means of the wealth factors (see Table 10). In other words, to ensure that any one wealth factor was not overly influencing the overall score, adjustments to the weights of the factors were applied to create the composite Wealth Potential score.

Normative data for the Building Wealth assessment included Study 2 results, as they were the most recently collected and reflected data gathered in one sitting, or data collection period, versus the multi-stage approach conducted in Study 1 (whereby test takers took assessments across four different sessions). Percentile scores are reported to the individual and to the advisor, ranging from 5<sup>th</sup> to 99<sup>th</sup> percentiles.

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## RECOMMENDATIONS AND NARRATIVES

DataPoints assessments include developmental recommendations and narrative scoring text to aid users in understanding scores. Score descriptions and recommendations for each wealth factor were written by the item team. The narratives and recommendations were written specifically from a) the tasks identified in the job analysis that related directly to the behavioral wealth factor, or b) item content contained in each wealth factor. The score level descriptions and recommendations were reviewed by two subject matter experts (SMEs): one attorney with experience in finance and tax, as well as a Ph.D. in marketing research, with 30+ years' experience in studying self-made, affluent individuals and their habits, behaviors, and attitudes. Recommendations are provided based on the client's score on a given wealth factor in one of three score zones: low (below the 33<sup>rd</sup> percentile), medium (33<sup>rd</sup> to 66<sup>th</sup> percentile), or high (67<sup>th</sup> percentile or higher).

## ONGOING RESEARCH & ENHANCEMENTS

DataPoints is committed to the ongoing enhancement of our products. To that end, we employ a process for evaluating and updating our assessments every six months. Specifically, this process includes the following:

1. Analyses of aggregate data to produce updated norms (when sufficient data is available, i.e., more than 500 unique data points), ensuring continued accuracy in scoring for the relevant population (i.e., clients of financial advisors);
2. Analyses of experimental items embedded within the tests; and
3. Replacement of items with similarly performing yet updated items, particularly items that are powerful in terms of relationship to criteria of interest (namely, net worth)

Specifically, for cases 2 and 3 above, DataPoints assessments include the use of experimental content: items embedded in the test that are not scored or reported, but instead serve as a way for continuous improvement of the assessment. These *experimental items* allow for ongoing data collection and improvements to the predictive nature and client experience. Data from each assessment are used in aggregate form for analyses of item-level validities and wealth factor characteristics (reliability and validity) with different combinations of items. DataPoints is focused on the technical aspects of the test, but also on the reactions of individuals to the test items and social desirability of the items. Future analyses will be conducted to ensure those components are accounted for and improved over time.

APPLICATIONS

Building Wealth measures patterns of client wealth building behaviors, collectively organized and described as wealth factors. For an individual test taker, the purpose is to identify behavioral patterns and provide personalized narratives and recommendations to aid in understanding and development of behaviors that can improve their financial outcomes. More details on applications may be found in our whitepaper (DataPoints, 2016). For summary purposes, advisors may consider the use of Building Wealth for the following purposes:

1. To get to know prospective and current clients
2. To identify clients with high potential for building wealth
3. To coach clients to improve behaviors over time
4. To establish key behavioral plans
5. To advise spouses on behavioral differences that may be impacting their financial success

The Building Wealth test is appropriate for clients that have had experience managing their own financial affairs. Specifically, the test is applicable for most of the adult population that have some responsibility for managing their own financial affairs.

Advisors may find that those individuals with substantial wealth (e.g., ultra-high net worth clients) find the assessment less useful, as their patterns of behaviors may be less important given their net worth.

TABLE 12. USE OF BUILDING WEALTH IN FINANCIAL SERVICES

Group	Application
Prospects	<ul style="list-style-type: none"> <li>• Identify high wealth potential prospects who may not meet minimums</li> <li>• Engage prospects with a holistic approach to financial management</li> <li>• Assess and distribute feedback reports as part of marketing, educational events</li> </ul>
New Clients	<ul style="list-style-type: none"> <li>• Segment clients by their financial behaviors for content marketing and events</li> <li>• Coach &amp; develop clients to improve financial behaviors</li> <li>• For firms, match clients to advisors based on similarities in behavioral patterns</li> </ul>
Established Clients	<ul style="list-style-type: none"> <li>• Introduce new assessment to further build value of relationship</li> <li>• Provide evidence-based coaching &amp; development</li> </ul>
Spouses/ Couples	<ul style="list-style-type: none"> <li>• Assess couples’ standing on wealth factors and use data to address sensitive financial issues</li> <li>• Discuss topics that may be sensitive using objective data on patterns of behaviors</li> </ul>
Heirs	<ul style="list-style-type: none"> <li>• Identify &amp; develop key behaviors that can ensure wealth is preserved &amp; grows</li> <li>• Build trust with objective measures of behaviors</li> <li>• Open tough conversations using reports based on their own responses</li> </ul>



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## LIMITATIONS

The Building Wealth assessment, in its current state, is neither appropriate nor designed for personnel selection, promotion, or risk tolerance assessment. While certain wealth factors, and the overall Wealth Potential composite, may be related to investing-related behaviors, job performance in different roles, or leadership ability, multiple studies confirming these relationships would need to be conducted in accordance with *The Standards* (AERA et al., 2004).

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## TEST CONDITIONS & RETESTING

Test takers (clients) should complete the Building Wealth test on their own, preferably in a quiet location free from distractions. The test should be completed in one sitting, and each client should complete the assessment him or herself (versus having one household complete a single assessment).

The test is not appropriate or designed for retesting in that the biodata items associated with the test measure past and current patterns of behaviors. If significant behavioral change occurs post-testing, the individual would continue to receive lower scores because the questions measure past behavioral patterns as well as current ones. Instead, it is recommended that advisors who wish to track the progress of their clients in improving behaviors on the wealth factors do so via a rating process over time. DataPoints offers a coaching and planning module that allows advisors and clients to track improvements over time. This way, the client is rating his or her behaviors related to specific factors and related to a period that is congruent with when the change could have been expected to take place.

## CONCLUSION

The Building Wealth assessment is a psychometrically sound, biodata-based assessment of wealth-related behaviors and life experiences. The assessment can be used by those committed to the improvement of behaviors as part of the financial planning process. The assessment was built in part on the research and data that led to *The Millionaire Next Door* as well as best practices in industrial-organizational psychology and psychometrics.

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## ABOUT DATAPOINTS

The science of predicting wealth.™

DataPoints links real-life experiences and behaviors to a person's ability to build wealth. Our solutions combine the latest assessment methods with behavioral factors identified from nearly 40 years of research on the wealthy that fueled the *New York Times* best-selling books *The Millionaire Next Door* and *The Millionaire Mind*. The behavioral finance platform from Data Points gives financial firms powerful insight into client behaviors and Wealth Potential. Our technology delivers electronic assessments, performs analysis, and generates feedback to drive wealth and financial management success.

## APPENDIX: ENGAGE (SHORT) ASSESSMENTS

Assessments are composed of wealth factors that are organized to measure wealth potential for segments or markets, and may vary in terms of specific wealth factor included.

DataPoints currently offers three short forms of behavioral assessments: Wealth Potential, Spending Behaviors, and Career Congruence. Each assessment includes biodata (life experiences and behavioral) questions, and focuses on areas that are related to overall financial success measures, including income and/or net worth.

These assessments were created as part of the test development process outlined in the Building Wealth technical report, but were included as stand-alone tests to provide advisors with a way to deliver short, engaging assessments directly from their website. Because of this intended use, the Engage assessments are purposely short (10-13 questions), and measure one unique component or wealth factor, compared to a longer assessment which may include the measurement of multiple wealth factors.

### CURRENT ENGAGE ASSESSMENTS

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#### WEALTH POTENTIAL

The Wealth Potential assessment is a short, biodata-based measure designed specifically to predict net worth independent of age, income, and net worth. The assessment was constructed using the most predictive items (that is, the items that demonstrated the strongest relationship to net worth, independent of age and income) included in the Building Wealth test. The test contains 10 items, some of which are unscored (experimental) as part of DataPoints' ongoing enhancement process, or are informational (e.g., self-employment status) to help the advisor understand the clients' background.

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#### SPENDING BEHAVIORS

Spending behaviors is a short assessment designed to identify patterns in shopping and consumer behaviors. The items were selected from among the original item pool, as well as specifically from some of the items from the Building Wealth assessment. The test contains 13 items, some of which are unscored (experimental) as part of DataPoints' ongoing enhancement process.

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#### CAREER CONGRUENCE

Career Congruence is a biodata-based measure of career fit and satisfaction. Unlike the other behavioral assessments included in this technical report, measures of career fit and satisfaction are typically related strongly to income, versus net worth. This is the case with Career Congruence. In other words, scores on Career Congruence are related to levels of income, versus household net worth. The test contains 12 items, some of which are unscored (experimental) as part of DataPoints' ongoing enhancement process.

## SCALE INFORMATION

TABLE A. DESCRIPTIVE STATISTICS, RELIABILITY, AND INTERCORRELATIONS BETWEEN SCALES: ENGAGE ASSESSMENTS

Scale	N	M	SD	1	2	3	4	5	6
1 Career Congruence	657	3.35	.82	.86					
2 Spending Behaviors	554	3.90	.68	.14**	.82				
3 Wealth Potential <sup>2</sup>	562	3.01	.47	.24**	.31**	.52			
4 Age	657	36.11	10.31	.03	.09*	-.06	-		
5 Income	641	90683.31	449633.07	.16**	-.07	.12**	.02	-	
6 % of Wealth Inherited	657	4.27	14.90	.00	-.06	-.03	.02	.04	-
7 Net Worth	657	65682.64	44281.29	.08*	.05	.19**	.15**	.27**	.26**

\* $p < .05$  \*\* $p < .01$

Internal consistency reliabilities (alpha) are found in the diagonal for the scales.

## APPLICATIONS & LIMITATIONS

The Engage assessments are specifically designed to be informational for the end-user (website visitor). Specifically, the short forms of the assessments are designed more for informational purposes than for coaching, development, or decision-making about an individual. They are appropriate for adults who have some experience managing their finances as well as working.

The tests are not appropriate for personnel selection, promotion, or making decisions about individuals. Caution should be given in making service decisions regarding a client based on the short forms of the assessments. While the forms were created to be predictive, the items have not been empirically studied as stand-alone tests.

<sup>2</sup> Note that the internal consistency reliability (alpha) for Wealth Potential is low. This is due to the inclusion in this test of items that are not tied to one unique competency, but instead is a combination of items that predict net worth.

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