2007

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Financial Behavior and Quality of Life of College Students: Implications for College Financial Education

Jing Jian Xiao, Ph.D., University of Rhode Island
Soyeon Shim, Ph.D., University of Arizona
Bonnie Barber, Ph.D., Murdoch University
Angela C. Lyons, Ph.D., University of Illinois at Urbana-Champaign

Abstract: This paper reports preliminary findings from a study on financial behaviors of college students. Objectives of the study are to identify factors associated with financial behaviors and to examine associations between financial behavior and quality of life of the students surveyed. Results of bivariate analyses show that frequencies of performing positive financial behaviors are associated with many factors, such as attitude toward performing the behavior, perceived control, parental influence, peer influence, class standing, etc. In addition, performing desirable financial behaviors is positively associated with financial satisfaction, physical health, mental health, academic performance and satisfaction, and life satisfaction.

Introduction

Young people age 18-25 are in a life-cycle stage distinct from other periods of development (Petersen & Leffert, 1998), which is labeled emerging adulthood (Arnett, 2000). In the U.S., about 60% of emerging adults are college students. A student’s first-year in college marks the beginning of this developmental period and is characterized by a host of major life-changing experiences, as these individuals make the transition out of adolescence. In the midst of these transitional life events, money, and in particular the credit system they have gained access to, plays a central role in shaping the attitudes they form and behaviors they adopt, not only toward financial management but also toward life in general.

As financial educators, we provide college students with the knowledge and skills needed to manage their finances. We also encourage them to form positive financial behaviors, since we believe positive financial behaviors will help them to improve their quality of life. From a research perspective, college students may be the best population to study how positive financial behaviors are formed, since they are experiencing a unique transitional period, from financial dependence to independence. Understanding the formation of their financial behaviors and the association between financial behaviors and quality of life can help educators better serve their students by developing and implementing effective, behavior-change oriented education programs for them.

In this paper, we report the findings from an exploratory study, which was implemented to examine the factors associated with college students’ financial behaviors and to explore whether these financial behaviors were associated with students’ quality of life. In the following paper, we briefly review previous studies, which have looked at the financial behaviors of college students. We then describe our conceptual model and research objectives. The methodology and findings follow. The last two sections conclude the paper and provide implications for financial educators who work with college students.

Previous Studies on Financial Behaviors of College Students

As the use of credit cards has proliferated on college campuses (U. S. General Accountability Office, 2001; Manning 2000; Nellie Mae, 2005; Education Resources Institute & The Institute for Higher Education Policy, 1998), researchers in disciplines such as economics, sociology, psychology, and higher education administration have become increasingly interested in the financial behaviors of college students. Some researchers have focused on college students’ attitudes about and behavior with money in general (Danes & Hira, 1987, Fan & Xiao, 1998;

1 Contact author: Jing Jian Xiao, University of Rhode Island, Department of Human Development and Family Studies, Transition Center, Kingston, RI 02881; Email: xiao@uri.edu.
Markovich & DeVaney, 1997, Masuo, Malroudu, Hanashiro, & Kim, 2004; Rindfleisch, Burroughs, & Denton, 1997). Others have specifically focused on the ways students use credit cards and the attitudes they have toward credit cards (Armstrong & Craven, 1993; Xiao, Noring, & Anderson, 1995, 1997; Education Resources Institute and the Institute for Higher Education Policy, 1998; Hayhoe, Leach, & Turner, 1999; Hayhoe, Leach, Turner, Bruin, & Lawrence, 2000; Joo, Grable, & Bagwell, 2001; U. S. General Accountability Office, 2001; Hayhoe, 2002; Lyons, 2004, 2007; Staten and Barron, 2002; Baum and O’Malley, 2003). In particular, earlier studies focused on factors that influence credit card selection behaviors (Kara, Kaynak, & Kucukemirouglu, 1994) and relationships between students’ characteristics and the tripartite (affective, cognitive and behavioral) components of their attitudes (Xiao at al., 1995, 1997).

A few researchers have also attempted to develop a causal model that can predict a college student’s attitudes and behavioral tendencies when acquiring a new credit card (Kidwell & Turrisi, 2000) and also describe the role that money attitudes and credit-card use plays in the development of compulsive buying behavior (Roberts, 1998; Roberts & Jones, 2001). Also, a group of researchers (Pinto, Parente, & Palmer, 2001a; 2001b) conducted a study to determine whether school solicitation policies or student academic performance caused differences in the ways students used credit cards, and they found no evidence of any differences.

With the recent increase in the number of reports regarding college students’ misuse or overuse of credit cards, researchers have begun to investigate the personal factors associated with credit card use, specifically the number of credit cards, on average, that a student possesses as well as the extent to which the average student typically carries a credit card balance (Hayhoe et al., 1999; Hayhoe et al., 2000; Hayhoe, 2002, Hayhoe, Leach, & Allen, 2005). Other research has looked at the extent to which different promotional mechanisms used by credit card firms influence students’ balance and delinquency status on their accounts (Staten & Barron, 2002). Lyons (2004, 2007) reported a demographic profile of college students (female, Black, and Hispanic) who were more likely to be financially at-risk. Researchers also examined the ways in which college students’ credit card attitudes and behaviors were related to psychological and social factors such as locus of control (Joo et al., 2003), impulsivity, life satisfaction, and stress (Norvilitis & Maria, 2002; Norvilitis, Szablicki, & Wilson, 2003), parental socialization (Palmer et al., 2001; Lawrence et al., 2005; Lawrence et al., 2006), and materialism (Pinto et al., 2000).

Compared to previous studies on financial behaviors of college students, our study has three unique features. First, we propose a conceptual model that integrates several social-psychological theories to understand how college students form positive financial behaviors and how these behaviors affect their quality of life. Second, we examine financial behaviors in a more comprehensive manner that covers not only cash and credit but also saving behaviors. Third, we examine the association between financial behavior and students’ quality of life.

Theoretical Framework and Research Objectives

We identified several theories that were relevant to the purpose of our study: the theory of human development (Arnett, 2000; Baltes, 1987; Havighurst, 1972; Shanahan & Hood, 1999), consumer socialization (John, 1999; Moschis, 1987; Ward, 1974), and planned behavior (Ajzen, 1991; Ajzen & Fishbein, 1980). Using these theories as a foundation, we developed a conceptual framework for analyzing the formation of financial behaviors and the impact that these behaviors have on the well-being of young adults. Integrating these theories, we propose that socialization processes – family, peers, and financial education – combined with demographic factors– influence a young adult’s attitudes, values, and knowledge about finances. We further hypothesize that these attitudes and values, along with subjective norms and perceived control, influence an individual’s behavioral intentions and financial identity, in turn, influencing their actual financial behaviors. In our model, we posit that financial behaviors ultimately affect one’s overall well-being, not only with respect to his or her personal finances but also with respect to physical/mental health, school achievements, and life satisfaction. The conceptual framework is presented in Figure 1. For a more detailed discussion of this conceptual model, see Xiao, Shim, Barber, and Lyons (2006).

(insert Figure 1 about here)

In this exploratory study, we have two research objectives: 1) to identify potential factors that affect performances of financial behaviors among college students; and 2) to examine potential effects of financial behaviors on the quality of life of college students.
Methodology

In spring 2006, a survey was developed and pre-tested based on the literature review and information gathered from college students using focus group techniques. Upon receiving approval from the University of Arizona’s Internal Review Board (IRB), the survey was finalized and put online. In fall 2006, we partnered with the university’s Financial Aid Office and administrated the survey. The online survey was sent to two consecutive random samples of students (4,000 each) at the University of Arizona in November 2006. For each random sampling, one follow-up reminder was sent. Overall, 1,197 students responded to the survey, with a return rate of 15%. Thirty-five scholarships ranging from $100-$500 were given as incentives for participation through a random drawing.

Among the 1,197 students who responded, 976 completed the survey. Of these, 11% were graduate students and 89% were undergraduate students. We conducted ANOVA on major demographic variables and tested them to determine if there were any differences between the two samples. The only difference found was related to student status. The first sample had more graduate students than the second one (106 graduate students in the first sample compared to 5 in the second sample). In this study, we focus on the financial behaviors of 781 undergraduate students and report statistics based on this group of students. For more details about the study, see Xiao, Shim, Barber, and Lyons (2007).

Descriptive Statistics of the Sample

The sample was evenly distributed across sophomore, junior, and senior classes; however, a higher proportion of students were freshmen. Most of the students were non-business majors, female, white, and in-state residents. Hispanic and Asian students were over-represented while blacks were underrepresented, which is typical in southwestern states. The distribution of GPAs was skewed towards the higher end. Noticeably, 20% of students reported that their GPA was “not available,” possibly because this was their first semester in college. Most of the students were not financially independent. Forty percent of them did not have income. The distribution of parental incomes was evenly distributed from the low to the high end; however, 23% of students were not sure about their parents’ income level.

Financial Behaviors

In this study, the students were asked how frequently they performed ten financial behaviors. Of which, six were about cash management, one was about credit management, and three focused on saving behaviors. The question was worded as follows: “Indicate how often you have engaged in the following activities within the past six months: never, seldom, sometime, often, always, and not applicable.”

In the sample, most students indicated that they always or often performed desirable cash management behaviors. However, they were less likely to perform credit management and saving behaviors. In addition, a significant percent of students reported not performing credit management and saving behaviors (answered “never” or “not applicable”). For example, 43% reported “never” (or “not applicable”) paying off credit card debts and 67% reported “never” (or “not applicable”) contributing to savings/investing accounts. In the category of cash management, 14-18% of students did not perform bill paying related behaviors. Figure 2 presents the percentage of students who reported performing the behaviors “always” or “often.”

(insert Figure 2 about here)

Potential Factors Associated with Financial Behaviors

In the following, we focus on potential factors that may be associated with three financial behaviors, cash management, credit management, and saving. The behavior of cash management was measured by adding the scores of the six cash management behaviors and then dividing the total score by six. The saving behavior was measured by adding the scores of the three saving behaviors and then dividing the total score by three. The single item, related to paying off credit card balances, was used to measure credit management behavior.

Cash management behavior
To examine potential factors that may affect cash management behavior, we excluded students who reported “not applicable” to any of the six cash management questions. The resulting sample size was 624. Based on results from the ANOVA, gender, race/ethnicity, credit hours, perceived control, values, financial knowledge, financial education, parental advice, parental approval, parental approval compliance, and friend approval were associated with cash management behavior. (Because of the space limit, most tables could not be presented but are available from the authors upon request).

Because the above findings are based on a sub-sample of the undergraduate students, we would like to explore the same research question by using the full undergraduate student sample. According to the theory of planned behavior, behavior intention is a major predictor of actual behavior (Ajzen, 1991). We conducted ANOVA between the behavior intention regarding cash management and potential influential variables available from the survey. Since all students provided answers to the behavior intention questions, the sample size used in the analyses was 781. Six variables that showed associations with the behavior intention also showed associations with the actual behavior. In addition, four new variables showed associations with the intention: first generation college student, time for school work, time for financial management, and parent ownership. Summarizing the findings of the cash management behavior and its behavior intention, the following factors showed associations in both: perceived control, self-actualization value, three parent-related variables (advice, approval, and compliance), and friend approval.

Credit management behavior

Using the same approach, we conducted ANOVA on the credit management behavior and its behavior intention against potential influential variables. Since 36% of the sample reported “not applicable” for this question, they were excluded from the analyses, resulting in a sample size of 503 students. The characteristics of students who were more likely to perform the positive credit management behavior were as follows: male (vs. female); Asian, white (vs. Hispanic); lower class standing; non-first generation college student; those who were not financially independent; lower student income; with more credit hours; higher intention to perform the behavior; more favorable attitudes toward the behavior; higher levels of perceived control; longer planning horizons; more time spent on school work; less time spent on paid work; less time spent on financial management; living on campus (vs. off campus); higher levels of parental financial advice; higher levels of parental approval of the behavior; higher levels of following parental advice; parents being married; higher parental income; parents being a home owner; higher father’s education; higher mother’s education; and greater approval of the behavior from friends.

Variables associated with the behavior intention were very similar to those associated with the actual behavior with two exceptions. First, gender did not show an association with the behavior intention. Second, students who did not receive financial aid were more likely to express the intention to perform the behavior, but this variable was not associated with the behavior.

Comparing these findings to those for the cash management behavior and its behavior intention, more potential variables showed associations with the credit management behavior, which suggests that this age group may be at a stage where they are developing credit management behaviors and may need more education and advice.

Saving behavior

The same approaches also were used to explore potential influencers of saving behavior. After excluding students who reported “not applicable” to any of the three saving variables, the sample size in the analyses was 643. Considering the sample as a whole, students were less likely to report performing saving behavior. On a scale of 1 to 5 (1-ever to 5-always), the average score of cash management behavior was 4.14, credit management was 3.78, while saving was only 2.67. Findings from the ANOVA indicated that the following students were more likely to engage in saving behavior: students with lower class standing; business majors (vs. other majors); transfer students; students who were not first-generation college students; those with higher intentions to perform the behavior; those with more favorable attitudes toward the behavior; and those with higher levels of perceived control of the behavior. Students with the following characteristics were also more likely to perform saving behaviors: those with longer planning horizon; spending more time on school work; spending more time on paid work; living on campus; higher levels of parental financial advice; higher levels of parental approval of the behavior; higher levels of following parental advice; parents being married; parents being a home owner; higher father’s education; higher mother’s education; and greater approval of the behavior from friends.
Potential factors influencing saving intention were similar to those found for saving behavior with three exceptions. (1) Two variables, first-generation college student and parental marital status, showed association with the saving behavior but did not show association with the saving behavior intention. (2) Two variables did not show association with the saving behavior but did show association with the saving behavior intention. A higher level of risk taking and less time spent on financial management were associated with a higher level of intention to perform the saving behavior. (3) One variable showed an opposite effect. Compared to others, transfer students were more likely to perform the saving behavior but less likely to express the intention to perform the behavior.

**Potential Effects of Financial Behaviors on Quality of Life**

Findings from the bivariate analyses indicate that performing positive financial behaviors is positively related with financial satisfaction, physical health, mental health, academic success and satisfaction, and overall life satisfaction (see Table 1).

(insert Table 1 about here)

*Financial satisfaction.* A 5-point Likert scale was used to measure financial satisfaction. The students were asked “How satisfied are you with your current financial status: 1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-satisfied, 5-very satisfied.” Students who reported performing money management, credit management, and saving “often/always” were more likely to report a higher level of financial satisfaction. For example, students who “never/seldom” performed cash management behavior reported the lowest level of financial satisfaction (3.00 out of 5), while those who “often/always” performed the behavior reported the highest level of financial satisfaction (2.99). The same pattern was also found for the credit management and saving behaviors.

*Health.* Health was measured using a 5-point Likert scale: “How would you rate your overall health? 1-poor, 2-fair, 3-good, 4-very good, 5-excellent.” Those performing positive financial behaviors also reported better health. For example, students reporting “never/seldom” perform the cash management behavior reported the worst health (3.34 out of 5), while those who “often/always” performed the behavior reported the best health (3.73). The same pattern was also found for the credit management and saving behaviors.

*Mental health.* Mental health was measured using 18 items with 5 dimensions: depression, self-esteem, coping, worry, and impulsivity. For each item, scores range from 1 to 7 (1-never, 7-daily). Two dimensions, depression and worry, showed negative associations with performing all three financial behaviors. For example, students who “never/seldom” performed the cash management behavior tended to be depressed the most (4.36 out of 7), while those who “often/always” performed the behavior appeared to be depressed the least (3.66). The same pattern was found for the credit management and saving behaviors. One dimension, self-esteem, showed associations with two financial behaviors, cash management and saving behaviors. For example, students who “never/seldom” performed the cash management behavior reported the lowest self-esteem (4.11 out of 7), while those who “often/always” performed the behavior had the highest self-esteem (5.18). Two dimensions, coping and impulsivity, showed associations with only the cash management behavior. Coping was positively associated with the frequency of performing the cash management behavior while impulsivity was negatively associated.

*GPA group.* GPA was used to construct a measure of academic success based on 5 GPA groups: 1-GPA lower than 2.0, 2-GPA 2.0–2.5, 3-GPA 2.6–2.9, 4-GPA 3.0–3.5, and 5-GPA 3.6–4.0. GPA was positively associated with all three financial behaviors. For example, students who “never/seldom” performed the cash management behavior reported the lowest GPA group index (3.35 out of 5), while those who performed the behavior “often/always” had the highest GPA group index (4.10).

*Academic satisfaction.* A 5-point Likert scale was used to measure academic satisfaction. The students were asked “How satisfied are you with your current academic progress: 1-very unsatisfied, 2-unsatisfied, 3-neutral, 4-satisfied, 5-very satisfied.” Students who reported performing cash and credit management behaviors “often/always” were more likely to report a higher level of academic satisfaction. For example, students who “never/seldom” performed cash management behavior reported the lowest level of academic satisfaction (3.00 out of 5), while those who “often/always” performed the behavior reported the highest level of academic satisfaction (3.74). The same pattern was also found for credit management and saving behaviors.
Life satisfaction. A 5-item measure was used for measuring life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985), which is a major measure of the subjective well-being (Diener 1985). The five items of the scale included: In most ways my life is close to my ideal; The conditions of my life are excellent; I am satisfied with my life; So far I have gotten the important things I want in life; If I could live my life over, I would change almost nothing. For each item, scores ranged from 1 to 5: 1—strongly disagree, 2—disagree, 3—neutral, 4—agree, 5—strongly agree. In the analyses, scores of the five items were added and then divided by 5, with scores for the new composite measure ranging from 1 to 5. Positive financial behaviors were positively associated with life satisfaction. For example, those who reported “never/seldom” performing cash management behavior reported the lowest level of life satisfaction (3.06 out of 5), while those who “often/always” performed the behavior reported the highest level of life satisfaction (3.51). The same behavioral patterns were found for the credit and saving behaviors as well.

Summary of the Findings

This report documents preliminary findings from a study that collected data regarding financial behavior and life outcome information from 781 undergraduate students at a southwest university in fall 2006. The main objectives of the study were to identify potential factors that affected performance of financial behaviors and the potential effects of these behaviors on the life outcomes of college students.

Before the findings are summarized, limitations of this study need to be acknowledged. First, this study only collected and analyzed cross-sectional data. The findings need support from future longitudinal research. Second, the findings presented in this report were only from bivariate statistical analyses. More advanced analyses, such as structural equation modeling have been conducted and presented in another paper (Shim, Xiao, Barber, & Lyons, 2007). In addition, more advanced analyses focusing on specific topics are underway. Thus, the following findings should be considered preliminary and suggestive.

In general, undergraduate students in the sample are more likely to perform desirable cash management behaviors and less likely to perform desirable credit management and saving behaviors. This is consistent with the theory and previous studies, which suggest that this age group has completed the process of socialization with cash management and are starting the process of learning about credit management for their current lives and long-term saving options for their futures.

Several psychological variables are associated with students’ cash management behaviors. If students have a more positive attitude towards the behavior, perceive it as easy to perform the behavior, and have a self-actualization value, they are more likely to perform positive cash management behaviors.

Credit behaviors are associated with a number of student characteristics, psychological variables, and time-use patterns. Upper class students are less likely to perform the desirable credit behavior, as are first-generation college students, those who are financially independent, those with higher personal income, those enrolling in fewer credit hours, and those living off campus. In addition, students who have a less positive attitude toward the desirable credit behavior, perceive it is difficult to perform the behavior, and have a shorter time-planning horizon are also less likely to perform the positive credit behavior. Time-use seemingly affects the behavior. Students who spend less time for school work but more time for paid work and money management are less likely to perform the positive credit behavior.

Saving behaviors are associated with several student characteristics, psychological variables, and time-use factors. Upper class students are less likely to perform saving behaviors. Other characteristics of students who are less likely to perform saving behaviors include students who are non-business majors, those living off campus, and those receiving financial aid. Students, who have a less favorable attitude toward desirable saving behaviors, perceive it is difficult to perform the behaviors, and perceive a lower level of financial knowledge, are less likely to perform the saving behaviors. Students who spend less time doing school work but more time engaging in paid work are less likely to perform the positive saving behaviors.

Strong evidence from this study indicates that parents are important in determining whether a student performs desirable financial behaviors. Students whose parents provide more financial advice are more likely to perform positive financial behaviors. If students believe these behaviors are approved by their parents, they are more likely to
perform these behaviors. If students usually follow their parents’ advice on money issues, they are more likely to engage in these behaviors. In addition, several parental characteristics show associations with these positive financial behaviors. For example, parents who are married, own a home, and who have a higher level of education, are more likely to have children who perform positive credit and saving behaviors.

Peers in college may play an important role in determining students’ financial behaviors. Evidence from this study shows that if students perceive that the desirable cash, credit, or saving behaviors are approved by their peers, they are more likely to engage in these behaviors.

Positive financial behaviors are associated with positive life outcomes. Specifically, students performing positive financial behaviors more frequently are more likely to have higher financial satisfaction, better physical health, better mental health, better grades, higher academic satisfaction, and higher satisfaction for life as a whole.

**Implications for Financial Educators**

Although the findings reported here are preliminary and suggestive, they provide helpful insight to financial professionals, educators, and college administrators who care about the well-being of college students. These findings could be used to promote effective financial education programs that not only assist students in forming positive financial behaviors but also improve their quality of life. The following are ways in which positive financial behaviors could be promoted on college campuses:

Positive financial behaviors could be promoted through financial education on campuses since they may improve the well-being of students directly. Financial educators could encourage college and university administrators to be aware of this fact and thus encourage them to provide more support for financial education course offerings.

Financial education related to credit management and saving is needed for undergraduate students, especially for upper division students. Evidence from this study shows that upper class students are less likely to perform desirable credit and saving behaviors, which should be a concern to educators, administrators, and parents. These students will face independent decisions about credit and saving now and in their immediate futures. To make their lives better, they need to understand the importance of credit management and saving, to avoid risky credit behaviors, to start saving early for long-term goals, and to learn practical skills and strategies to do so.

Financial educators and university administrators could encourage parents to inspire, support, and encourage the development of positive financial behaviors of their children since they may be the most effective socialization agent in this regard. This study shows that many parent-related variables are associated with students’ positive financial behaviors, which implies that parents have important influence on students’ financial behavior formation. Financial educators need to develop programs to connect parents and their children to make financial education more effective and beneficial.

Peer education should be encouraged to let college students interact with each other to develop positive credit and saving behaviors. Some evidence shows that peers also influence financial behaviors of college students. Many universities have student-run financial education initiatives, and these efforts should be encouraged, expanded, and formalized.

Financial education programs for college students may want to pay special attention to financially at-risk students. Students with certain characteristics are less likely to perform positive financial behaviors, and therefore they need special attention in financial education. Special classes should be offered for these students to address specific financial issues relevant to them.

**References**


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<th>Table 1: Financial Behaviors and Life Outcomes: Results of ANOVA (N=781)</th>
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Notes:
1. All findings presented in the table were statistically significant at 5% or better. In several cells, “-” means no statistical difference was found.
2. The values for the life outcome variables are all based on scales:
   - Financial satisfaction: 1-very unsatisfied, 5-very satisfied.
   - Health: 1-poor, 5-excellent.
   - Mental health: 1-never, 7-daily.
   - GPA group: 1-GPA <2.0, 2-GPA 2.0~2.5, 3-GPA 2.6~2.9, 4-GPA 3.0~3.5, 5-GPA 3.6~4.0.
   - Academic satisfaction: 1-very unsatisfied, 7-very satisfied.
   - Life satisfaction: 1-strongly disagree, 5-strongly agree.
3. The values reported for each category are based on the average scale values for each life outcome variable. For example, students who reported “never/seldom” performing cash management behaviors were least financially satisfied (2.56), while those who “often/always” performed the behaviors were more financially satisfied (2.99).
Figure 1. Conceptual Model of Financial Behavior and Quality of Life

Additional factors
- personal values
- financial knowledge
- risk tolerance
- planning horizon

Attitude

Subjective Norm
- parents
- friends

Perceived Control

Behavior Intentions

Financial Behaviors

Quality of Life
- finance
- academics
- physical health
- mental health
- life satisfaction

Parent financial advice
School financial ed.
Student characteristics
Parental characteristics
Figure 2: Financial Behaviors Always/Often Performed

- comparison shop: 80%
- pay bills on time: 80%
- maintain balance in bank account: 75%
- spend within budget: 73%
- review bills for accuracy: 60%
- track monthly expenses: 59%
- save regularly: 46%
- pay off credit card balances: 41%
- set emergency funds: 38%
- contribute to retire./invest: 13%