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Difference between financial intelligence on millennials, gen x, and baby boomers

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Abstract

The financial management of each individual depends on his financial intelligent. This study aims to examine the differences between financial knowledge and financial behavior, which are a combination of financial intelligent in each generation, namely the millennials, Gen X, and baby boomers. The sample used consisted of 100 respondents in each generation, selected using purposive sampling technique. Data collection used questionnaires distributed by online and hardcopy, which is then processed to test the differences using the ANOVA test. The results of the analysis showed that there are significant differences in financial intelligence on millennials, Gen X, and baby boomers. However, there were no difference in financial intelligence between millennials and Gen X. This proves that differences in generations that have different growth periods will have different levels of financial knowledge, resulting in differences in financial behavior.

Keywords

Financial intelligence; financial knowledge; financial behavior; millennials; Gen X; baby boomers

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Difference between financial intelligence on millennials, Gen X, and baby boomers

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Abstract

The financial management of each individual depends on his financial intelligent. This study aims to examine the differences between financial knowledge and financial behavior, which are a combination of financial intelligent in each generation, namely the millennials, Gen X, and baby boomers. The sample used consisted of 100 respondents in each generation, selected using purposive sampling technique. Data collection used questionnaires distributed by online and hardcopy, which is then processed to test the differences using the ANOVA test. The results of the analysis showed that there are significant differences in financial intelligence on millennials, Gen X, and baby boomers. However, there were no difference in financial intelligence between millennials and Gen X. This proves that differences in generations that have different growth periods will have different levels of financial knowledge, resulting in differences in financial behavior.

Keywords: financial intelligence; financial knowledge; financial behavior; millennials; Gen X; baby boomers.

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Abstrak

Pengelolaan keuangan tiap individu bergantung pada financial intelligent-*nya yang dimiliki individu tersebut. Penelitian ini bertujuan menguji perbedaan* financial knowledge *dan* financial behavior *yang merupakan kombinasi* financial intelligent *pada masing-masing generasi, yaitu* gen millennial, Gen X, *dan* baby boomers. *Sampel yang digunakan berjumlah 100 responden pada masing-masing generasi yang dipilih dengan teknik* purposive sampling. *Pengumpulan data menggunakan kuesioner yang disebarkan secara* online *dan* hardcopy, *kemudian data diolah untuk menguji perbedaan tersebut menggunakan uji* Anova. *A bahwa terdapat perbedaan* financial intelligence *yang signifikan pada* gen millennial, Gen X, *dan* gen baby boomers. *Namun* financial intelligence *tidak menunjukkan perbedaan antara* gen millennial *dan* Gen X. *Hal ini membuktikan bahwa perbedaan beda generasi yang periode pertumbuhannya cukup jauh berbeda akan memiliki tingkat pengetahuan keuangan yang berbeda, sehingga terjadi perbedaan perilaku keuangan.*

Kata kunci: financial intelligence; financial knowledge; financial behavior; millennials; Gen X; baby boomers.

INTRODUCTION

Financial intelligence is one of the aspects to measure intelligence regarding financial knowledge. Financial intelligence is an individual's ability to solve financial problems and his attitude to improve financial knowledge in order to demonstrate a good financial behavior (Kiyosaki, 2008). Individuals who lack financial knowledge can have a detrimental impact on themselves both in the short and long term. Whereas financial knowledge is the knowledge one possesses in finance (Bashir, Arshad, Nazir, & Afzal, 2013). Said financial knowledge includes the knowledge of personal finance management, savings, and investing that each individual has, thus affecting the mindset and his view towards financial management. Furthermore, financial behavior relates to how individuals treat, manage, and use their money. Individuals with a good financial behavior tend to use their money effectively, such as planning budgets, saving money, controlling their spending, investing, and paying their obligations on time (Nababan & Sadalia, 2012).

The existence of three generations, namely millennials, Gen X, and baby boomers with diversity in each generation such as mindset and different characteristics of finance, needs further study. These differences are reflected in previous studies. Dent (2017) states that 59% of millennials use technology for their financial activities, while Gen X only 40% and baby boomers 24%. 52% of millennials associate the words "risk" and "investment" with opportunity, while 55% of Gen X associates them with "inconvenience" and 58% of baby boomers associate them with "uncertainty". The financial behavior of the millennials is to invest (35%), Gen X (26%) and baby boomers (25%); where millennials (41%) get investment advice from friends, family or colleagues, while Gen X (31%) and baby boomers (19%) hesitate to talk about money. The investment products selected by

60% of Gen X are investment products such as bonds, cash, and stocks that have been profitable in the past, while 76% of baby boomers prefer gold and property. According to Hawkins & Mothersbaugh (2013), millennials have better opportunities and quality of life than previous generations, thus possessing high self-esteem, daring to risk and having their own financial perspective. Education level of the millennials are higher compared to previous generations, but millennial is inconsistent in their financial life (Idris, Krishnan, & Azmi, 2013). Research regarding financial intelligence on three generations is still limited, so it needs further revelation. The aim of this study is to test the differences of financial intelligence in each generation as measured by financial knowledge and financial behavior on millennial, Gen X, and baby boomers. The differences among these three generations that will be disclosed is expected to give an insight to the financial intelligence on each generation, so action and decision-making that will be carried out will give better results.

Financial Intelligence

Having money without financial intelligence to accompany it might result in a loss of money. When an individual has a high level of financial intelligence, he will be able to figure out what to do with the money, how to prevent others from taking it, how to keep it longer, and how to make the money work for the individual. So, individuals with financial intelligence are characterized by having the high financial knowledge and good financial behavior (Kiyosaki, 2008). Financial intelligence fundamentally consists of understanding the foundation, individuals with a basic understanding of financial knowledge in general, such as asset liquidity, net worth calculations, and personal financial planning; and understanding the art, individuals who can identify financial aspects to be applied and how to apply financial knowledge in everyday life (Berman, Knight, & Case, 2013).

Chen & Volpe (1998) say that financial knowledge is an individual's knowledge of financial management that includes current and future needs. Grable, Park, & Joo (2009) cite many sources to gain financial knowledge, such as formal education such as school or college, seminar, training outside formal education, and informal sources such as parents, friends, work environment or even unpleasant personal experience. Hilgert & Hogarth (2003) also say that knowledge of financial management and investing technique will be needed and will not be as negligible as it is in the past. Financial knowledge becomes an essential knowledge of the various basic concepts of finance such as knowledge of risk diversification, nominal and real value differences, knowledge of time value of money, and many others so that the goal of welfare can be achieved (Lusardi, 2008). Aspects of financial knowledge are divided into: (1) Financial knowledge in general or overall. One's knowledge regarding asset liquidity, net worth calculations, and personal finance planning; (2) Knowledge of savings and loans. One's knowledge regarding credit

cards, credit cards report compound interest, deposit insurance, credit card usage, loan interest rates, and savings and deposit interest rate; and (3) Knowledge of investment. One's knowledge regarding investment products such as bonds, gold, and more. The profits earned can be used for other investments, such as foreign currencies, bonds, and other bearable risks (Chen & Volpe, 1998).

The financial knowledge one possesses will guide the individual's behavior in making decisions. Financial behavior is the attitude and behavior of an individual in financial management (Hira & Mugenda, 1999) with a measure in spending and saving behavior. The study of Xiao, Chen, & Chen (2013) also uses the same indicators for daily financial activities, such as planning for emergency funds, pension funds, comparing credit offers and control of financial posts which use credit and debit cards, as well as tracking monthly spending as a financial behavior indicator.

Generation is a group of individuals consisting of individuals of the same age range who have experienced the same historical events in the same period (Ryder, 1965). Borodin, Smith, & Bush (2010) state that people of the same generation have similarities in culture, politics, economics, world events, natural disasters and technology, thus forming the same views, values, options, and beliefs. As a result, each generation experiences different experience and perspective on values, expectations, and work attitude, resulting in a different outcome (Smith, Roebuck, & Elhaddaoui, 2013).

Millennial have financial knowledge through mastering technology in their financial life, but Gen X is higher compared to baby boomers, as millennial are born in an era where information and knowledge is easily obtainable, while baby boomers are born in a developing era. As such, millennial have a better opportunity than baby boomers. This condition results in risk profile of millennial to be risk takers, Gen X to be moderate, and baby boomers to be more conservative. 52% of millennial states investing is an "opportunity", 55% of Gen X states investing is an "inconvenience", while to 58% of baby boomers it is an "uncertainty". This profile makes millennial tend to allocate their funds in lifestyle (gadgets, traveling, and hangouts), while Gen X tend to use their funds for venture capital and school costs of children, and baby boomers prefer investing in the form of houses and land (Dent, 2017).

Individual's financial knowledge will drive them to act and make decisions, such as saving behavior, which is more common in millennial (35%), compared to baby boomers (25%) and Gen X (26%). Knowledge is obtained by listening feedback from other people regarding investments. As a result, millennial decisions are more focused on mutual funds and stocks, Gen X prefers bonds and deposits, and baby boomers prefer properties.

Based on the description above, the hypotheses in this study are:

H1: There are financial knowledge differences between millennials, baby boomers, and Gen X.

H2: There are differences in financial behavior between millennials, baby boomers, and Gen X

METHODS

This study is a comparative study, which compares one or more variables on two or more different samples or at different times (Sugiyono, 2017). The population in this study is all the residents of Surabaya and selected with sample criteria according to the purposive sampling technique. 100 respondents are taken from each sample according to sample criteria, which is (1) baby boomers, born in 1946-1964, or 53-71 years old, (2) Gen X, born in 1965-1981, or 36-52 years old, and (3) millennials, born in 1982-1991, or 26-35 years old (Oblinger & Oblinger, 2005). The research variables can be seen in table 1.

Table 1. Research Variable

Variable	Indicator	Analysis
Financial Knowledge	Statements measuring an individual's financial knowledge or general knowledge, saving, and investing (Chen & Volpe, 1998)	Every correct answer is given 1 point, then the sum is divided with the total number of questions
Financial Behavior	Statements measuring an individual's spending and saving behavior (Grable, Park, & Joo, 2009)	In every question, respondents select a Likert scale with the following conditions: Strongly disagree; Disagree; Fairly agree; Agree; Strongly agree

Source: Result of the research.

Data collection used questionnaires distributed online and offline according to age-specific sample criteria. Offline questionnaires were distributed in shopping malls and several campuses in Surabaya within three weeks. The data analysis technique used was ANOVA test to test the differences between generations related to financial intelligence.

RESULT AND DISCUSSION

Result

Questionnaires were distributed both online and offline to 100 respondents of each age group specified in sample criteria (according to each generation). Respondent's demographic background in all three categories can be seen in Appendix 1. Female respondents dominated the proportion of Gen X and millennials. While in baby boomers, male respondents were dominant.

Most baby boomers and Gen X are married and have 3 children, while many millennials are still unmarried (29%). The highest education of baby boomers was mainly junior high and high school (52.7%), while Gen X and millennials had a bachelor's degree (31.7%). Employment as a private employee (65%) is the most

popular in all three generations and most have an income range of Rp.3.000.000 – Rp.5.000.000 (41.7%) Gen X and millennials (14%) had higher incomes in the Rp.7.500.000 – Rp.10.000.000 range. In the millennials, there are respondents with income below Rp.1.000.000, - since they were still in college with part-time job income, as well as generation X entering retirement age.

Respondent's description of study results showed that 70 respondents (23.34%) have financial knowledge between 0-50, while 230 respondents (76.66%) scored 50.1-100. The average value of millennials' financial knowledge (78.98) is higher compared to Gen X (77.37) and baby boomers (58.78).
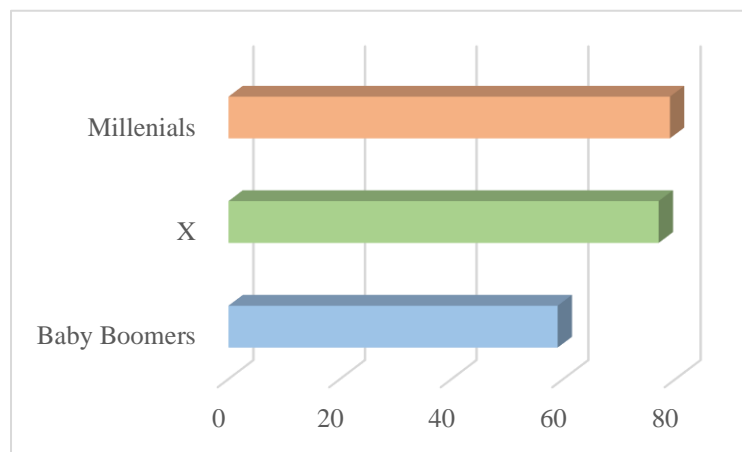
Figure 1. Mean Value of Financial Knowledge in Each Generation

Figure 2 shows 64 respondents (27.33%) have low financial behavior, and 218 respondents (72.67%) have high financial behavior. The average value of millennials (4.17) is higher compared to Gen X (4.06) and baby boomers (2.42).

Figure 2. Mean Value of Financial Behavior in Each Generation
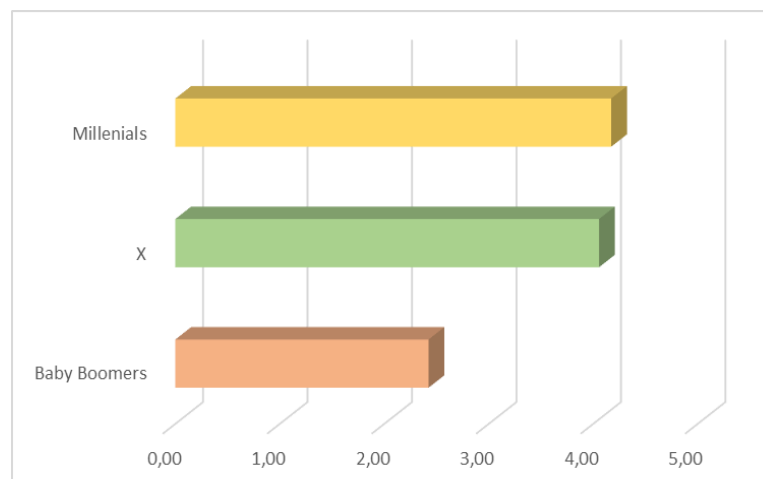
Before testing the differences between variable, validity and reliability test was done on the indicators used to measure financial behavior variables. Validity

test results showed that all indicators were significant (p-*value* < 0.05) and Cronbach Alpha value above 0.6 on Table 2, thus meeting the criteria for further use in the ANOVA test.

Table 2. Validity and Reliability Test Result in Three Generations

No	Indicator	Validity Test – Pearson Correlation		
		Gen Baby Boomers	Gen X	Gen Millennials
1	FB1	0.801**	0.747**	0.821**
2	FB2	0.672**	0.678**	0.724**
3	FB3	0.755**	0.772**	0.847**
4	FB4	0.736**	0.707**	0.834**
5	FB5	0.867**	0.725**	0.681**
6	FB6	0.801**	0.747**	0.821**
7	FB7	0.672**	0.678**	0.724**
8	FB8	0.755**	0.772**	0.847**
9	FB9	0.736**	0.707**	0.834**
10	FB10	0.867**	0.725**	0.681**
	Cronbach Alpha	0.921	0.897	0.928

Description: ** p-value < 0.05; Cronbach Alpha > 0.6
Source: Result of the research.

The results of the financial intelligence test on all three generations measured from financial knowledge and financial behavior are shown in Table 3.

Table 3. Differences in Financial Intelligent in Three Generations

Variable	Mean	Mean Difference (I-J)	Std. Error
Financial Knowledge			
Gen Baby Boomers vs	58.775	-18.5925	2.743***
Gen X	77.367		
Gen Baby Boomers vs	58.775	-20.2020	2.696***
Gen Millennials	78.976		
Gen Millennials vs	78.976	1.6095	2.407
Gen X	77.367		
Financial Behavior			
Gen Baby Boomers vs	2.424	-1.6320	0.861***
Gen X	4.056		
Gen Baby Boomers vs	2.424	-1.7480	0.911***
Gen Millennials	4.172		
Gen Millennials vs	4.172	0.1160	0.886
Gen X	4.056		

Note: *** p-value < 0.01
Source: Result of the research.

Discussion

Baby boomers have differences on financial knowledge and financial behavior compared to Gen X and millennial, but there is no difference between Gen X and millennial. Financial knowledge difference occurs in baby boomers towards

millennial and Gen X, as baby boomers were born in an age where the economy was still developing, with a very conservative and cautious nature. The educational background of the majority of respondents is at the junior and senior high levels, so the level of knowledge about finance is limited. As Gen X was born in an era where technology was starting to develop, access to information was easier than the baby boomers. Furthermore, millennial was born in the age of advanced technology and were available in almost every region, so access to information and knowledge was faster and easier than ever before. Millennial are said to be the generation that mastered science and technology. However, the test results showed that there was no financial knowledge difference between Gen X and millennial, as both generations were born in a relatively similar technological era and most of them were college-educated. The educational background and unlimited access to information perhaps gives both generations' the opportunity to learn independently with the help of the technology.

An individual's knowledge can be used to make decisions. The results of the study in financial behavior showed that the baby boomers were different from the X and millennial, but there was no behavioral difference between the X and millennial. The economic condition of the baby boomers is in good condition but has considerable responsibility, so that their low level of knowledge leads to low financial behavior. Their knowledge of investing is influenced by parents who focus on real assets such as deposits, property or gold. On the other hand, millennial is better informed and can consider their options from a broader selection of investment products such as stocks and mutual funds. So is the case in Gen X, though some still prefer deposits as investment products. Product choice decisions relate to the economic conditions or individual income in each generation. Respondents with high financial knowledge tend to have better financial behavior. Adequate financial knowledge can positively affect a person's financial behavior (Robb & Woodyard, 2011). Lack of knowledge on basic finance can lead to limited retirement planning and create a bad habit in saving money (Lusardi, 2008).

CONCLUSION

This study shows that there is a difference in financial knowledge and financial behavior between generations, except for the Gen X and millennial. The millennial has the highest financial knowledge and financial behavior, while the baby boomers have the lowest. These differences indicate that different periods of individual growth give different financial-related stimuli to each generation, except for the periods that are near to each other. However, that financial knowledge continues to encourage each generation to make different financial decisions. The choice of investment products selected reflects the level of knowledge possessed by each generation.

A major limitation of this study is that the number of respondents of each generation needs to be increased to better represent the population. Another limitation is that this study used ANOVA method without control variables. Therefore, it has to rely on a strong assumption that financial intelligent is independent to potential confounders (e.g. education, income, and family structure). This assumption is not necessarily true. Future studies might apply more advance methods such as ANCOVA (Analysis of Covariance) to produce robust results against the assumption and also to understand the factors that influence and differ the financial intelligent of the three generations. Furthermore, this research still needs to be developed by developing parent advice variable or peer influence to deepen the level of financial knowledge, thus enhancing the financial knowledge that each generation has. The involvement of a financial advisor can contribute to the financial knowledge in each generation. As a result, the investment products offered by the people in financial industry will be more variable.

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Appendix 1. Descriptive Data

	Millennials	Gen X	Baby Boomers	Total
Gender				
Male	39	35	75	149
Female	61	65	25	151
Status				
Not married	83	4	0	87 (29.0%)
Married	17	96	100	213 (71.0%)

	Millennials	Gen X	Baby Boomers	Total
Education				
Junior high school	6	4	64	74 (24.7%)
High school	34	23	27	84 (28.0%)
Diploma	4	22	9	35 (11.7%)
Undergraduate	54	41	0	95 (31.7%)
Graduate	2	10	0	12 (4.0%)
Occupation				
Civil servant	6	25	0	31 (10.3%)
Private employee	44	60	91	195 (65.0%)
Self-employed	24	7	9	40 (13.3%)
Professional	7	8	0	15 (5.0%)
Others	19	0	0	19 (6.3%)
Income				
<Rp. 1.000.000	3	2	0	5 (1.7%)
>Rp. 1.000.000 – 2.000.000	23	11	19	53 (17.7%)
>Rp. 2.000.000 – 3.000.000	18	2	18	38 (12.7%)
>Rp. 3.000.000 – 5.000.000	33	29	63	125 (41.7%)
>Rp. 5.000.000 – 7.500.000	4	22	0	26 (8.7%)
>Rp. 7.500.000 – 10.000.000	13	29	0	42 (14.0%)
>Rp. 10.000.000	6	5	0	11 (3.7%)

Source: Result of the research.

Appendix 2. Questionnaire

Financial Knowledge

1. Personal financial knowledge will help you to…
   A. Avoid fraud in financial aspect
   B. Buy various insurance policies to protect you from risks
   C. Lead a financially secure life through forming a healthy shopping habit
   D. All of the above is true

2. Your aim in personal financial planning is…
   A. Establish an adequate financial recording system
   B. Develop a healthy annual spending and income budget
   C. Minimizing tax and insurance costs
   D. Preparing a plan for future financial needs and goals

3. The following is the easiest asset to liquidate...
   A. Money on the certificate of deposit
   B. Money in the form of a check
   C. Car
   D. House

4. Your net worth is …

A. The difference between your expenditure and income

B. The difference between your total debt and assets

C. The difference between your in and out cash flow

D. Total savings in your bank

5. Inflation can cause various kinds of difficulties. The following group who suffers the most when an inflation occurs is…

A. A middle-aged married couple who are still working and currently saving for retirement

B. A young couple who are both working with no kids or any liability

C. Married couple with a fixed retirement allowance

D. A young couple who are both working with kids

6. If the inflation rate is 5% while the bank is giving 3% interest rate on your savings, then your money value will …

A. Increase

B. Decrease

C. Remains the same

D. There is no relation

7. Your expenditure will not go over your budget if …

A. You write more checks than what you have in your account

B. Your salary is Rp. 500.000 and credit costs Rp. 1.000.000

C. You often receive calls from a debt collector

D. Your debt is 30% of your monthly income

8. _____ is not the cost of renting an apartment.

A. Security deposit

B. Monthly rent payment

C. Costs incurred for not complying with renting rules

D. The medical costs of a friend who fell on the sidewalk

9. If you rent an apartment for twelve months for Rp. 3.000.000 a month, but never used the apartment, you legally owe the owner:

A. Your security deposits

B. Your first month's rent of Rp. 3.000.000

C. Your whole twelve months' rent of Rp. 36.000.000

D. Nothing

10. Checking account reconciliation will ...

A. Balance your bank statement with your checkbook to determine if there is a mistake

B. Reconcile the current bank statement with the previous month's statement to determine if there was a mistake

C. Reduce outstanding checks on your checkbook balance to determine if your checks have been properly processed

    D. Add outstanding checks to your checkbook balance to improve your credit rating.

11. When you save money in a bank, and the bank faces a problem, then the party that guarantees the safety of your money in the bank is…
    A. Finance department
    B. Local government
    C. Savings board
    D. Minister of finance

12. Mr. Anton stored Rp. 1.000.000 for 3 months with an interest rate of 12% per year, the interest he gains will be…
    A. Rp. 120.000
    B. Rp. 12.000
    C. Rp. 30.000
    D. Rp. 36.000

13. Which of the following is WRONG about credit cards?
    A. If the balance on your credit card is Rp.1.000.000 and you pay Rp.300.000, interest is put on your remaining balance which is Rp.700.000
    B. The interest rate on your credit card is usually higher than the interest in certificate of deposit
    C. Credit card companies will not charge penalty fees if you pay it off completely on the due date

14. If you want to invest Rp. 10.000.000 today with an interest of 4% per year, next year your balance will be…
    A. Higher if the interest is calculated daily instead of monthly
    B. Higher if the interest is calculated quarterly instead of weekly
    C. Higher if the interest is calculated annually instead of quarterly
    D. Rp.10.400.000 regardless of how the interest is calculated

15. Certificate of deposit is issued by…
    A. Company
    B. Indonesian Stock Exchange
    C. Bank
    D. International banks only

16. High risk high return is an investment strategy more suited to…
    A. An elderly person who has retired and is living on a fixed income
    B. Middle-aged family who will need funds for their children's education in two years
    C. None is correct, as they are all avoiding risks
    D. A couple who just got married with no kids yet

17. The wrong statement in the following is…
    A. Mutual funds owners have the right to tell their investment manager to buy a certain security

B. Mutual funds are diversification of a group of securities who use various means of investment

C. Mutual funds are investment companies that collect funds from investors and purchase various securities

D. Mutual funds ownership is proportional to the amounts of sheets you have

18. Return of mutual funds include…

A. Interest gained from cash

B. Interest gained from bonds

C. Capital gain from shares and bonds

D. All of the above

Financial Behavior

Choose the statement that best describes your behavior

Statement	1	2	3	4	5
I put some of the money I have in saving					
I put some of my money for retirement plan					
I have a target in managing my finance, both short and long term					
I have and follow the budget that I planned for the month or the week					
I pay my credit card bills fully and avoid additional fees					
I avoid the reaching the limit of my credit card					
My expenses have never been greater than my income					
I need to cut down on daily expenses					
I do not need credit cards when I run out of cash					
I have money problems because I do not have enough money					

Description:

1 = strongly disagree; 2 = disagree; 3 = fairly agree; 4 = agree; 5 = strongly agree