



TIAA-CREF institute

Financial Literacy Among Graduate Students: An Indiana University System Case Study

David P. Richardson

Jason S. Seligman

TIAA-CREF Institute

The Ohio State University



Outline

1. Overview
2. Research Questions
3. Survey Findings
4. Treatment Findings
5. Preliminary Results
6. Conclusions and Next Steps

Disclaimer: The views expressed are the authors and do not necessarily reflect the views of TIAA-CREF, the TIAA-CREF Institute, Indiana University, or the Ohio State University.



Overview

- Interested in studying the current and potential financial capability of highly educated, high potential earning group.
 - Financial Literacy
 - Financial market exposure
 - Financial resources and pressures
- Case study of the Indiana University system graduate student population.
- 2-stage study
 - Survey
 - Treatment groups offered seminars and webinars



Research Questions

- Do people with more education and higher expected lifetime earnings have significantly higher financial literacy?
- Do people in certain academic disciplines have higher financial IQ?
- What is the relation between exposure to financial services and financial IQ?
- What are the financial pressure points for highly educated millennials?
- How interested are graduate students in improving their financial IQ?



Survey Component

- 17,819 Online Survey Invitations
 - 2,488 began survey (14% of invites)
 - 2,098 completed surveys (84% of starts)
- Components
 - Demographics
 - Educational background
 - Financial aspirations and concerns
 - Financial product exposure and familiarity
 - Financial literacy



Survey Demographics

- Primarily millennials
 - 84% are ages 20 – 34
 - 5% are age 45 and older
- Slightly more heavily weighted to Female (57%)
 - Proportional to overall graduate student population.
- Primarily American (74%)
 - China (8%)
 - India (6%)
 - Other (13%)
- Slightly more Masters (54%) than Doctoral (44%) students.



Survey Demographics: Undergraduate Major

	Of Total		Of Major	
	Female	Male	Female	Male
Life Science	9.9%	6.0%	62.4%	37.6%
Physical Science	3.1%	4.7%	40.1%	59.9%
Engineering	3.2%	7.3%	30.2%	69.8%
Social Science	11.7%	6.9%	62.9%	37.1%
Humanities	14.4%	7.8%	64.9%	35.1%
Education	2.4%	1.0%	70.9%	29.1%
Business	4.5%	5.3%	45.6%	54.4%
Other	7.9%	4.0%	66.5%	33.5%



Survey Demographics: Graduate College or School

	Female	Male	Total
College of Arts & sciences	13.3%	9.0%	22.4%
Jacobs School of Music	2.2%	1.8%	4.1%
Kelly School of Business	4.5%	9.4%	13.9%
Maurer School of Law	3.1%	2.4%	5.5%
School of Education	8.5%	2.7%	11.2%
School of Health, PE and Recreation	2.7%	1.2%	3.9%
School of Informatics and Computing	2.6%	3.7%	6.3%
School of Journalism	0.5%	0.2%	0.7%
School of Library and Information Science	1.4%	0.3%	1.7%
School of Medicine	6.4%	5.4%	11.8%
School of Nursing	1.6%	0.2%	1.8%
School of Optometry	0.4%	0.8%	1.1%
School of Public & Environmental Affairs	5.5%	2.7%	8.2%
School of Social Work	2.6%	0.7%	3.3%
I'd Rather Not Say	2.1%	2.0%	4.1%
Total	57%	43%	100%

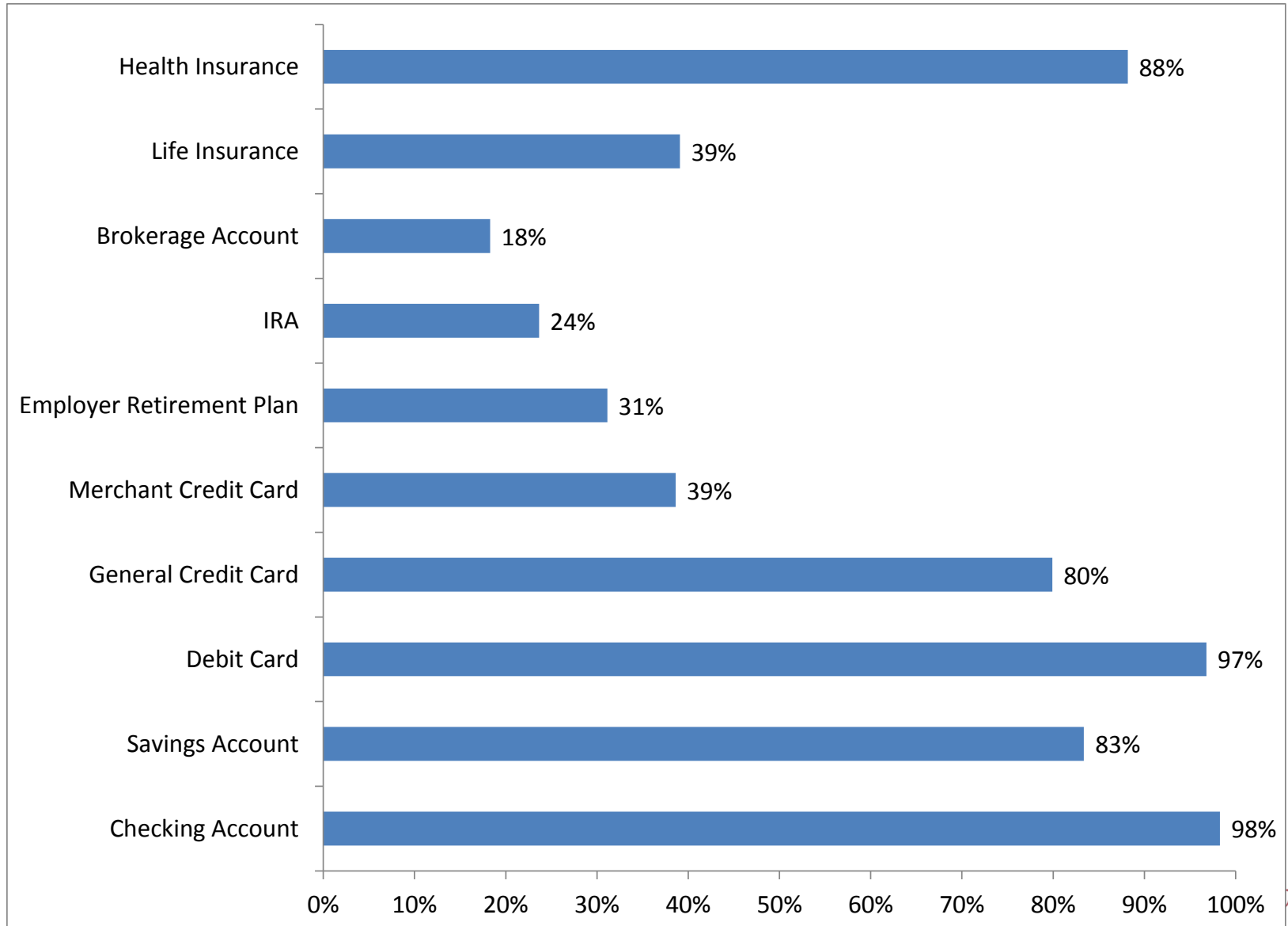
IAA-CREF Institute

Survey Results: Financial Education Course (Yes)

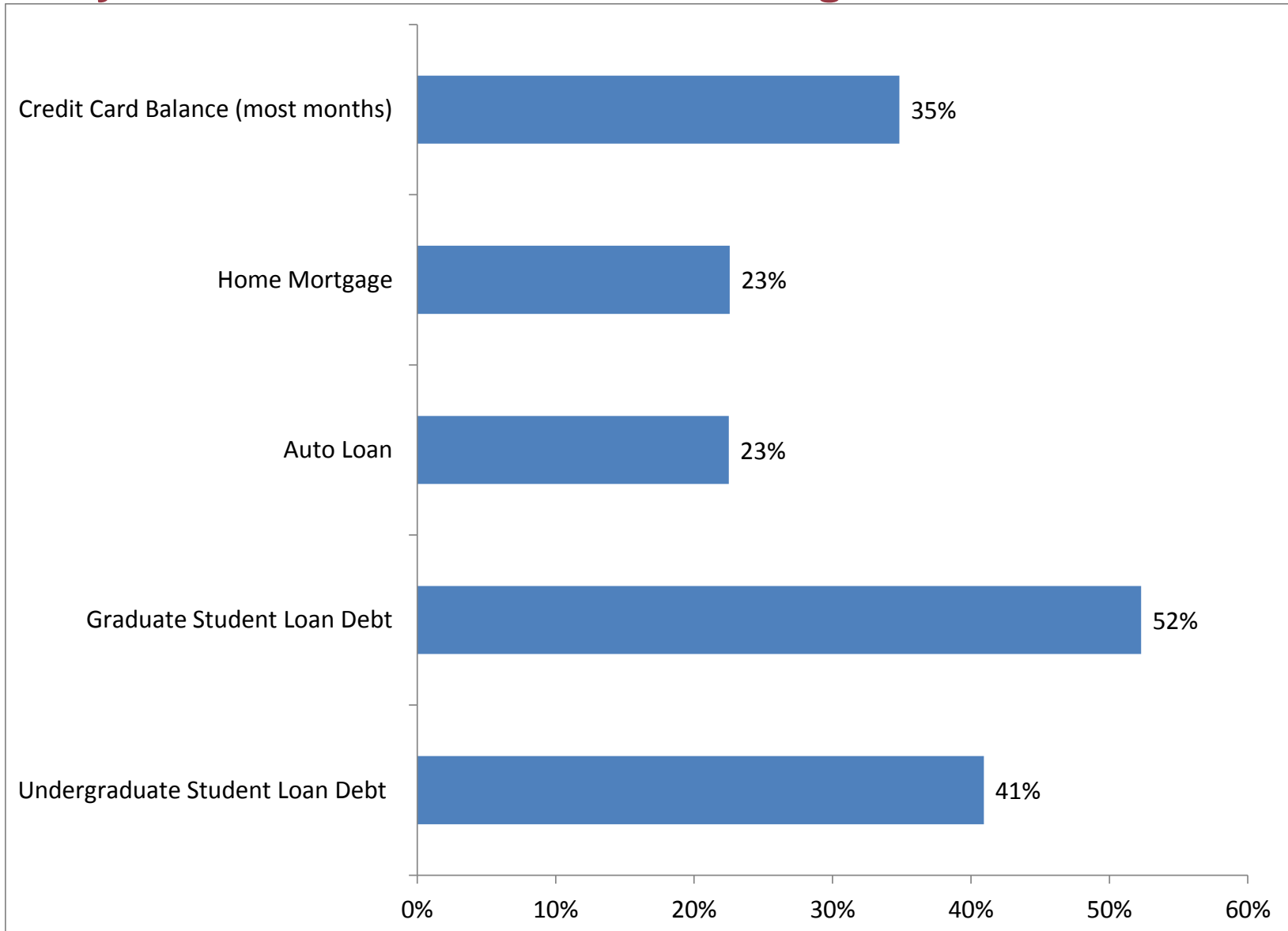
	Total	Female	Male
High School	16.0%	47.6%	52%
College	13.1%	44.8%	55%
Both HS & College	4.2%	32.3%	68%



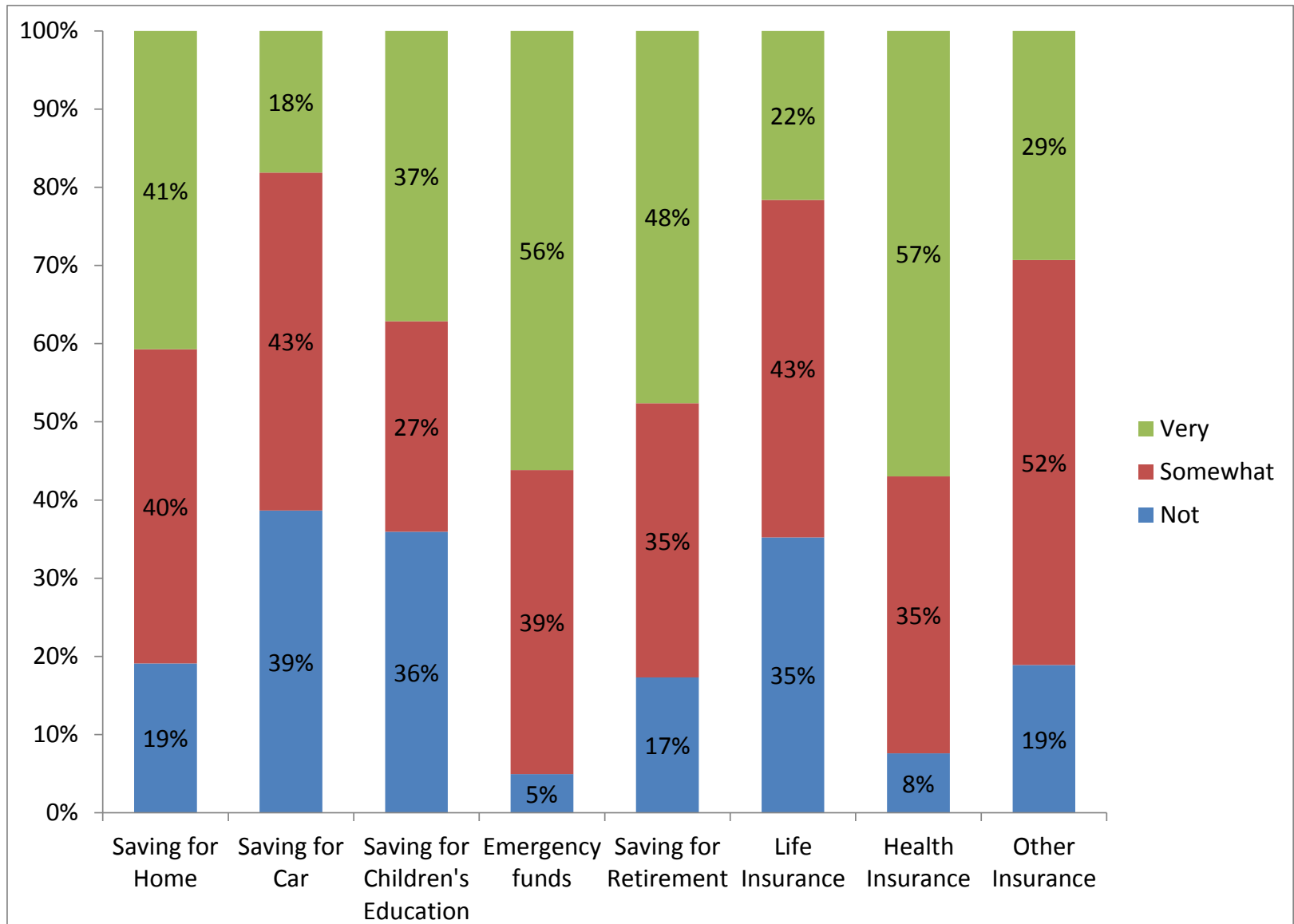
Survey Results: Current Financial Product Ownership



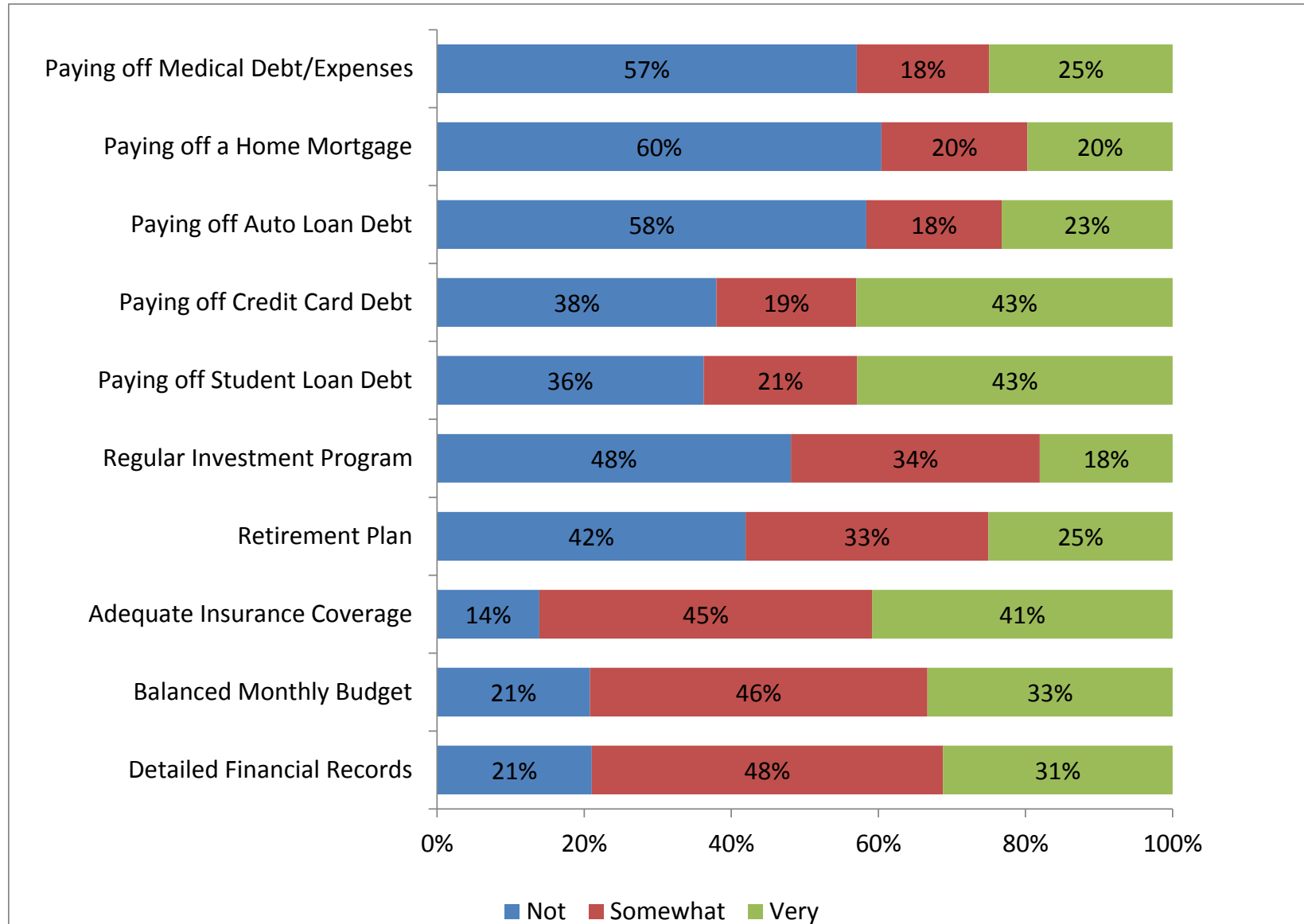
Survey Results: Current Financial Obligations



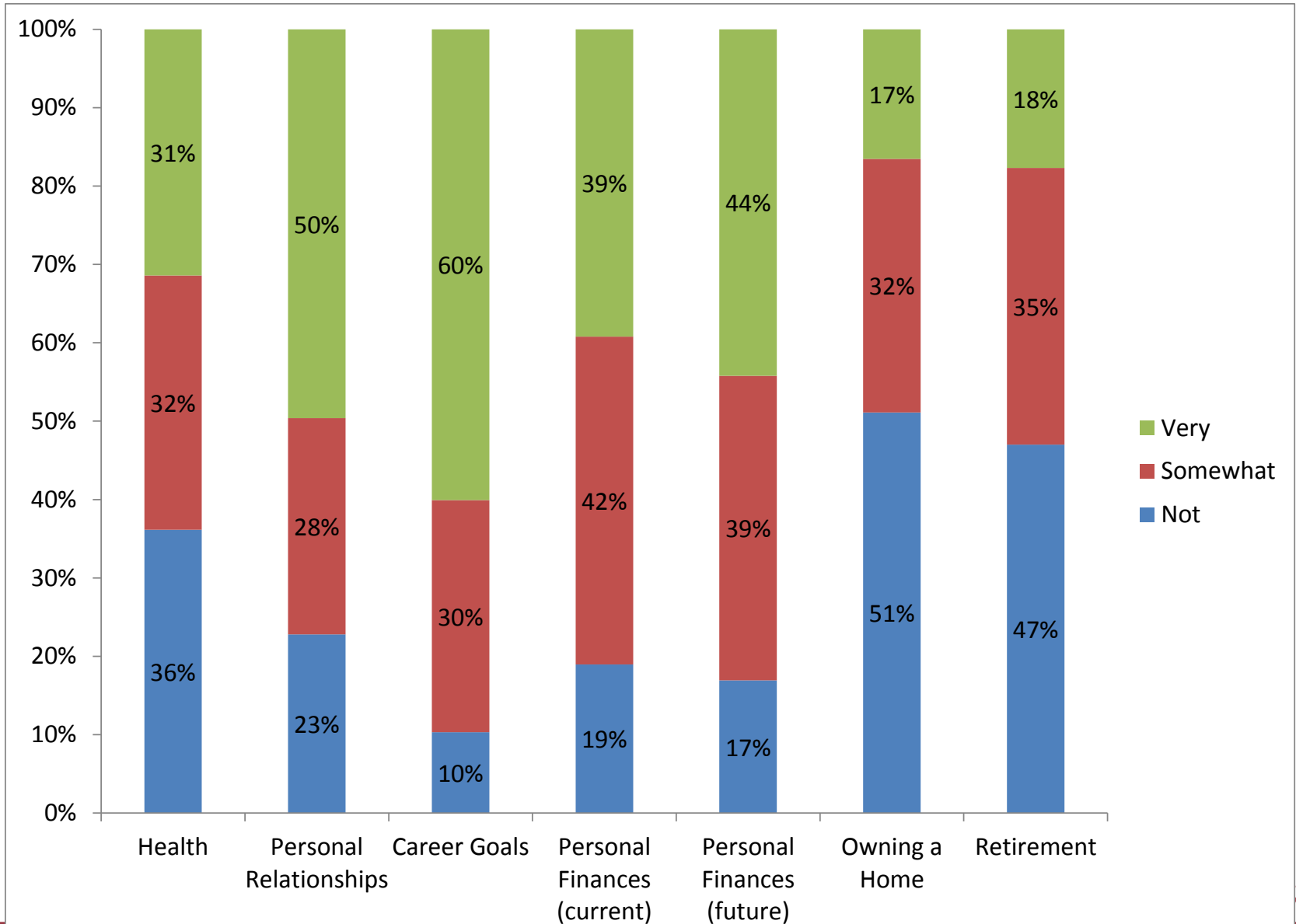
Survey Results: Important to Financial Well-Being?



Survey Results: Priority to Financial Well-being?



Survey Results: How Concerned about...?



Survey Results: Most often seek financial advice from?

		Female	Male	Total
1	Spouse	9%	4%	12%
2	Mother	13%	5%	18%
3	Father	15%	12%	27%
4	Financial Advisor	4%	4%	9%
5	Internet	6%	8%	13%
6	Female Friend	1%	0%	2%
7	Male Friend	2%	2%	4%
8	Sibling	2%	1%	3%
9	DK or NA	6%	6%	12%

Survey Results: Rate your overall Financial IQ

	Female	Male	Total
Very Low	0.6%	0.3%	0.9%
Low	2.4%	1.3%	3.7%
Somewhat Low	7.8%	3.2%	11.0%
Average	19.9%	10.3%	30.2%
Somewhat High	13.5%	9.0%	22.5%
High	9.7%	12.9%	22.6%
Very High	2.7%	4.4%	7.1%
IDK	0.6%	0.7%	1.3%
Pref Not Answer	0.3%	0.2%	0.6%
Total	57.6%	42.4%	100.0%

Average Self-Assessment v. Quiz Results

	Self	Quiz	Diff
By Gender			
All	67.0%	65.1%	-1.9%
Female	63.9%	61.6%	-2.3%
Male	71.4%	69.8%	-1.6%
By Country			
USA	68.0%	68.2%	0.2%
China	58.4%	56.0%	-2.4%
India	64.1%	53.1%	-11.1%
Korea	64.6%	43.7%	-20.9%
Other	66.8%	55.0%	-11.8%
By Financial Ed Course			
High School	72.7%	66.1%	-6.6%
College	77.2%	68.8%	-8.5%
Both	79.4%	66.1%	-13.4%



Average Self-Assessment v. Quiz Results

	Self	Quiz	Diff
By Undergraduate Major			
Life Science	63.7%	65.4%	1.7%
Physical Science	66.4%	68.9%	2.5%
Engineering	67.8%	62.1%	-5.7%
Social Science	67.1%	66.9%	-0.2%
Humanities	65.0%	64.0%	-1.1%
Education	65.0%	62.2%	-2.8%
Business	79.9%	73.1%	-6.7%
Other	64.9%	55.1%	-9.8%



Average Self-Assessment v. Quiz Results

	Self	Quiz	Diff
By Graduate School			
Arts & sciences	64.1%	64.4%	0.3%
Music	62.7%	55.6%	-7.1%
Business	76.7%	75.5%	-1.1%
Law	72.9%	70.7%	-2.2%
Education	63.4%	61.3%	-2.1%
Health, PE and Rec	65.7%	58.6%	-7.1%
Informatics & Comp	68.9%	57.1%	-11.8%
Journalism	70.3%	64.1%	-6.2%
Library & Info Science	65.1%	52.7%	-12.4%
Medicine	61.6%	66.0%	4.5%
Nursing	69.5%	61.4%	-8.1%
Optometry	70.8%	70.8%	0.1%
Public & Env Affairs	70.2%	70.3%	0.1%
Social Work	64.5%	60.1%	-4.4%
Rather Not Say	62.5%	58.4%	-4.1%



Seminar Treatment Component

- 2,488 survey participants
 - 855 (34%) declined interest in seminar
 - 437 (18%) signaled indifference in seminar
 - 1,196 (48%) expressed interest in seminar
- 1,101 (67%) were invited to seminar or webinar
 - Remainder held as control group
 - Invited population stratified based on
 - Financial interest
 - Gender
 - Financial quiz score
 - Quantitative field of study
 - 114 RSVP, 42 seminar, 20 webinar participants



Seminar: Differences between Groups

	self assessment		test score		difficulty assessment ¹
Students who take survey²	4.70	67.1%	7.79	64.9%	2.47
Students who RSVP invite	4.55	65.0%	7.87	65.6%	2.67
Students who take a webinar RSVP	4.63	66.1%	8.19	68.2%	2.35
Students who take a seminar RSVP	4.51	64.4%**	8.51 *	70.9%**	2.41
Students not in quantitative fields³	4.57	65.3%	7.63	63.6%	2.55
Students in quantitative fields	5.15 ***	73.6%	8.53 ***	71.1%	2.18 ***

Notes: 1- average scores are between "somewhat easy" (2) and "somewhat difficult" (3)

2- base group top four rows

3- base group bottom two rows



Bi-variate Probit: Who takes the initial survey?

group

propensity of engaging survey

females

+

business student

+

student workers

+

quantitative field

-

number of credits taken

-



Multinomial: Who attends seminar/webinar?

<u>group</u>	<u>RSVP</u>	<u>Webinar</u>	<u>Seminar</u>
females	+		
student workers	+		+
higher self assessment			
higher quiz score			+
assessment of difficulty			



Conclusions

- High exposure to basic financial products needed for everyday transactions.
- Mixed signals on concerns over lifetime earnings, financial well-being, and the ability to finance major consumption expenditures.
- On average, students are overly confident in financial acumen.
 - US students fare well compared to foreign students
 - Exposure to financial education may create greater degree of overconfidence.
- Financial education content may need to be highly customized.
- In absence of more effective literacy tools, policy should encourage plan sponsors to adopt adequate default provisions.



Next Steps

- Current Data
 - Further seminar feedback in tabular analysis and selection of controls
 - Re-run multinomials using merged treatment data
- Additional Data Generation
 - Currently fielding survey to look at
 - Retention in learning and evolution of financial stress
 - Whether non-participants are “engageable”
- IU Question: Should graduate students be required to take a financial education course?
 - Low levels of engagement
 - Current undergraduate requirement



Thank you!

Contact:

dprichardson@tiaa-cref.org

seligman.10@osu.edu

