

Analysis of Behavioral economics and Gender Differences in Financial Literacy Based on 25,000 Data Points from Japan's Financial Literacy Survey

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Washington D.C., April 7, 2017



Many Articles

In Japan

- Newspaper (Nikkei, Sankei, Asahi, Mainichi, Local newspapers, etc.)
- Magazine (Economist, Asahi Weekly, President, Nikkei Business, etc.)
- TV Programs (Nippon TV<<http://www.news24.jp/articles/2016/09/26/07341999.html>>, TV Asahi, TBS, Local TVs, etc.)

Abroad: 22 countries

- 「Japan Inc. should coax wary investors」 (Financial Times)
- 「Bank of Japan Tries a Little Learning Where a Mound of Money Failed」 (New York Times)
- 「Japan households still risk-shy despite heavy Bank of Japan easing: survey」 (Reuter)
- 「How a Landmark Japanese Study Will Boost Financial Education」 (Dan Kadlec, a writer of Time)
- 「Financial literacy key to boosting investment: public council survey」 (Asian Review)
- 「避险观念难改 日本仅有30%家庭投资股市」 (友財Chinese)

Overview

- Japan's first large-scale questionnaire survey
- Covering all categories of the “Financial Literacy Map”
- About half of the questions were internationally comparable

Analysis of 25,000 sample data

Sample size
25,000 sample data in proportion to Japan's demographic structure



Analysis from various perspectives
Analysis by category/level of financial knowledge, effects of financial education, behavioral economic analysis, analysis by prefecture and other aspects

Composition of the survey questions

		Number of questions	Financial knowledge and financial decision-making skills		Behavior and attitude			
			Internationally comparable	Internationally comparable	Internationally comparable	Internationally comparable		
Financial Literacy Map category	Family budget management	9	4	2	0	7	4	
	Life planning	9	6	2	1	7	5	
	Financial knowledge	Basics of financial transactions	4	1	3	0	1	1
		Basics of finance and economy	7	6	6	5	1	1
		Insurance	5	0	4	0	1	0
		Loans/credit	5	3	3	2	2	1
		Wealth building	7	3	3	2	4	1
	Use of outside expertise	4	0	3	0	1	0	
Other	Needs for and experience of participating in financial education	3	3	0	0	3	3	
Total		53	26	26	10	27	16	

Various Analysis Based on 25,000 sample data

- 25,000 data in proportion to Japan's demographic structure
- More than 3,000 data for 70s

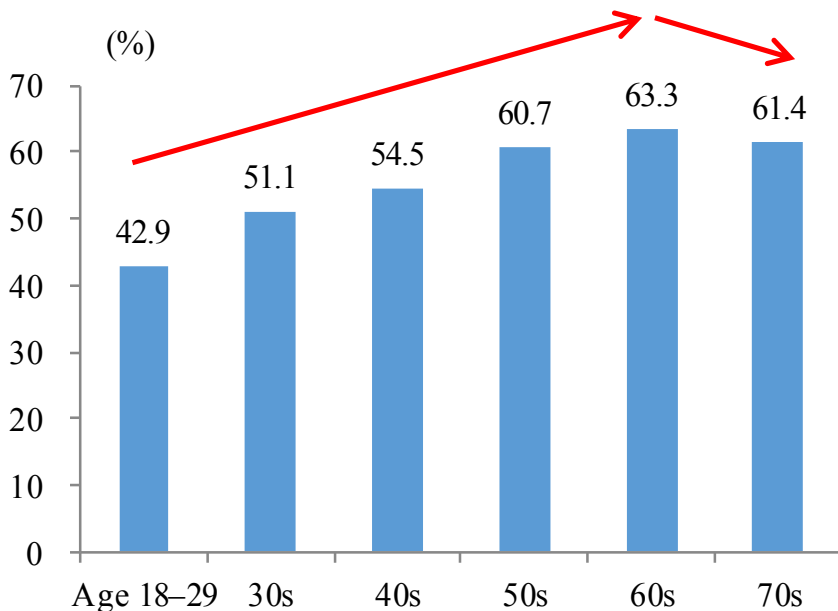
(persons, %)

		Number of samples (A)	Composition ratios (B)	Composition ratios in the Population Census (C)	Comparison with the Population Census (B-C)
Total		25,000	100.0	100.0	0.0
By gender	Male	12,334	49.3	49.3	0.0
	Female	12,666	50.7	50.7	- 0.0
By age group	Age 18–29	4,026	16.1	16.1	0.0
	30s	4,570	18.3	18.3	- 0.0
	40s	4,248	17.0	17.0	- 0.0
	50s	4,163	16.7	16.6	0.0
	60s	4,849	19.4	18.7	0.7
	70s	3,144	12.6	13.3	- 0.7
By prefecture	Tokyo	2,619	10.5	10.5	- 0.0
	Kanagawa	1,809	7.2	7.2	0.0
	⋮	⋮	⋮	⋮	⋮
	Tottori	112	0.4	0.4	0.0

Correct Answers Given to True/False Questions

- The percentage tended to become higher as the age rose (slightly declining for those in their 70s).
- The percentage of correct answers was higher for those who had more experience in financial transactions.

Correct answers given to true/false questions by age group



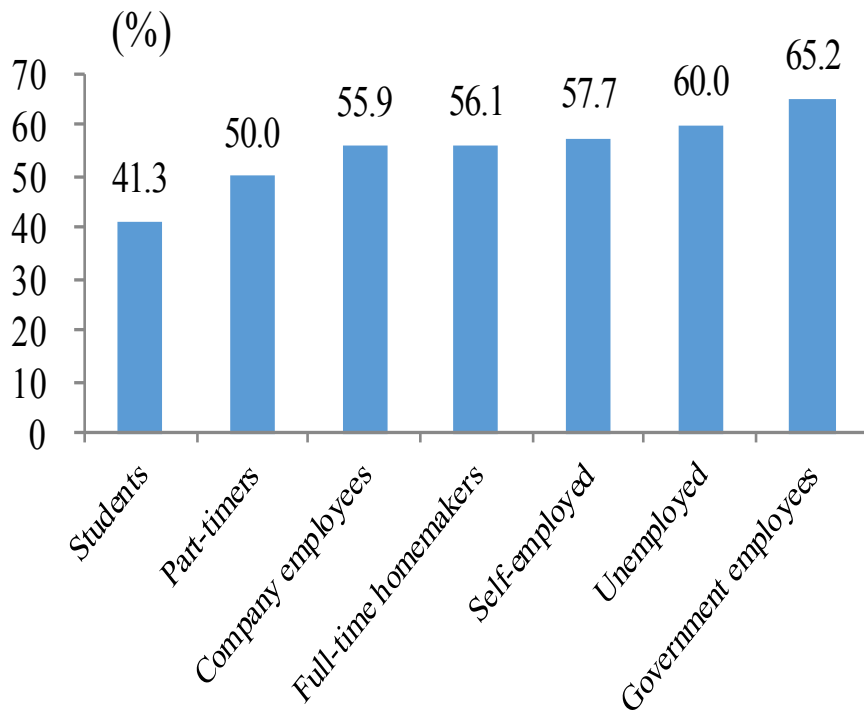
Effects of experience in financial transactions

	Correct answers for all respondents (A)	Correct answers for those who had experience in financial transactions (B)	Effects of experience in financial transactions (B-A)
Investment	54.3	73.6	19.3
Mortgage	59.7	69.6	9.9
Life insurance	52.5	57.4	4.9

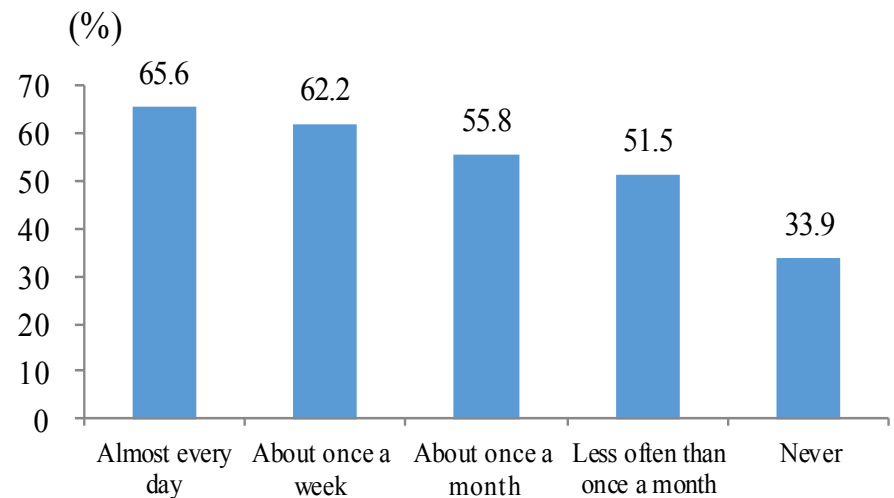
Analysis of Financial Knowledge by Attribute

- The percentage was relatively low for students and part-timers.
- The percentage tended to be higher for those who acquired financial and economic information more frequently.

By employment or work status



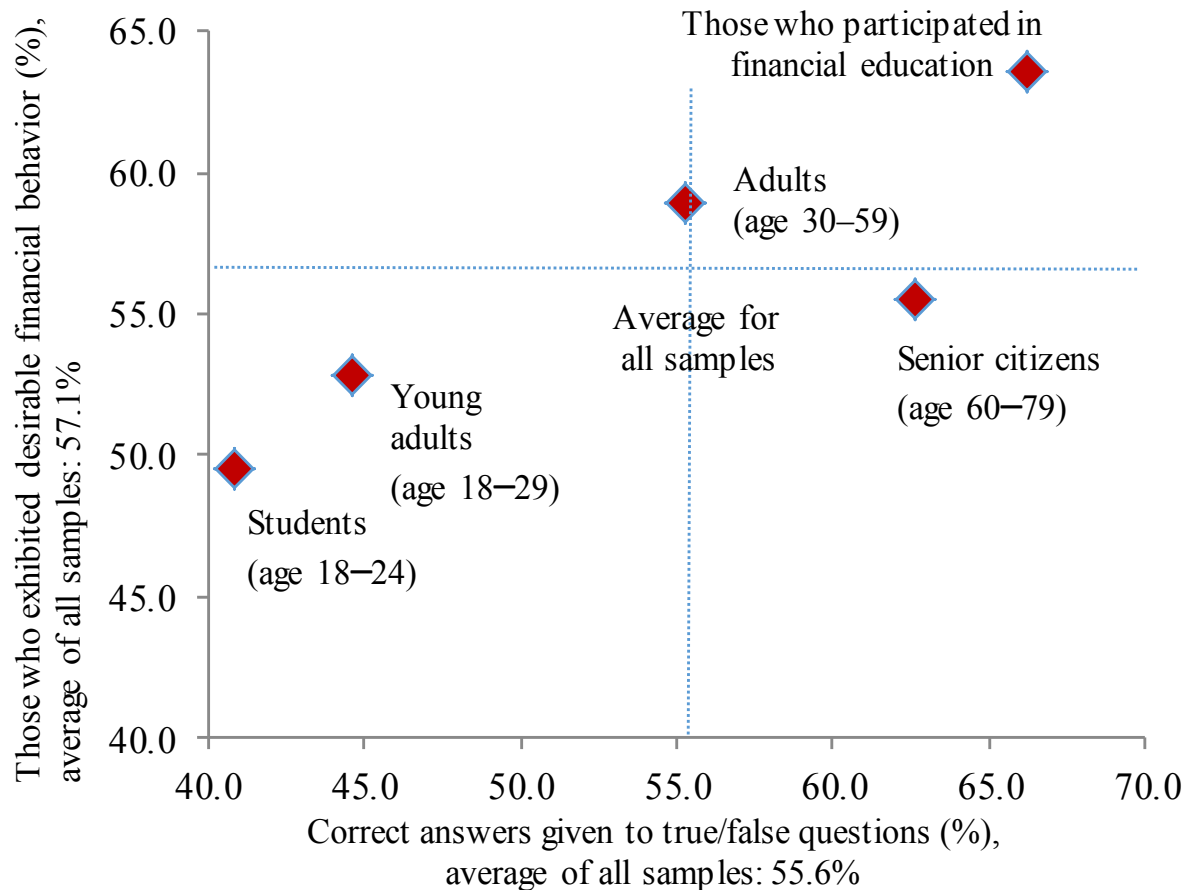
By frequency of acquiring financial and economic information



Correct Answers and Behavior of Each Segment

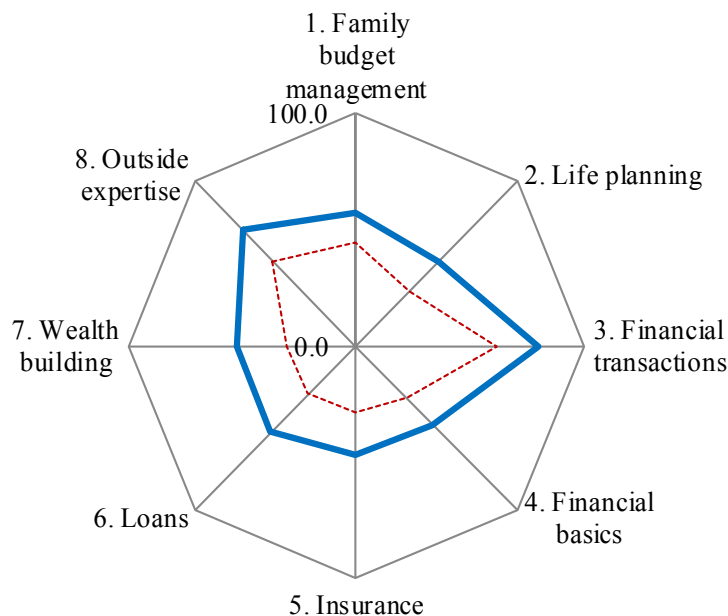
- For students and young adults, both the percentage of correct answers and the proportion of those who exhibited desirable financial behavior* were lower.
- For respondents who participated in financial education, both the percentage of correct answers and the proportion of those who exhibited desirable financial behavior were higher.

* Proportion of those who made comparisons with other financial institutions or products when investing funds, taking out a loan, or purchasing a life insurance policy.



Effects of Financial Education

- The percentage of correct answers given by students who had participated in financial education (56.4%) was higher than that of correct answers given by students who had not participated in such education (38.2%), and was also higher than the average for all age groups (55.6%).
- — Respondents who had participated in financial education were more likely to exhibit desirable financial behavior.



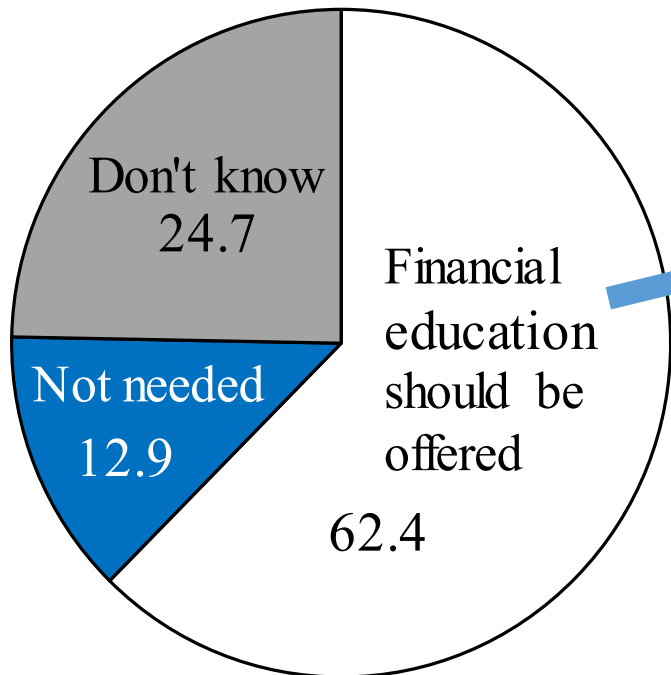
— Students who participated in financial education (correct answers: 56.4%)
 - - - Students who did not participate in financial education (correct answers: 38.2%)

		Financial education		Gap (A-B)
		Participated (14%) (A)	Did not participate (86%) (B)	
Proportion to all students				
Correct answers (total for 25 questions)		56.4	38.2	18.2
Financial behavior and attitude	Those who made comparisons with other products when purchasing a financial product (Q24, 29, and 32)	56.6	48.0	8.6
	Those who set long-term financial goals (Q1-4)	54.3	40.4	13.9
	Those who purchased investment trusts after understanding the product details (Q34)	80.0	37.9	42.1
	Those who acquired financial and economic information at least once a month (Q48)	71.6	41.7	29.9
Those who recognized the need for financial education at school (Q41)		88.3	59.3	29.0

Note: Aggregation of data for students aged 18–24.

Gap Between Needs for Financial Education and the Actual Situation

- While many respondents indicated that financial education should be offered, only a limited number of them had actually participated in such education.



	Those who answered that financial education should be offered	Those who had financial education
Number of respondents	15,611	1,298
(%)	(100.0)	(8.3)

Respondents who had actually participated in financial education accounted for only 8.3% of those who answered that financial education should be offered.

Comparison with the United States

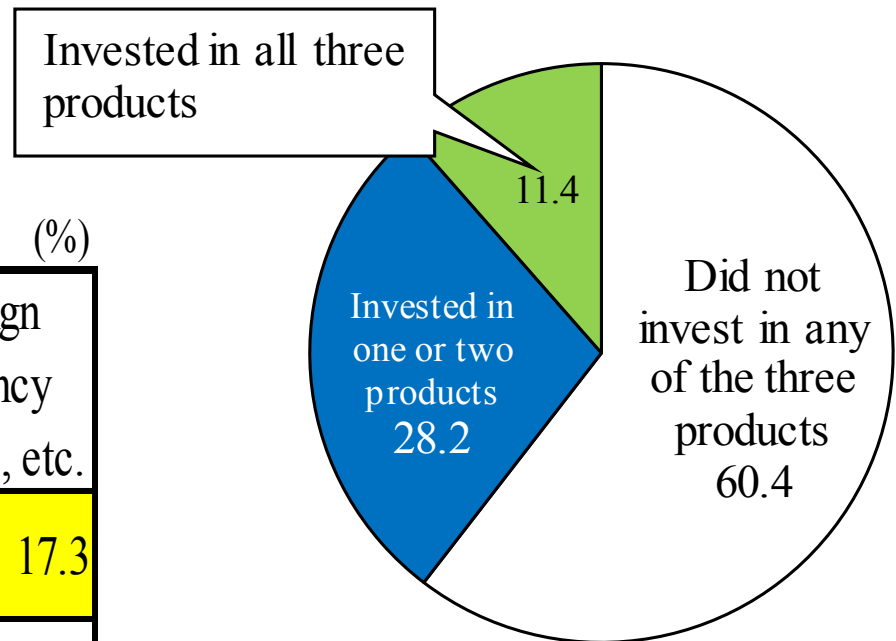
- Compared with the United States, the percentage of correct answers given to common true/false questions was 7% lower in Japan.
- The proportion of respondents who had participated in financial education was one-third as large as that in the United States.
- In terms of characteristics of behavior, fewer respondents in Japan felt they had too much debt and more respondents had set aside emergency or rainy day funds than in the United States.

(%)

	Japan (A)	US (B)	Difference (A-B)
Correct answers given to common true/false questions	46	53	▲ 7
Those who had participated in financial education	7	21	▲ 14
Those who felt confident about their financial knowledge	13	76	▲ 63
Those who felt they had too much debt	11	40	▲ 29
Those who had set aside emergency or rainy day funds	55	46	+ 9

Purchasing of Risk Assets

- About 20–30% of the respondents had the experience of purchasing stocks, investment trusts, foreign currency deposits, etc., out of which about 20–30% had purchased the products without understanding the product details.



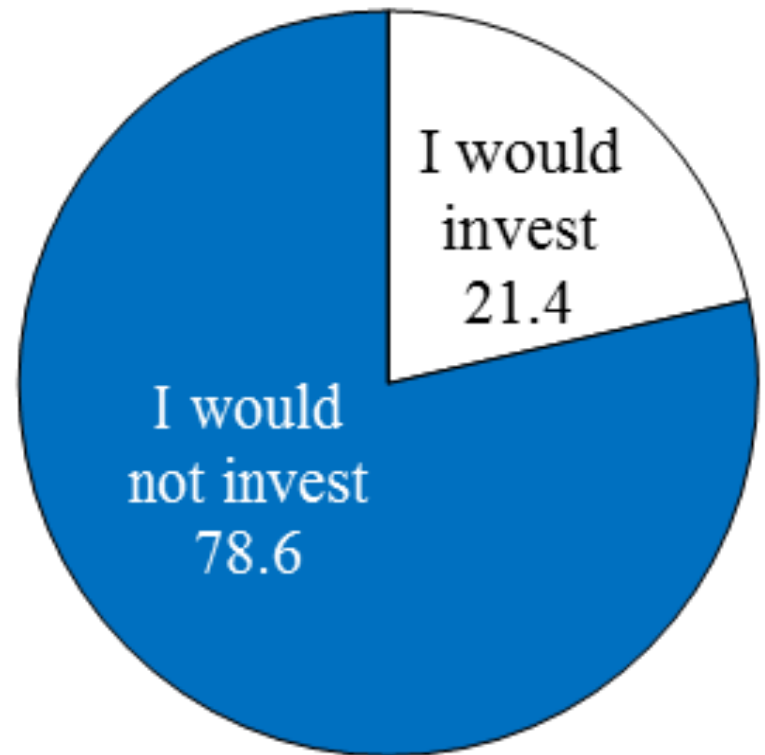
(%)

	Stocks	Investment trusts	Foreign currency deposits, etc.
I have purchased them	31.6	25.8	17.3
I have never purchased them	68.4	74.2	82.7

Strong Loss Aversion

- For investment with an expected return rate of 5%, 80% of the respondents answered that they would not invest, showing generally strong loss aversion.

Suppose that, if you invested 100,000 yen, you would either get a capital gain of 20,000 yen or a capital loss of 10,000 yen at a 50% probability. What would you do?



Strong Loss Aversion (Continued)

- Loss aversion was stronger for female respondents.
- Those who exhibited strong loss aversion tended to refrain from investing in stocks, investment trusts, foreign currency deposits, etc.

Those with strong loss aversion who did not invest (%)

	Male	Female	Total
Age 18–29	67.7	88.5	77.9
30s	64.6	88.7	76.5
40s	71.6	89.5	80.4
50s	72.4	88.6	80.5
60s	73.2	86.2	80.1
70s	67.5	82.8	75.5
Total	69.5	87.5	78.6

(%)

	Correct answers	Those who invested in stocks	Those who experienced financial trouble	Those who had consumer loans	Those who felt they had too much debt
All respondents	55.6	31.6	5.9	3.9	11.4
Those with strong loss aversion	52.8	24.0	5.3	3.5	10.7

Effects of Financial Education

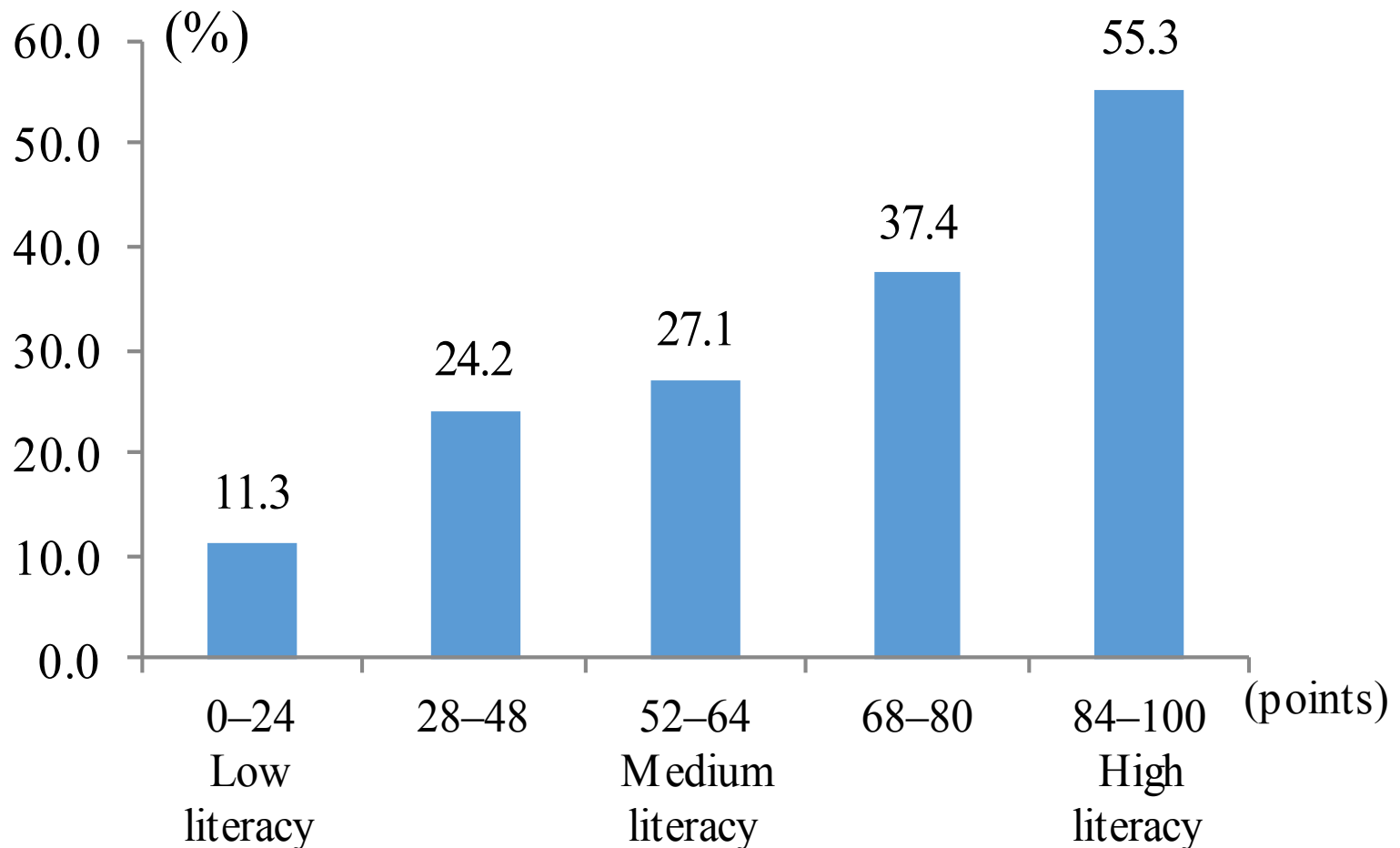
- Loss aversion was weaker for respondents who had participated in financial education.

(%)

(Percentage of 25,000 data)	Those who participated in financial education (7%) (A)	Others (93%) (B)	Difference (A-B)
The percentage of correct answers	66.2	54.9	11.3
Those who made comparisons with other products when purchasing financial products	63.6	56.4	7.1
Those with strong loss aversion	64.3	79.7	▲ 15.4
Those who had purchased stocks	52.3	30.2	22.1

Those Who Invested in Stocks

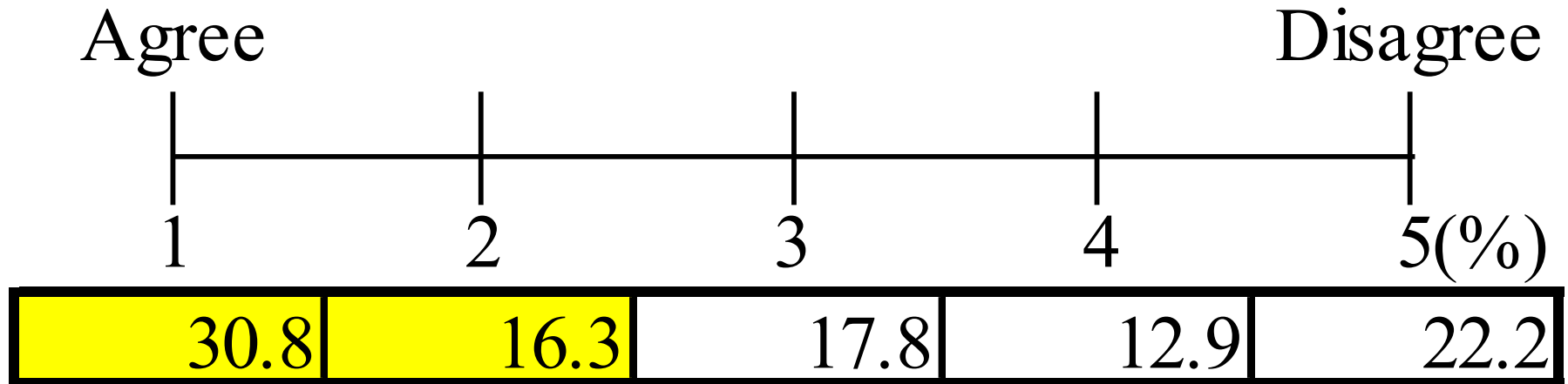
- Respondents with high scores had a high tendency of investing in risk assets such as stocks.



Myopic Behavioral Bias

- More respondents took answer (1).

If I had the choice of (1) receiving 100,000 yen now or (2) receiving 110,000 yen in 1 year, I would choose (1), provided that I can definitely receive the money.



Myopic Behavioral Bias (Continued)

- The myopic behavioral bias was stronger for older age groups and male respondents.
- Respondents who strongly exhibited this behavioral bias were frequently involved in financial trouble.

Those with a strong myopic behavioral bias (%)

	Male	Female	Total
Age 18–29	41.4	42.8	42.1
30s	41.6	37.7	39.7
40s	45.7	38.7	42.2
50s	53.5	44.8	49.1
60s	59.6	49.4	54.2
70s	62.1	53.1	57.4
Total	50.1	44.2	47.1

(%)

	Correct answers	Those who invested in stocks	Those who experienced financial trouble	Those who had consumer loans	Those who felt they had too much debt
All respondents	55.6	31.6	5.9	3.9	11.4
Those with a strong myopic behavioral bias	56.7	33.3	7.0	5.8	15.6

Gender Differences: Knowledge

Correct answers given to true/false questions

- Male's knowledge score is higher in total and wealth building.
- Female score is higher in family budget management and life planning.

Category		Number of questions	Male	Female (%)
Family budget management		2	49.4	52.6
Life planning		2	49.0	51.8
Financial knowledge	Basics of financial transactions	3	71.3	74.5
	Basics of finance and economy	6	56.2	41.6
	Insurance	3	54.8	50.1
	Loans/credit	3	57.4	49.3
	Wealth building	3	58.3	50.3
Use of outside expertise		3	64.5	66.1
Total		25	58.1	53.2

Gender Differences (Continued): Behavior

- Male purchased more stocks and had more consumer loans.
- Female's proportion of those who exhibited desirable financial behavior is higher in family budget management and life planning.

(%)

	Item	Male	Female
Family budget management	Those who had set aside emergency or rainy day funds	52.1	57.6
	Those who were aware of their monthly expenditure	69.5	74.6
	Those who paid bills on time	82.6	86.3
Life planning	Those who set long-term financial goals and strived to achieve them	45.5	49.4
	Those who had a financial plan for living expenses for retirement	38.0	42.5
Financial knowledge and selection/use of financial products	Those who made comparisons with other products when purchasing a life insurance policy	53.3	56.0
	Those who had consumer loans	5.0	2.8
	Those who had purchased stocks	39.1	24.4
	Those who had purchased investment trusts without understanding the product details	27.3	38.2
Use of outside expertise	Those who acquired financial and economic information less often than once a month	30.5	43.4
Behavioral bias	Those with strong loss aversion	69.5	87.5
	Those with a strong myopic behavioral bias	50.1	44.2
	Those with a strong herd behavioral bias	13.5	16.4

Gender Differences (Continued)

Information sources used when choosing a financial product

- Male's main information source is website.
- Female's main source is consultation at financial institutions.

	%)	
	Male	Female
From websites	29.8	17.7
Consultation at financial institutions	18.5	26.3
From pamphlets provided at financial institutions	14.8	17.5
Through TV, newspapers, etc.	17.8	14.4
Conversations with family members/friends	9.3	19.7

Question: At what opportunities do you mainly acquire knowledge or information when you choose financial products?

Gender Differences (Continued)

Information sources used when choosing a financial product

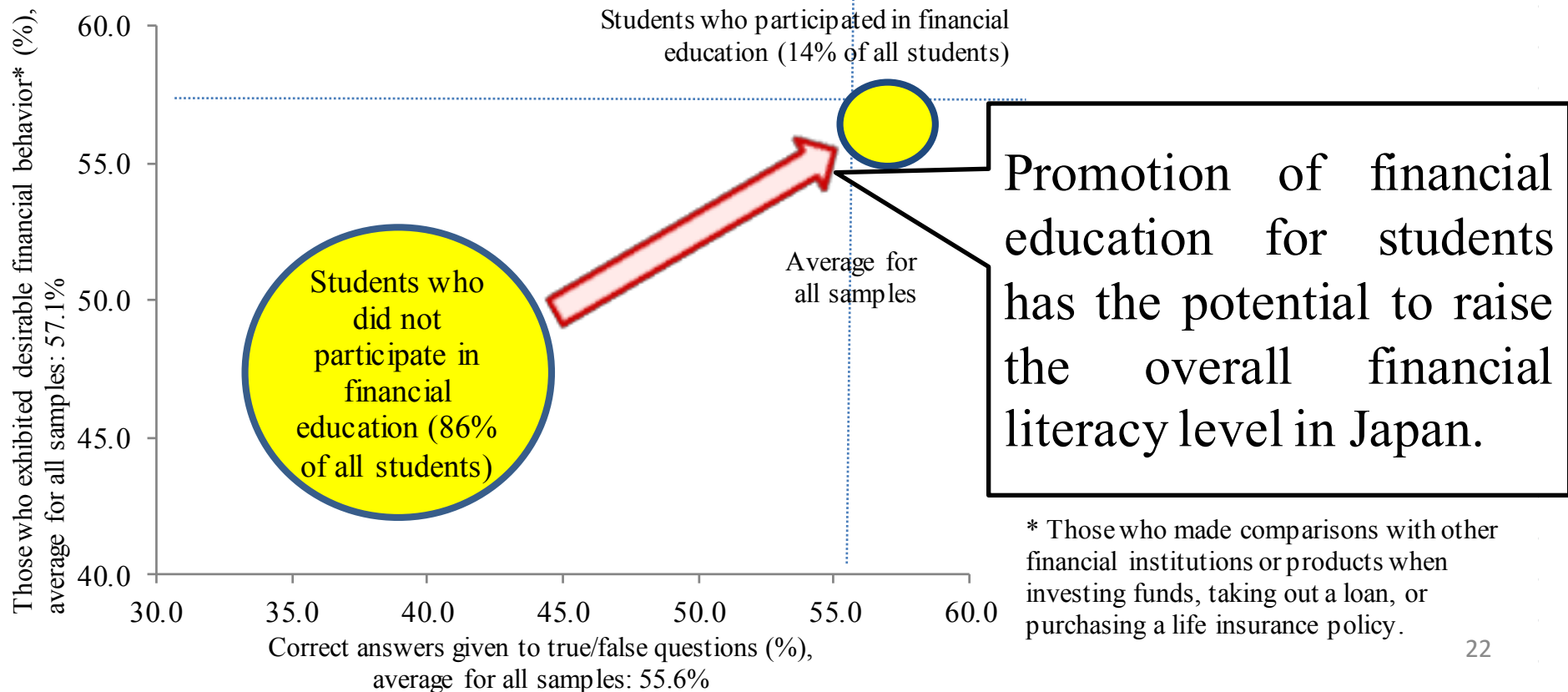
- Main Information source is different by age and gender.

	Main information source	
	website	Consultation at financial institutions
Male	Age 18-29, 30s, 40s, 50s, 60s	70s
Female	Age 18-29, 30s, 40s	50s, 60s, 70s

Future Challenges (1)

- As a measure to appropriately deal with financial transactions that students will face, it is desirable to provide them with wider opportunities to participate in financial education before they start working.

Promotion of financial education for students



Future Challenges (2)

- For adults, at each life stage, such as when having a family or becoming a senior citizen, they should also be provided with more information and learning opportunities that better meet their needs at each stage.

Promotion/enhancement of financial education and activities to spread financial knowledge for adults

