Perceived versus Actual Investor Sophistication; A Behavioral Study

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This research utilizes the National Financial Capability Study (NFCS) funded by the FINRA Investor Education Foundation. The national and state-level data are extracted from the 2015, 2012 and 2009 NFCS State-by-State Surveys, each of which employed nationwide online surveys of over 25,000 American adults.

This survey solicits information from individual investors on retirement and non-retirement account investments, actual level of investment sophistication, and self-perceived level of investment sophistication, along with many demographic variables. This study investigates the relationship between actual and perceived investor sophistication to determine retirement preparedness of investors, as well as whether investors understand their level of financial preparedness. It is hypothesized that most investors are not as prepared for retirement nor as sophisticated investors as they believe. Additionally, it is hypothesized that there will be a difference in results related to age, education, and gender.

Data Analysis

See tables following the reference section including linear regression, correlation analysis, ANOVA, and difference of means tests.

The findings show an inverse relationship between overconfidence and financial knowledge. Higher financial knowledge is associated with higher investments in retirement accounts, investments in stocks, level of income, and willingness to take financial risks. The data also shows that higher levels of education, age, race, and gender are related to higher levels of financial literacy

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;	N		Mean	Median	Std. Deviation
	Valid	Missing			
RetireAcct	2000	0	1.69	1.00	7.517
Stocks	2000	0	2.89	1.00	12.534
Bonds	2000	0	5.26	2.00	18.333
MutualFunds	2000	0	3.50	1.00	14.372
DolInNonRet	2000	0	11.22	7.00	20.825
AmtRisk	2000	0	4.17	3.00	12.205
FeePriceImp	2000	0	10.26	9.00	13.604
FeePriceUnderst	2000	0	9.45	8.00	12.174
Disclosure2	1237	763	2.22	2.00	2.799
Disclosure3	1237	763	6.27	2.00	19.616
ComfortInvDec	2000	0	7.78	7.00	8.132
InvKnowledge	2000	0	5.47	5.00	7.639
InvQuest_Add	2000	0	4.92	5.00	2.276
S_Gender	2000	0	1.45	1.00	0.498
S_Age	2000	0	2.36	3.00	0.744
S_Ethnicity	2000	0	1.20	1.00	0.398
S_Education	2000	0	1.61	2.00	0.488
S_Income	2000	0	2.13	2.00	0.732

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
WhoInvests	2000	1	2	1.33	0.471
RetireAcct	2000	1	99	1.69	7.517
InvestInNotRetire0	2000	1	1	1.00	0.000
Stocks	2000	1	99	2.89	12.534
Bonds	2000	1	99	5.26	18.333
MutualFunds	2000	1	99	3.50	14.372
DolInNonRet	2000	1	99	11.22	20.825
AmtRisk	2000	1	99	4.17	12.205
WhoInvDecisions	2000	1	99	3.11	11.367
DoAcctStmt	2000	1	99	2.95	6.778
FeePriceImp	2000	1	99	10.26	13.604
FeePriceUnderst	2000	1	99	9.45	12.174
Disclosure2	1237	1	98	2.22	2.799
Disclosure3	1237	1	98	6.27	19.616
ComfortInvDec	2000	1	99	7.78	8.132
InvKnowledge	2000	1	99	5.47	7.639
InvQuest_Add	2000	0	10	4.92	2.276
S_Gender	2000	1	2	1.45	0.498
S_Age	2000	1	3	2.36	0.744
S_Ethnicity	2000	1	2	1.20	0.398
S_Education	2000	1	2	1.61	0.488
S_Income	2000	1	3	2.13	0.732
Valid N (listwise)	1237				

Correlations

		InvQuest_Add
InvQuest_Add	Pearson Correlation	1
	Sig. (2-tailed)	
	N	2000
ComfortInvDec	Pearson Correlation	-0.043
	Sig. (2-tailed)	0.056
	N	2000
InvKnowledge	Pearson Correlation	-.080**
	Sig. (2-tailed)	0.000
	N	2000
S_Gender	Pearson Correlation	-.288**
	Sig. (2-tailed)	0.000
	N	2000
S_Age	Pearson Correlation	.168**
	Sig. (2-tailed)	0.000
	N	2000
S_Ethnicity	Pearson Correlation	-.082**
	Sig. (2-tailed)	0.000
	N	2000
S_Education	Pearson Correlation	.261**
	Sig. (2-tailed)	0.000
	N	2000
S_Income	Pearson Correlation	.242**
	Sig. (2-tailed)	0.000
	N	2000
KnowMargin	Pearson Correlation	-.258**
	Sig. (2-tailed)	0.000
	N	2000
TradeMargin	Pearson Correlation	-.087*
	Sig. (2-tailed)	0.029
	N	640
AmtRisk	Pearson Correlation	-.141**
	Sig. (2-tailed)	0.000
	N	2000
InvestInNotRetire0	Pearson Correlation	.[c]
	Sig. (2-tailed)	
	N	2000
Stocks	Pearson Correlation	-.111**
	Sig. (2-tailed)	0.000
	N	2000
Bonds	Pearson Correlation	-.147**
	Sig. (2-tailed)	0.000
	N	2000
MutualFunds	Pearson Correlation	-.137**
	Sig. (2-tailed)	0.000
	N	2000
DoIInNonRet	Pearson Correlation	-.073**
	Sig. (2-tailed)	0.001
	N	2000
ContactAdvEmail	Pearson Correlation	-0.022
	Sig. (2-tailed)	0.451
	N	1158
ContactAdvFTF	Pearson Correlation	-.069*
	Sig. (2-tailed)	0.019
	N	1158
Disclosure2	Pearson Correlation	-.099**
	Sig. (2-tailed)	0.000
	N	1237
Disclosure3	Pearson Correlation	-.064*
	Sig. (2-tailed)	0.024
	N	1237
FeePriceUnderst	Pearson Correlation	-.082**
	Sig. (2-tailed)	0.000
	N	2000
FeePriceImp	Pearson Correlation	-.122**
	Sig. (2-tailed)	0.000
	N	2000

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
S_Gender	Between Groups	44.520	10	4.452	19.679	0.000
	Within Groups	449.979	1989	0.226		
	Total	494.500	1999			
S_Age	Between Groups	47.894	10	4.789	8.991	0.000
	Within Groups	1059.404	1989	0.533		
	Total	1107.298	1999			
S_Ethnicity	Between Groups	3.805	10	0.380	2.421	0.007
	Within Groups	312.577	1989	0.157		
	Total	316.382	1999			
S_Education	Between Groups	34.250	10	3.425	15.428	0.000
	Within Groups	441.550	1989	0.222		
	Total	475.800	1999			
S_Income	Between Groups	69.852	10	6.985	13.873	0.000
	Within Groups	1001.503	1989	0.504		
	Total	1071.356	1999			
AmtRisk	Between Groups	15509.325	10	1550.932	10.928	0.000
	Within Groups	282272.817	1989	141.917		
	Total	297782.142	1999			
InvKnowledge	Between Groups	7110.893	10	711.089	12.912	0.000
	Within Groups	109540.657	1989	55.073		
	Total	116651.550	1999			
InvestInotRetired0	Between Groups	0.000	10	0.000		
	Within Groups	0.000	1989	0.000		
	Total	0.000	1999			
Stocks	Between Groups	6313.194	10	631.319	4.081	0.000
	Within Groups	307726.042	1989	154.714		
	Total	314039.236	1999			
Bonds	Between Groups	18563.307	10	1856.331	5.652	0.000
	Within Groups	653285.621	1989	328.449		
	Total	671848.928	1999			
MutualFunds	Between Groups	12312.235	10	1231.224	6.113	0.000
	Within Groups	400601.757	1989	201.409		
	Total	412913.992	1999			
DollnNonRet	Between Groups	13053.881	10	1305.388	3.041	0.001
	Within Groups	853900.661	1989	429.312		
	Total	866954.542	1999			
AmtStocksNonRet	Between Groups	156987.077	10	15698.708	21.775	0.000
	Within Groups	##########	1989	720.945		
	Total	##########	1999			
DoAcctStmt	Between Groups	1063.860	10	106.386	2.331	0.010
	Within Groups	90769.140	1989	45.636		
	Total	91833.000	1999			
FeePriceImp	Between Groups	9095.459	10	909.546	5.013	0.000
	Within Groups	360849.728	1989	181.423		
	Total	369945.188	1999			
FeePriceUnderst	Between Groups	6975.118	10	697.512	4.796	0.000
	Within Groups	289296.464	1989	145.448		
	Total	296271.582	1999			
Disclosure2	Between Groups	923.377	10	92.338	12.921	0.000
	Within Groups	8761.125	1226	7.146		
	Total	9684.503	1236			
Disclosure3	Between Groups	7839.102	10	783.910	2.055	0.025
	Within Groups	467744.995	1226	381.521		
	Total	475584.097	1236			
ComfInvDec	Between Groups	4568.813	10	456.881	7.121	0.000
	Within Groups	127611.388	1989	64.159		
	Total	132180.200	1999			

Group Statistics

S_Gender		N	Mean	Std. Deviation	Std. Error Mean
InvQuest_Add	1	1101	5.51	2.319	0.070
	2	899	4.19	1.997	0.067

Gender	
1	Male
2	Female

Independent Samples Test

		Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Interval of the Difference Lower	Interval of the Difference Upper
InvQuest_Add	Equal variances assumed	35.260	0.000	13.437	1998	0.000	1.317	0.098	1.124	1.509
	Equal variances not assumed			13.640	1992.328	0.000	1.317	0.097	1.127	1.506

Group Statistics

S_Ethnicity		N	Mean	Std. Deviation	Std. Error Mean
InvQuest_Add	1	1606	5.01	2.287	0.057
	2	394	4.54	2.192	0.110

Ethnicity	
1	White alone
2	Non-White

Independent Samples Test

		Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Interval of the Difference Lower	Interval of the Difference Upper
InvQuest_Add	Equal variances assumed	1.500	0.221	3.681	1998	0.000	0.469	0.128	0.219	0.720
	Equal variances not assumed			3.777	620.130	0.000	0.469	0.124	0.225	0.713

Group Statistics

S_Education		N	Mean	Std. Deviation	Std. Error Mean
InvQuest_Add	1	780	4.17	2.032	0.073
	2	1220	5.39	2.297	0.066

Education	
1	Some college or less (incl. Associate's degree
2	College grad (Bachelor's) or more

Independent Samples Test

		Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Interval of the Difference Lower	Interval of the Difference Upper
InvQuest_Add	Equal variances assumed	25.952	0.000	-12.073	1998	0.000	-1.216	0.101	-1.414	-1.019
	Equal variances not assumed			-12.401	1802.499	0.000	-1.216	0.098	-1.409	-1.024

Regression Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
6	(Constant)	3.160	0.282		11.190	0.000		
	S_Gender	-1.167	0.092	-0.255	-12.678	0.000	0.985	1.015
	S_Education	0.890	0.098	0.191	9.115	0.000	0.910	1.099
	S_Age	0.513	0.061	0.168	8.393	0.000	0.997	1.003
	S_Income	0.453	0.065	0.146	6.948	0.000	0.907	1.103
	AmtRisk	-0.019	0.004	-0.102	-5.033	0.000	0.964	1.037
	InvKnowledge	-0.016	0.006	-0.053	-2.589	0.010	0.968	1.033