

*The Financing Choices of American Consumers:
The Influence of Quantitative Literacy
& Material Values*

Cinnamon Hillyard

chillyard@uwb.edu

(425) 352-3169

Pete Nye

pnye@uwb.edu

(425) 352-5383

University of Washington Bothell

ABSTRACT

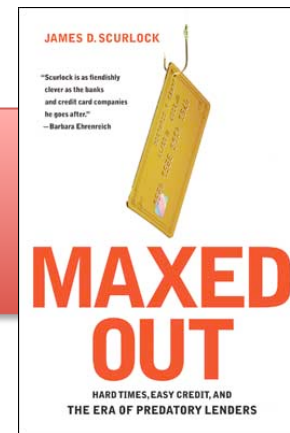
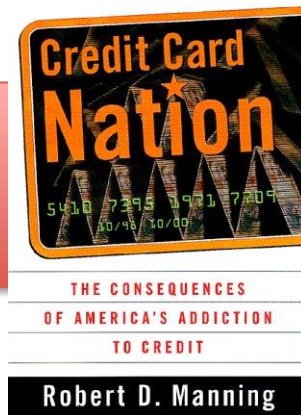
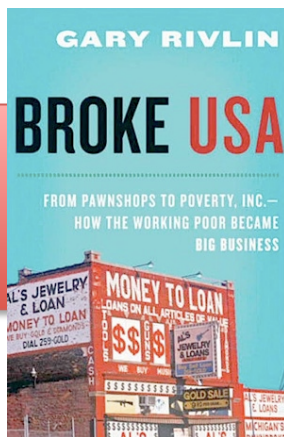
Some consumers finance discretionary spending at extremely high interest rates. Many carry substantial balances on their credit cards at effective annual interest rates as high as 36 percent, and some pay annual rates on “pay day” loans in excess of 400 percent. High interest debt can rapidly cascade into an overwhelming financial burden, threatening the consumer’s credit and long-term financial health. While these choices may seem unwise or even irrational, they are widespread.

This survey study investigates how quantitative literacy may promote wiser financial choices. In addition, we examine consumers’ willingness to apply their quantitative skills and think through the implications of their financing choices. While quantitative literacy and consumer education matter, we propose that consumer values and motivations may be at least as important in explaining risky financial choices. In particular, *materialism* may drive many American consumers to take on imprudent levels of high interest debt. Understanding consumer financing choices may require a better understanding of the consumption behavior that motivates those choices.

Risky Financial Choices

National statistics

- 1.4 million bankruptcies filed in 2009
- American's "revolving credit" debt (mostly credit cards) totaled \$795.5 billion in January 2010

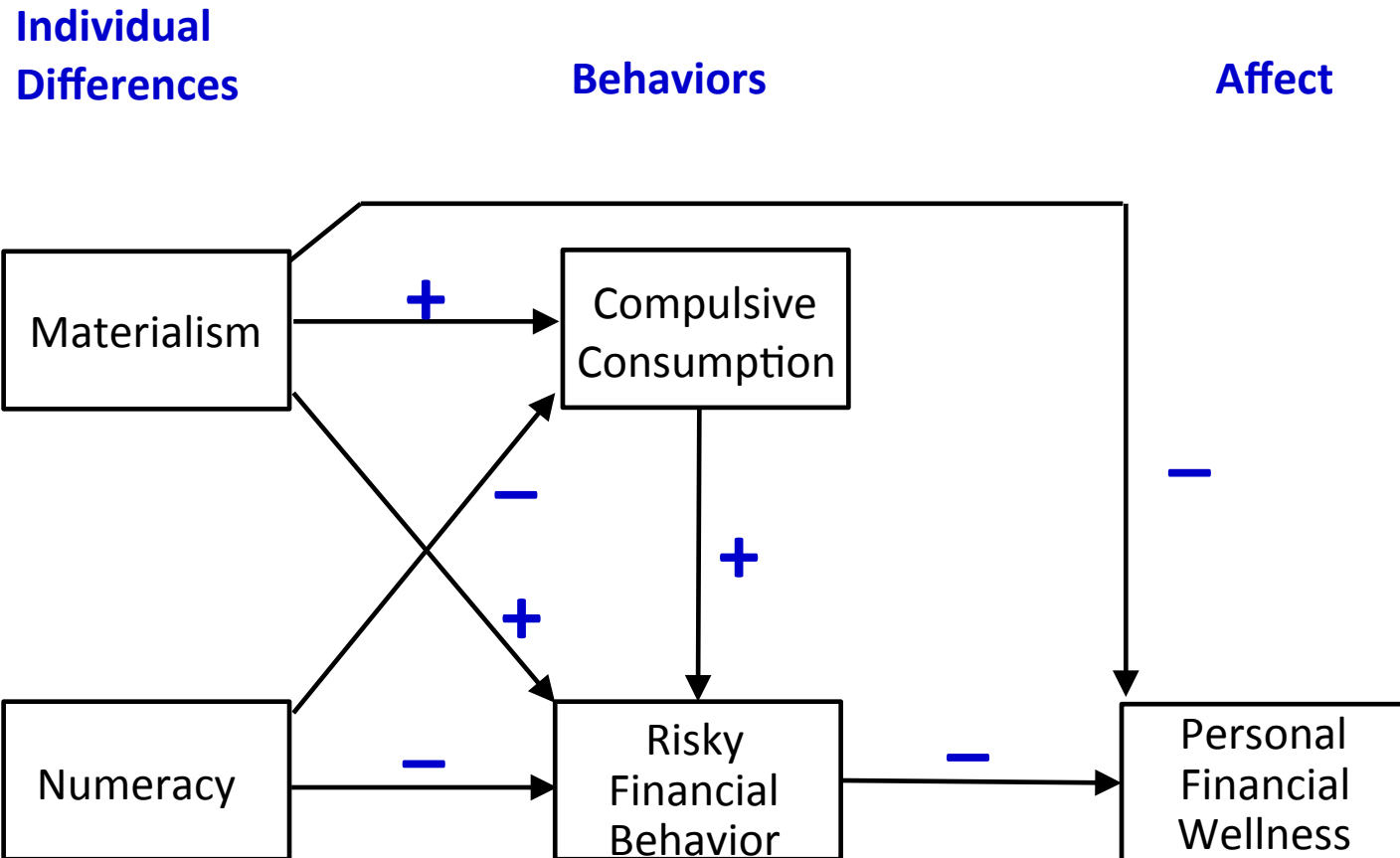


Research Questions

**Why do some consumers engage
in this risky behavior?**

- Does quantitative literacy promote wiser financial choices?
- How do other personal values and dispositions drive financial choice?

The Proposed Model



QL and Decision Making

Lipkus and Peters

“Understanding the Role of Numeracy in Health”
Health, Education, and Behavior (2009)

Gilliland, Melfi, Sikorskii, Corcoran, and Melfi.
“Quantitative Literacy at Michigan State University, 2:
Connection to Financial Literacy”
Numeracy, (2011)

QL and Decision Making

Numeracy ...

- facilitates computation
- encourages more information seeking and greater depth of processing
- improves interpretation of the meaning of provided numbers
- promotes behavioral change

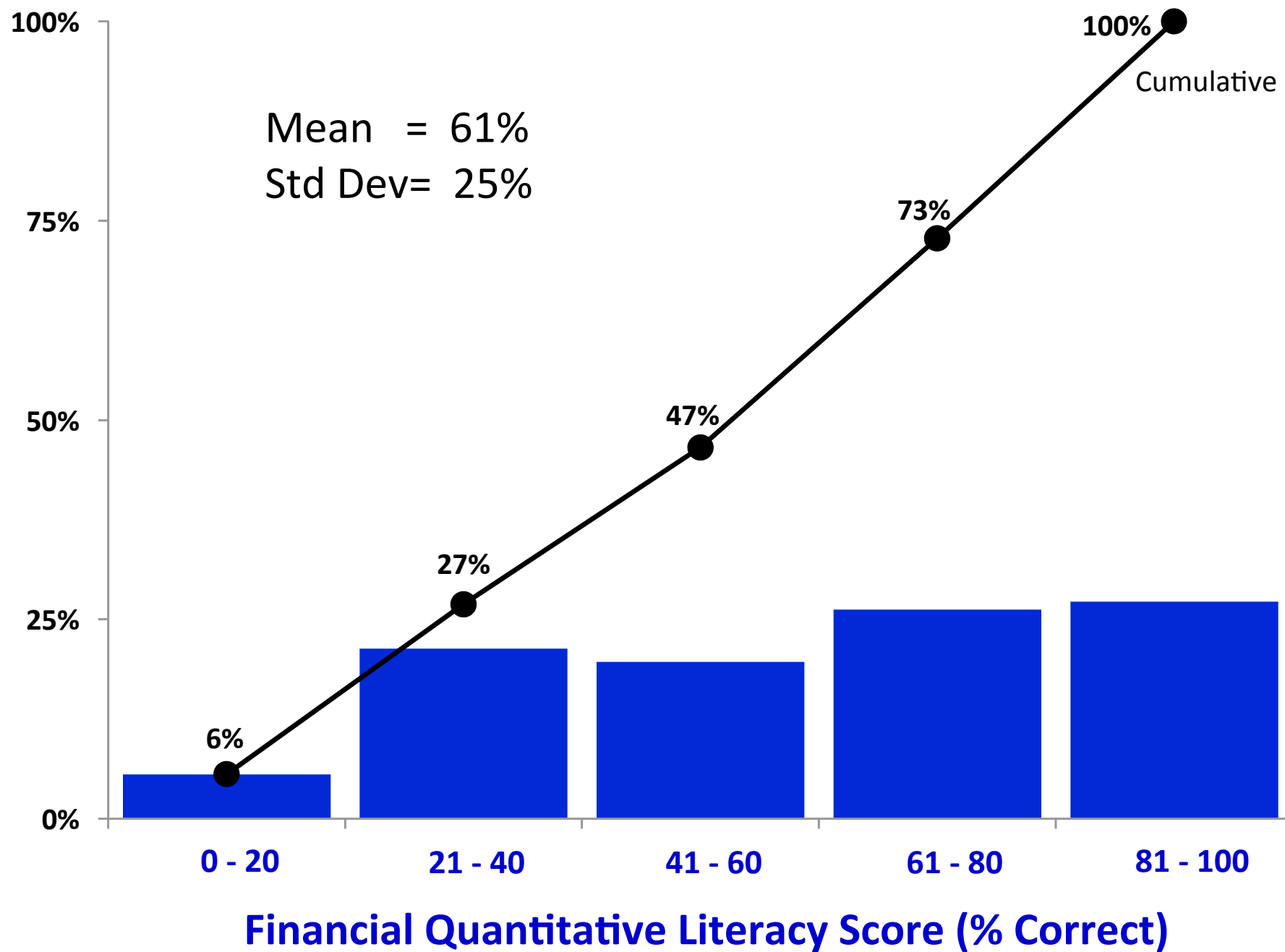
Explanatory Variables

Subjective Numeracy Scale (Fagerlin, et. al. 2007)

- beliefs about your quantitative skills
- preferences to use numerical information

Financial Quantitative Literacy (Nye and Hillyard)

- 13 multiple choice financial math questions including topics such as budgeting, time value of money, reading graphs, and calculating tips



Material Values

Materialism

“The importance ascribed to the ownership and acquisition of material goods in achieving major life goals or desired states.”
(Richins 2004)

“The importance a consumer attaches to worldly possessions.”
(Belk 1984)

Materialism is an important value that drives behavior and life decisions. Materialists organize their lives around acquiring possessions.
(Richins & Dawson 1992)

Material Values

Compulsive Consumption

Abnormal consumer behavior characterized by chronic buying episodes that the consumer feels unable to stop. Examples:

- **buying to feel better**
- **buying items you can't afford**
- **buying only because an item is on sale**

While providing short-term satisfaction, compulsive consumption can generate negative long-term consequences.

(Faber & O'Guinn 1988,
1989)

Instrumental vs. Compulsive Materialism

Explanatory Variables

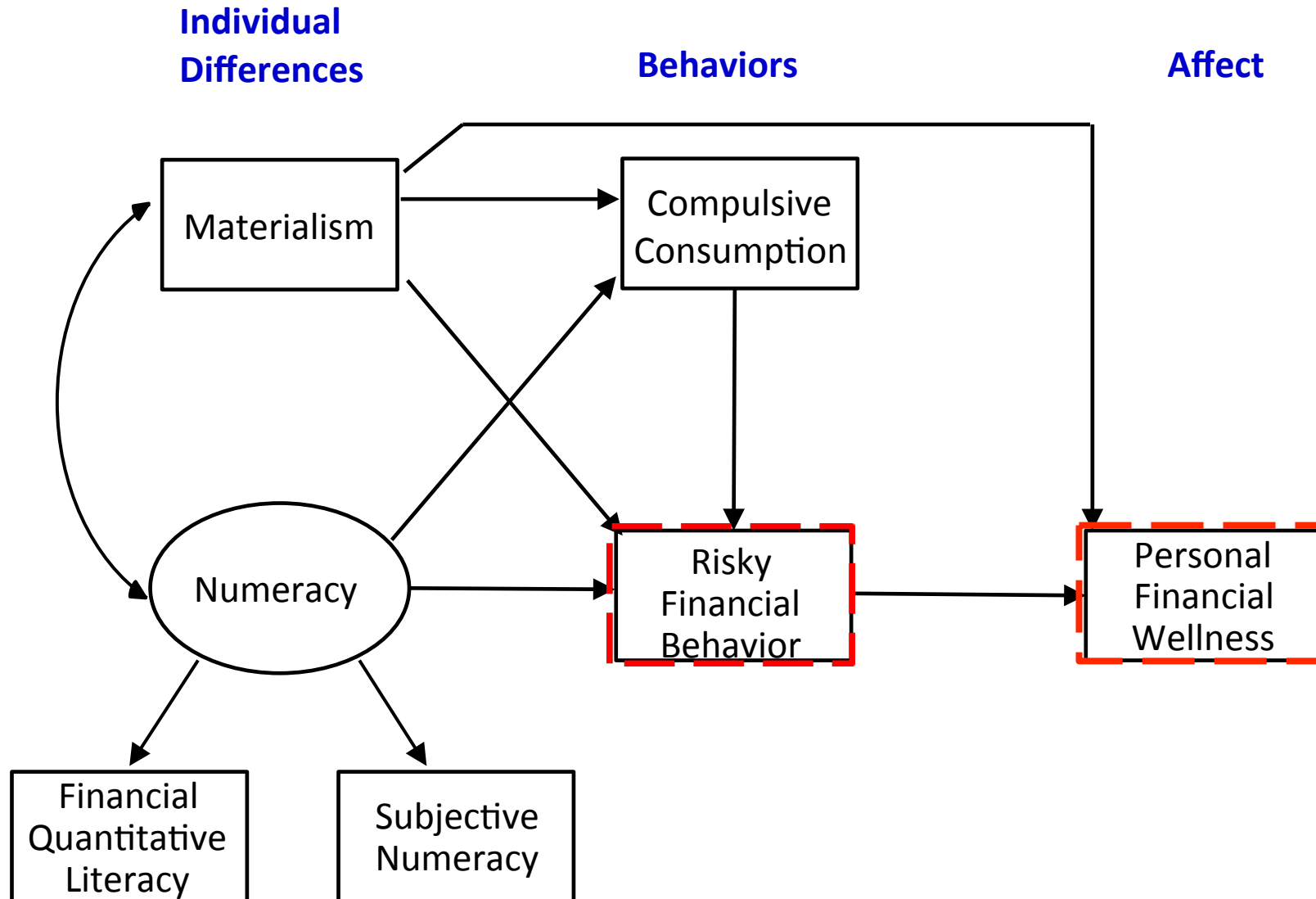
Material Values Scale (Richins 2004)

- 15 statements (7 point Likert scales)
- High internal consistency (Cronbach α = .79 to .91)
- Three correlated dimensions: **Success, Centrality, Happiness**

Compulsive Consumption Scale (Faber & O'Guinn 1989)

- 14 statements (5-point Likert scales)
- High internal consistency (Cronbach α = .83)

Outcome Variables



Risky Financial Behavior: Factor Structure

Behavioral Statements ¹ (16 items)

	Consumer Borrowing	Saving / Budgeting	Investing / Retire Plan	Credit Card Financing
miss car payments	+	-	-	+
pawn a valuable possession	.818			
take out "pay day" loans	.816			
pay my bills on time	.768			
borrow to pay monthly expenses	-.668			
take cash advance on credit card	.619			
bills > monthly income	.525			.402
overdraft my checking account	.451			
follow monthly budget		.405		
save for unexpected expenses		.851		
save for important purchases		.792		
invest in stocks or funds			.682	
contribute to retirement plan			.858	
finance on credit card				.831
use more than three credit cards				.839
borrow > \$100 from friend				.695
				.415

1. Question: "Please indicate how often you engage in the following behaviors."
(1= never , 5 = frequently)

Financial Distress / Financial Well-Being Scale

(Thomas Garman, 2004. *InCharge Education Foundation*)

- Eight statements scored on a ten-point scale.
“How do you feel about your current financial condition?”
1 = Feel Overwhelmed 10 = Feel Comfortable
- Interpretation
 - 1. 0 Overwhelming financial distress
 - 5. 0 Average financial distress
 - 10. 0 No financial distress /
Highest financial well-being
- Cronbach's alpha = .956

Our Survey ...

- We developed a survey instrument to be as comprehensive as possible. It was 18 pages, including items on ...
 - Financial Behaviors and Decisions
 - Subjective and Objective Numeracy
 - Personal values (e.g. materialism, compulsiveness, etc.)
 - Demographics
- 305 subjects took the survey. Each received **\$20** for their time and thoughtful response.
- We used multiple public locations throughout Northern Puget Sound to solicit subjects.

The Sample

Sample Size	305
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Female	49%
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Age	Mean	40
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	Std Dev	19
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< 25 yrs	27%
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25 to 34	23%
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35 to 50	26%
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> 50 yrs	24%
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Education

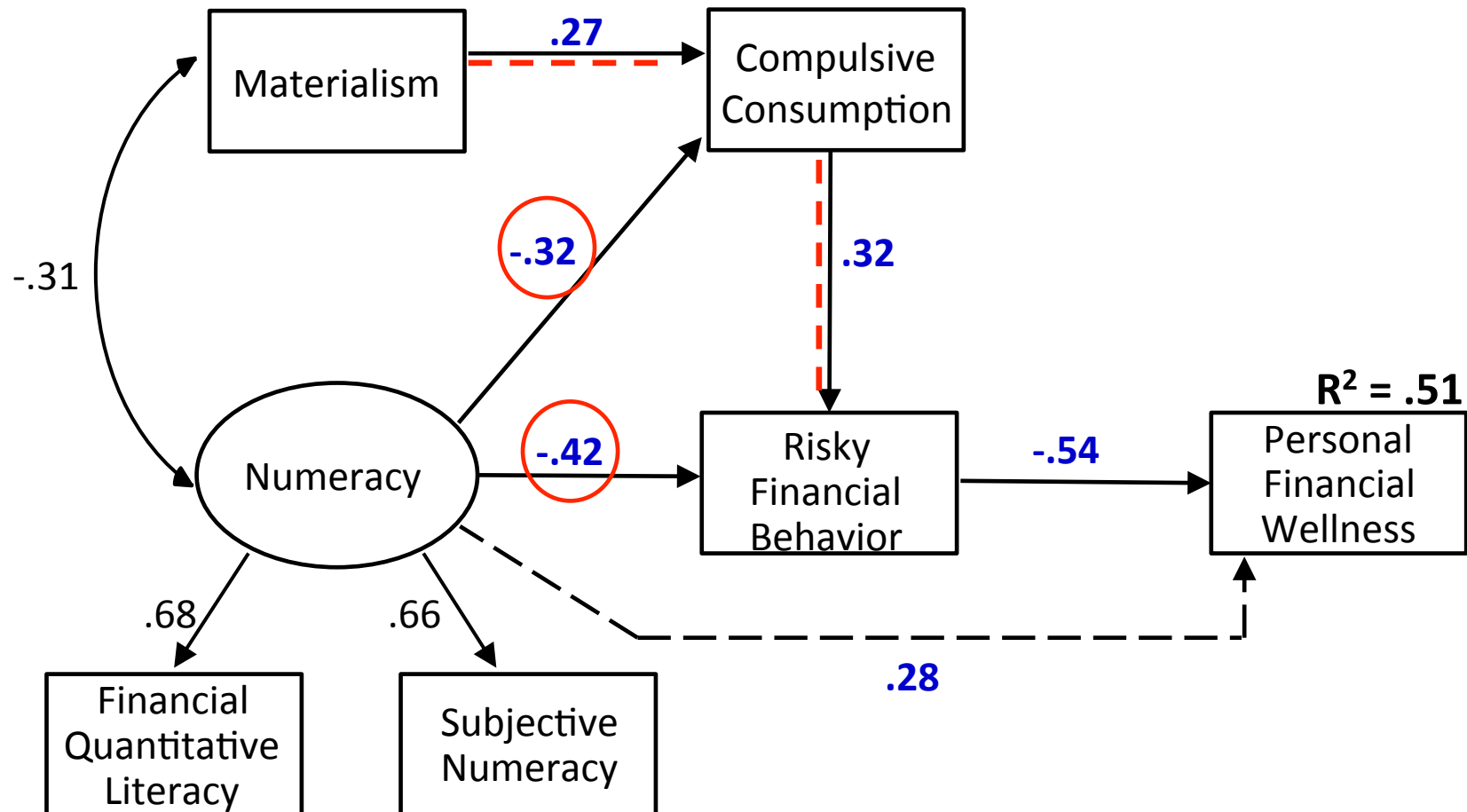
High School grad	88%
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College grad	59%
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PRELIMINARY RESULTS

Estimated Model

(Ages 18 – 67)



Chi-squ = 8.05, df=6, p = .234

Quantitative Literacy: Impact on Personal Financial Wellness

	<u>Financial Quantitative Literacy</u>			
	<u>Low (1/3)</u>	<u>High (1/3)</u>		
Personal Financial Wellness	4.3	6.4	**	(1 to 10)
Risky Financial Behavior	2.41	1.87	**	(1 to 5)

BEHAVIORS

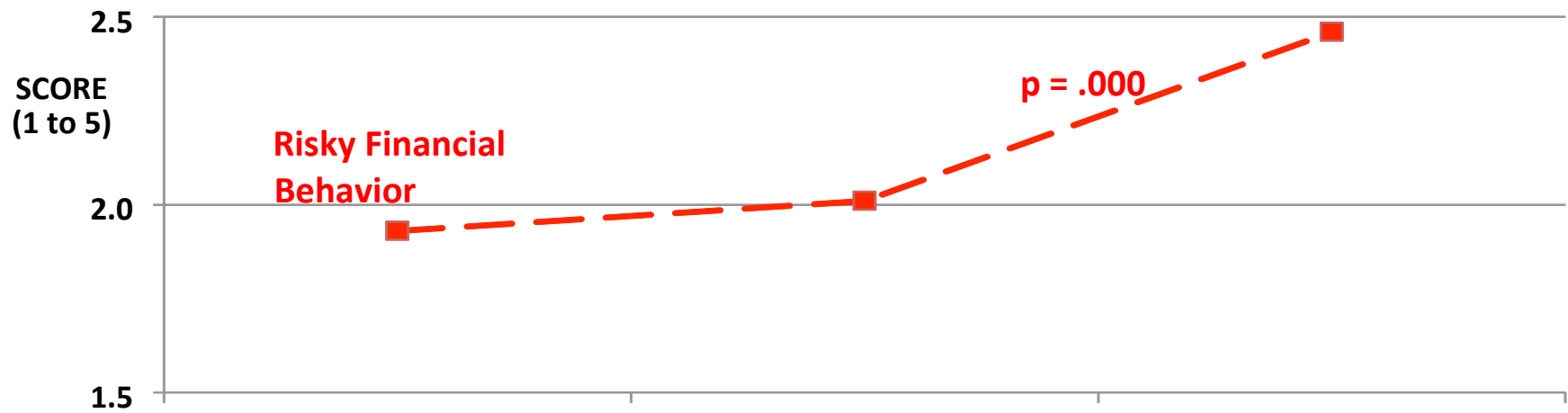
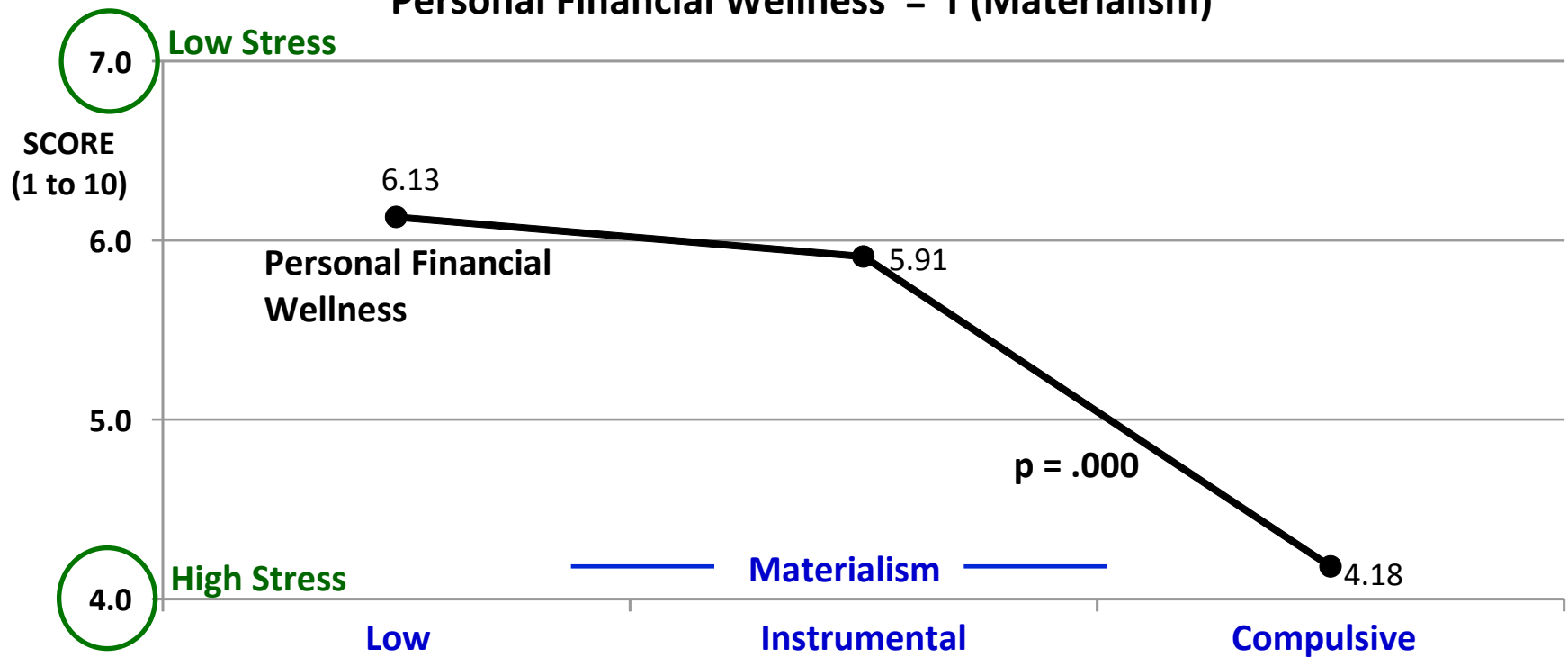
% Engaging in Behavior

home mortgage	16	36	*
overdraft checking	37	14	**
cash advance on card	19	7	.02
pay day loan	11	1	*

* Differ significantly from previous group at p = .01

** Differ significantly from previous group at p = .001

Personal Financial Wellness = f (Materialism)



Future Research

- Interactive effect of QL and Materialism on *Personal Financial Well-being*.

Do instrumental materialists benefit more than compulsive materialists from greater QL?

- Gender differences.

Are females more systematic than males in their financial decision making? Do females experience less financial distress?

- Financial Numeracy among older adults.

- Risky Financial Behavior: the Life Cycle Hypothesis.

Does financial stress peak during the child-rearing stage of the family life cycle?