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**Arizona pathways to life success for university students (APLUS):
Cultivating positive financial attitudes and behaviors for healthy
adulthood**

Soyeon Shim

Joyce Serido

Jing Jian Xiao

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April 2009



Arizona Pathways to Life Success for University Students

Cultivating Positive Financial Attitudes and Behaviors
for Healthy Adulthood

National Endowment for Financial Education (NEFE)

John & Doris Norton School of Family & Consumer Sciences

College of Agriculture and Life Sciences

Take Charge America Institute for Consumer Financial Education and Research



THE UNIVERSITY OF ARIZONA®

Soyeon Shim
Professor
Principal Investigator
APLUS



Dear Colleagues:

Why do so many Americans behave badly when it comes to managing money? Why are so many deep in debt before they finish college, then take on more debt as they begin their careers and continue to live in a precarious financial state? Too often we confuse the fact of their behavior with the cause of it, dismissing bad money managers as spoiled spendthrifts unable to control their materialistic impulses.

If, however, we're to find useful answers to these questions and find ways to improve personal financial management in this country, we must do better than that. We must look instead at the social forces that shape the attitudes and behaviors of today's youth, influencing them in ways that will determine their financial success or failure as adults.

To engage in this inquiry, my colleagues and I have proposed a landmark, longitudinal study—one that, as planned, will span a decade or more—surveying groups of young adults as they pass through a series of milestone events: emerging from adolescence and gaining financial independence, joining the workforce, getting married and starting families. By means of this study, we should be able to track a sufficient number of individuals and conclusively verify or refute several key hypotheses. Ultimately, too, we should be able to form a series of narratives that will accurately describe the various paths that our society's young adults take into full adulthood and more fully understand why some achieved financial success while others fell short or even failed and became drains on society.

We've already taken the first steps toward building an extensive database of information on our subjects' histories, attitudes and behaviors. In the fall of 2007, we began Wave 1 of our APLUS project (Arizona Pathways to Life Success for University Students) by recruiting and surveying a sizable cohort of freshmen enrolled at The University of Arizona. Already, the data we've collected has yielded some surprising results and promising insights. We've detailed our findings in the accompanying booklet, designed as an aid to educators, parents and policy makers wanting to help young adults develop positive financial habits.

I'm indebted to many people for making Wave 1 of the APLUS project a great success. A big thanks goes to the National Endowment for Financial Education for providing both generous funding to support the project and timely feedback at each milestone. Our close partnership has produced far better outcomes than we could have achieved alone. I'm also very thankful to the members of my interdisciplinary research team, who demonstrated superlative expertise in behavior theory, financial-education practices, consumer behavior theory and developmental psychology. From early on Dr. Jing Xiao, co-principal investigator, played an important role in conceptualizing the project, and he has stayed actively involved even after moving to the University of Rhode Island. Dr. Bonnie Barber, despite being in Western Australia, provided invaluable insight on young-adult development and longitudinal methods. Dr. Joyce Serido, the project manager, provided excellent leadership in managing the project day-to-day and worked tirelessly and efficiently, particularly during the data collection process. I also want to thank Dr. Noel Card for his keen advice on statistical matters and Mr. Chuanyi Tang, one of our doctoral students, for the hard work he contributed to our data-analysis efforts. In addition, Mr. Robert Lanza, our technology coordinator, doctoral students Ms. Anubha Mishra and Mr. Jiayun Wu, and many undergraduate student assistants provided significant help during the data collection process. I'm also grateful to Dr. Michael Staten, Director and Endowed Chair of Take Charge America Institute for Consumer Financial Education and Research at The University of Arizona, for his on-going support.

Finally, I want to thank all The University of Arizona partners and the students who participated in Wave 1. Without them, we could not have made such great strides toward our goal of better understanding financial development processes of young adults, a crucial first step in learning how to better prepare our youth for later life success.

Thank you.

Sincerely,

A handwritten signature in blue ink that reads "Soyeon Shim".

Soyeon Shim
Professor and Principal Investigator, APLUS

ACKNOWLEDGEMENTS

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Authors: Soyeon Shim, Ph.D., Director and Professor, The University of Arizona
Joyce Serido, Ph.D., Assistant Research Scientist, The University of Arizona
Jing Jian Xiao, Ph.D., Professor, The University of Rhode Island

EXECUTIVE SUMMARY

Many college graduates will enter young adulthood poised for success. Some may stumble at first, and still others will fall. What sets them on different pathways?

To answer this question, we've started a landmark longitudinal research study to look at the connections between financial success and well-being in a diverse group of first-year college students: Arizona Pathways to Life Success for University Students (APLUS).

APLUS examines the factors that help shape students' financial attitudes and behaviors and, in turn, how those attitudes and behaviors affect their current and future success in life.

Using data from 2,000+ students, this report summarizes our findings to date regarding how students spend their time and money, financial literacy and practices, debt management and well-being.

Statistical Highlights

Some of the highlights of the study include:

Credit card debt. Students averaged \$169 in credit card debt. Hispanic students had the highest balances overall. Most students (58%) had at least one credit card. On average, students with more credit cards had higher credit card debt. Those with higher credit card balances also had higher balances in educational and other types of loans.

Educational loans. Our sample averaged \$2,046 in outstanding education loans, with balances ranging from \$1,000 to \$75,000, at the end of their first year in college. Most students (73%) reported a zero balance.

Financial strategies. Most students (73%) used typical cost-cutting strategies to manage short-term financial demands. However, 18% reported using more extreme measures, including taking out high-interest payday loans and using one credit card to pay another.

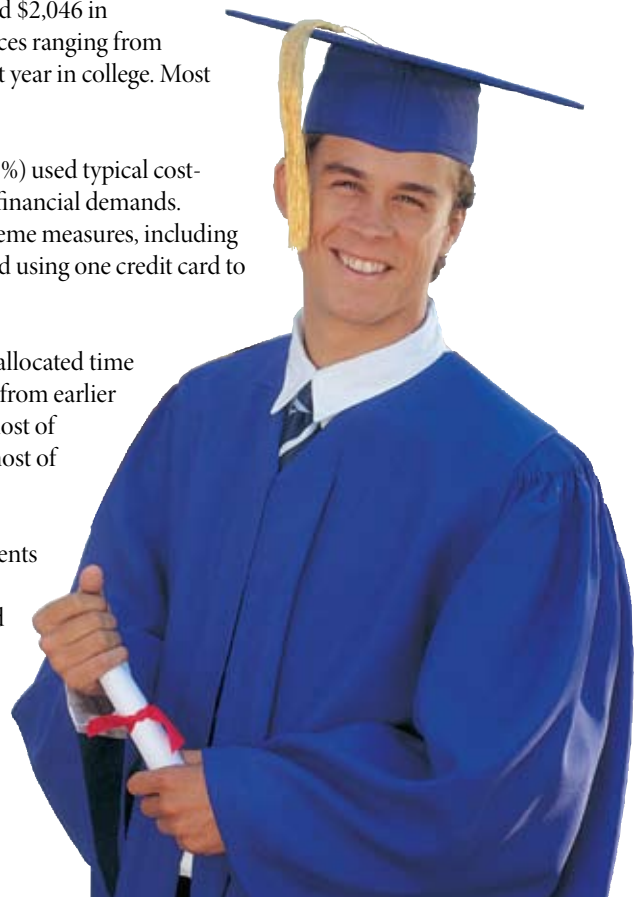
Spending time & money. Our students allocated time and money in ways consistent with data from earlier studies of college students. They spent most of their money on housing and food and most of their time on schoolwork.

Weekly work hours. A third of our students worked an average of 15 hours per week, an amount that other studies have linked to more positive financial behaviors. However, 20% of our students worked an average of 20+ hours per week, which has been linked to more negative academic outcomes. The heavier-work group included more female, Hispanic and in-state-residency students.

The APLUS study looked at financial success and well-being using data from more than 2,000 university students.

Our sample averaged \$169 in credit card debt and \$2,046 in education loans.

Nearly a fifth of students reported using some extreme strategy to meet financial demands.



Parents influenced financial knowledge more than work and high school financial education combined.

Financial literacy. APLUS students averaged only 59% on a test of financial literacy, a “failing grade” that is, nonetheless, consistent with national surveys.

Moderate financial behaviors. Students’ financial behaviors were moderate, on average. Since most college students have limited financial resources and experience, it’s not surprising that our students scored highest in cash management behaviors and lowest in savings behaviors.

Risky financial behaviors. Most students (89.3%) reported at least one risky financial behavior within the preceding six months. More than 10% had engaged in multiple risky financial behaviors in the same period.

Financial behavior and well-being. Students reported moderately high levels of well-being on average in each of 7 dimensions. However, students who engaged in risky financial behaviors averaged lower levels of well-being in all dimensions compared to students who did not engage in risky financial behaviors.

Understanding Pathways

We’ve made understanding the pathways by which people develop financial behaviors a primary focus of the APLUS project—what contributes to students’ acquiring positive or risky financial behaviors?

Key findings regarding those pathways include:

Pathways to positive behavior. Higher parental expectations and students’ own positive attitudes towards responsible financial behaviors were linked to students engaging in fewer risky behaviors.

Influencing financial socialization. Parents, work experience and formal financial education in high school influenced students’ financial knowledge. Direct teaching by parents had the most influence—more than work experience and high school financial education combined.

Partnering for better pathways. The pathway to positive financial behaviors begins with financial socialization before college and continues through financial learning at college. It shapes students’ attitudes and predicts their financial behaviors. As such, our research illuminates the need for partnerships between parents, schools and the marketplace to help children and young adults develop positive financial attitudes and behaviors.



INTRODUCTION



College marks a period of life-changing experiences and challenges

Undergraduate student loan debt more than doubled between 1997 and 2007.

With our current research, we hope to develop a theory for predicting financial behavior and life-success outcomes.

Developing Critical Financial Skills in a Time of Change

First-year university students are just starting life on their own. College marks the beginning of a developmental period characterized by several life-changing experiences. It's a time for making new friends and developing the social connections essential to a successful undergraduate experience. And mounting academic demands, in an atmosphere of independence and flexibility, challenge many first-year students.

In addition to navigating academic and social challenges, college students face pressure from financial institutions pursuing them as a profitable market. As soon as they arrive on campus, students are bombarded with credit card offers. But having grown up in an era of widespread consumerism, few college students have learned the difference between needs and wants. Many may not be prepared to responsibly handle easy access to credit.

At the same time, many college students begin to feel the pressure of debt from education loans. Between 1997 and 2007, average undergraduate student loan debt more than doubled from \$9,250 to \$20,098, with a 6% increase between 2006 and 2007 alone (Reed, 2008). In addition to education loans, the average college student now graduates with more than \$2,000 in credit card debt (Nellie Mae, 2005).

Consequences of Debt

The long-term consequences of growing debt so early-on can be severe: years of high-interest payments, low credit scores, deferred plans and, in extreme cases, bankruptcy (Holub, 2002; Roberts & Jones, 2001). For these reasons, it's important to understand what influences students' financial attitudes and behaviors and to identify ways to shape responsible behaviors.

While in college, students are making financial decisions and establishing financial behaviors that will follow them into their adult lives. We contend that acquiring good financial management skills stands as one of the most important developmental tasks during this life transition. But while many studies have examined how young adults develop social, psychological and academic competencies, few have looked at how they develop financial competencies.

Long-term Research Objectives

As part of The University of Arizona's land grant mission, our overarching goal is to research family and individual behavior and apply our findings to people's daily lives.

Specifically, with our current research, we hope to develop a new theory for predicting financial behavior and life-success outcomes. To do so, we need to identify links between how young adults learn about finances, how they form attitudes about finances and how those attitudes drive behaviors. By investigating these links, we'll document the pathways into adulthood that are relevant to financial behaviors.

To achieve our long-term research goal, we launched a landmark longitudinal study with plans to follow students who entered The University of Arizona in fall 2007, collecting data as they progress through college and into the work force.

We believe that the positive financial habits that young adults develop during the first year of university life depend not only on skills and behaviors they developed through earlier family and high school socialization, but also, to a large extent, on the skills they practice and exercise while away from home and parents during this transitional life stage.

Among other research goals, this report examined relationships between students' financial attitudes and behaviors and their well-being.

To recruit students, we announced the study across campus in various media, contacted students by email and gave presentations in classes and dorms.

85.7% of our participants completed their surveys online.

In spring 2008, we launched our first wave of data collection to begin testing our assumptions, gathering detailed information about students' financial socialization experiences before coming to college and information about the financial behaviors they practiced during the first year away from home.

Wave 1 Focus and Objectives

Our first wave of data collection focused on the early developmental and socialization factors that affect students' financial attitudes and behaviors.

Using this information, we examined how parents, high school employment and financial education and early-college experiences shape our students' current financial attitudes and behaviors.

Specifically, our current report will:

1. Describe the APLUS students: who they are and how they spend their time and their money
2. Assess their financial literacy and ability to manage their finances
3. Examine relationships between their financial attitudes and behaviors and their well-being
4. Explore how students develop positive or negative financial attitudes and behaviors.

Study Design

After receiving Institutional Review Board approval, we initiated a multi-step recruitment plan to invite all full-time (12+ units) first-year students enrolled at the UA in spring 2008 to participate.

First, in fall 2007, we met with administrators and student organizations to explain the project and get their support. We then announced the study across campus through flyers, posters, student newspapers, campus cable television and other campus media.

Next, we directly contacted all first-year students through a series of emails with information on the study, progress towards our recruiting goal and a direct link to our study survey online.

Finally, after launching the study, we recruited through face-to-face presentations by student volunteers in classes and dorms with high percentages of first-year students.

All of our participants completed a survey on financial behaviors and behavior intentions. The survey also included a broad base of questions to capture demographic information, life-outcome variables and factors that might affect financial intentions and attitudes.

Most students (85.7%) completed our 15-minute survey at a website maintained by Take Charge America Institute (TCAI) through the Norton School of Family & Consumer Sciences at The University of Arizona. The remaining 14.3% completed a paper/pencil version of the survey.

We offered all students who completed either survey a nominal incentive for their participation: \$10 bookstore gift cards for the first 1,000 participants, \$5 gift cards for the rest of the sample. Every student who completed the survey was also eligible to win an iPod Touch by raffle and given an extra raffle entry for every student she or he personally recruited to take the survey.



About 62% of our students were female, 69% in-state residents and roughly 33% minorities.

Students in our study had a higher average GPA compared to the full first-year student body.

Who are the APLUS Students? | See Figures 1 through 4

The 2,098 students who completed our survey make up 32% of the 2007 first-year cohort. Their demographics, all self-reported, compare to the full first-year 2007 UA cohort as follows:

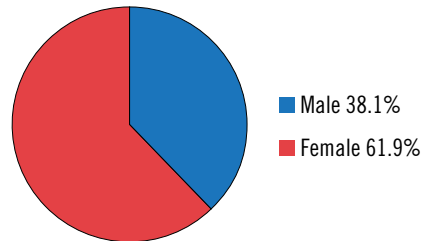
APLUS: 61.9% female, 38.1% male

All UA: 54.3% female, 45.7% male

APLUS: 69.1% in-state residents, 28.7% out of state, 2.2% international

All UA: 63% in-state residents

Figure 1. Gender of the APLUS Students



APLUS: 32.6% minority students (67.4% white, 14.9% Hispanic, 9% Asian/Pacific Islander, 3.4% African-American not of Hispanic origin, 1.8% American Indian or Alaskan Native, 3.5% other)

All UA: 30.1% minority students

Figure 2. Ethnicity of the APLUS Students

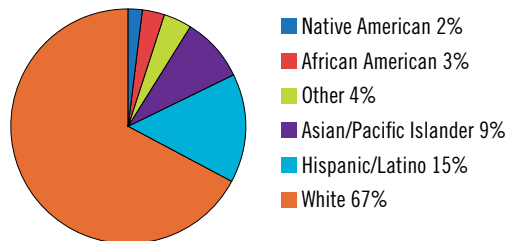
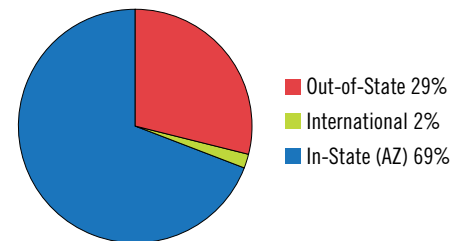


Figure 3. Residential Status of the APLUS Students

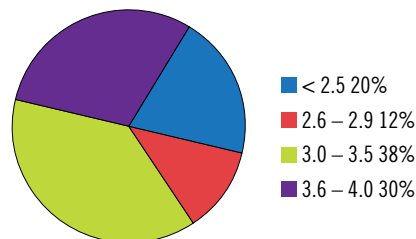


APLUS: 3.12 average GPA, 15.2% with GPAs below 2.5

All UA: 2.79 average GPA

Figure 4. Students' Grade Point Averages

Note: Average GPA for all 2007 Freshmen = 2.79



It's worth noting that we were more successful recruiting males, Hispanics, Native Americans and students who reported lower GPAs using the paper survey option vs. the online survey.

PRESENT LIFESTYLES OF THE APLUS STUDENTS



As part of our study, we looked at gender and ethnicity in relation to how students spent time and money.

Not surprisingly, students spent most of their money on housing and food.

Consumer behavior literature defines “lifestyle” as preferences in how people allocate their resources—how people spend their time and money helps describe who they are.

Freshmen are just beginning a developmental journey of self-discovery, examining their beliefs and values, interests, capabilities and ambitions (Arnett, 2000). Thus, how they allocate their resources represents an investment in their future lifestyles.

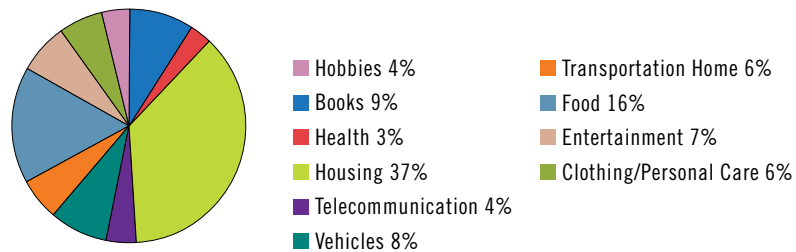
To begin exploring this investment for our sample, we first looked at relationships between their demographics—gender, ethnicity and residential status—and how they spend their time and money.

Spending Money | See Figure 5

We asked students to tell us how much money they spent each month in 10 categories. On average, they reported spending \$1,267 per month. Not surprisingly, they spent more than half their money on housing and food (37% and 16%, respectively).

Other than housing and food, they allocated their total money to:

Figure 5. How Students Spend Money



Note: Health-related expenses did not include medical insurance. Monthly expenses did not include tuition.



Across the board, in-state students spent less money than out-of-state or international students.

Demographics & Spending Money | See Table 1

We next looked at how gender, ethnicity and residential status related to spending.

We found no spending differences by ethnicity, and found that housing and food expenses represented about half of monthly spending regardless of gender, ethnicity or residential status.

However, gender differences in spending did show up in three categories: males spent more on food, whereas females spent more on transportation home and clothing/personal care.

Residential status also accounted for several spending differences:

- In-state students spent less in every category
- International students spent more on telecommunications
- Out-of-state students spent more than in-state students on housing and food, transportation home, entertainment, hobbies/personal spending and clothing/personal care

Table 1. How Students Spend Money

	Average	GENDER		ETHNICITY					RESIDENTIAL STATUS		
		Male	Female	White	Black	Asian/ Pacific Islander	Hispanic	Native American	In-State	Out-of-State	International
Books	118	105	126	109	180	114	136	160	112	134	136
Health	45	36	50	43	84	49	44	23	40	60	35
Housing	457	437	470	467	548	461	405	553	415 ^b	566 ^a	500
Telecommunications	52	47	55	47	53	72	59	65	45 ^b	62 ^b	164 ^a
Vehicles	104	113	98	101	66	114	110	66	100	113	85
Transportation Home	83	62	96*	87	41	85	72	109	57 ^b	152 ^a	78
Food	202	219*	193	205	215	212	185	192	181 ^b	253 ^a	255
Entertainment	94	93	94	96	89	90	86	74	79 ^b	132 ^a	130
Clothing/ Personal Care	73	59	81*	69	71	107	66	107	65 ^b	91 ^a	108
Hobbies/Personal Spending	51	57	47	52	53	51	44	53	46 ^b	63 ^a	62
Total	\$1,267	\$1,225	\$1,292	\$1,260	\$1,370	\$1,349	\$1,200	\$1,379	\$1,130 ^b	\$1,601 ^a	\$1,552

Notes: Asterisks (*) indicate significant differences between males and females. Letters ^(a, b) indicate significant ethnic and residence differences

On average, students spent 21 hours a week on schoolwork and 1.5 hours a week on managing personal finances.

Spending Time | See Figure 6

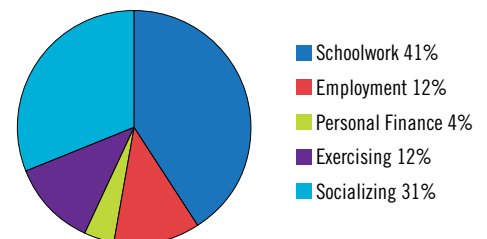
We also asked students to estimate how many hours they spent each week in schoolwork (not including class hours), socializing, exercising, working and managing personal finances.

On average, students spent the most time on schoolwork—roughly 21 hours, about 1.5 hours for each class credit in their current schedules. This figure parallels information from other studies of how college students spend time (National Survey of Student Engagement, 2006; Nonis, Philhours & Hudson, 2006).

Students spent more time socializing (16 hours) than exercising (6 hours) or working (5.5 hours).

Most relevant to our research goals, we found that students spent an average of 1.5 hours per week managing personal finances—a sizable amount though much less than time spent in the other categories.

Figure 6
How Students Spend Time



Females reported studying and working more hours than males.

Native American students reported spending twice as much time on personal finances compared to White, Black and Asian/Pacific Islander students.

Demographics & Spending Time | See Table 2 & Figure 7

As in looking at how students spent money, we again looked at how demographics—gender, ethnicity and residential status—related to how students allocated their time.

Time & gender. We found gender differences in four of the five categories:

- Females spent more time studying (21.2 hours vs. 19.8)
- Females worked more hours (5.8 hours vs. 5)
- Males spent more time socializing (17.2 hours vs. 15.7)
- Males spent more time exercising (7.3 hours vs. 5.1)

Time & ethnicity. Across ethnic groups, the overall pattern of time use was similar: students spent the most time on schoolwork, followed by socializing. They spent the least amount of time on personal finances. However, ethnicity did affect the percentage of time spent in each category:

- Hispanic students worked more hours compared to White, Asian/Pacific Islander and Native American students
- Native American and Hispanic students spent more time on personal finances compared to White students
- White students spent more time socializing compared to Asian/Pacific Islander, Hispanic, and Native American Students

To get a sense of the magnitude of these differences, we looked at time spent in each category as a percentage of time reported. Figure 7 dramatically illustrates how much time Native Americans and Asian/Pacific Islanders spent on schoolwork—half their time—compared to other students.

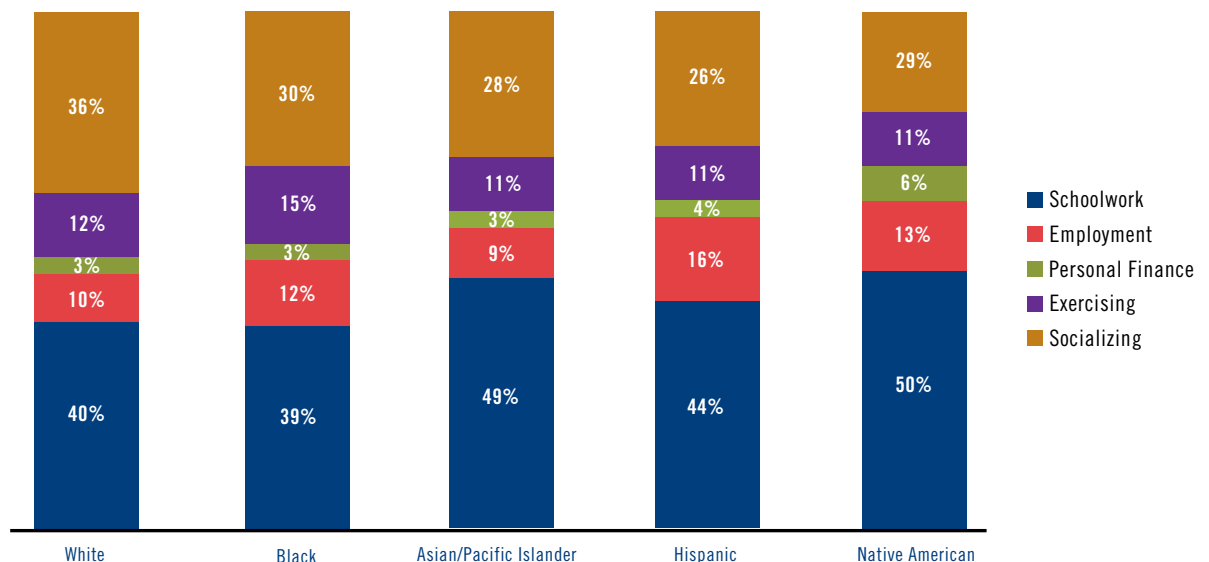
The graphic also makes it clear that Native Americans spent more time on personal finance than all other students—twice as much as White, Black and Asian/Pacific Islander students—and that Hispanic students worked the most and socialized the least.

Table 2. How Students Spend Time

	Average	GENDER		ETHNICITY					RESIDENTIAL STATUS		
		Male	Female	White	Black	Asian/ Pacific Islander	Hispanic	Native American	In-State	Out-of-State	International
Schoolwork	20.7	19.8	21.2*	20.0	19.6	22.2	22.3	21.6	21.3 ^b	18.6 ^b	30.3 ^a
Employment	5.5	5.0	5.8*	5.0 ^b	6.4	4.4 ^b	8.0 ^a	3.1 ^b	6.6 ^a	2.9 ^b	3.3 ^b
Personal Finance	1.5	1.6	1.5	1.3 ^b	1.5	1.5	1.9 ^a	2.3 ^a	1.5 ^{ab}	1.4	2.2
Exercise	5.9	7.3*	5.1	6.2	7.0	4.9	5.4	4.9	5.5 ^{ab}	7.0 ^a	4.4 ^b
Socializing	16.3	17.2*	15.7	17.9 ^a	14.4	12.9 ^b	12.9 ^b	14.0 ^b	15.1 ^{ab}	19.1 ^a	12.6 ^b

Notes: Asterisks (*) indicate significant differences between males and females. Letters (^{a, b}) indicate significant ethnic and residence differences

Figure 7
A Closer Look At Time



Note: We found significant differences in how students in different ethnic groups allocated their time to different activities.

Of the 3 groups of different residency status, international students spent the most time studying.

742 students in our sample worked for pay during the school year, with more than 20% working 20+ hours per week.

Time & residential status. While we found several differences in time use among students with different residential status, no particular pattern emerged:

- International students spent more hours on schoolwork
- In-state students worked more hours
- Out-of-state students spent more time socializing and exercising compared to international students

Employment | See Table 3

Given our interest in financial attitudes and behaviors, we asked students about their paid employment experiences.

In our sample, 742 students (36%) worked during the school year, with Hispanic and in-state students more heavily represented in this group.

Most students (71%) averaged 15 hours of work each week and grossed less than \$500 monthly. Earlier studies have found that students working this amount of time displayed more responsible financial behaviors than non-working students (Xiao, Noring & Anderson, 1995).

However, more than 20% of our sample reported working 20+ hours each week. Other studies indicate that at this amount, job demands may compromise a student’s academic performance (Nellie Mae, 2004).

This heavier-work group included more females, more Hispanic students and more in-state residents.

Table 3. Students & Work

	Overall	GENDER		ETHNICITY					RESIDENTIAL STATUS		
		Male	Female	White	Black	Asian/ Pacific Islander	Hispanic	Native American	In-State	Out-of-State	International
Employed (%)	742 (36.0%)	274 (35.1%)	467 (36.5%)	480 (34.5%)	26 (37.7%)	55 (29.7%)	137 (45.1%)	10 (27.0%)	569 (39.8%)	158 (27.0%)	15 (33.3%)
Average Income ¹											
\$1-\$249	230	78 (28.5%)	152 (32.6%)	149 (31.0%)	12 (46.2%)	14 (25.5%)	44 (32.1%)	5 (50.0%)	168 (29.5%)	59 (37.3%)	3 (20.0%)
\$250-\$499	300	102 (37.3%)	198 (42.4%)	189 (39.4%)	8 (30.8%)	29 (52.7%)	53 (38.7%)	2 (20.0%)	232 (40.8%)	61 (38.6%)	7 (46.7%)
\$500-\$749	126	51 (18.6%)	74 (15.8%)	81 (16.9%)	3 (11.5%)	11 (20.0%)	23 (16.8%)	3 (30.0%)	93 (16.3%)	28 (17.7%)	5 (33.3%)
\$750-\$999	41	16 (5.8%)	25 (5.4%)	31 (6.5%)	1 (3.8%)	1 (1.8%)	8 (5.8%)	0 (0%)	36 (6.3%)	5 (3.2%)	0 (0%)
More than \$1000	45	27 (9.8%)	18 (3.8%)	30 (6.2%)	2 (7.7%)	0 (0%)	9 (6.6%)	0 (0%)	40 (7.1%)	5 (3.2%)	0 (0%)
Average Hours Worked per Week	14.9	13.5	15.7*	14.0 ^b	17.2	14.4	17.5 ^a	8.9	16.2 ^a	10.4 ^b	9.8 ^b

Notes: Asterisks (*) indicate significant differences between males and females. Letters (a,b) indicate significant ethnic and residence differences.

FIRST-YEAR STUDENTS AND FINANCIAL LITERACY



As part of the study, we looked at students' own assessments of their financial knowledge and objective measures of that knowledge.

Students tended to think they had moderate financial knowledge but also thought they knew more than their friends.

Overall, APLUS students averaged a failing grade on a test of financial knowledge—59%.

Although there are many definitions of financial literacy, they generally refer to an individual's ability to make sound financial decisions. Much of the research on the topic deals with two specific aspects: financial knowledge and behavior. For this study, we assessed financial literacy through both of these aspects.

Measuring Financial Knowledge | See Figure 8

In looking at students' financial knowledge, we took 3 perspectives:

- Subjective, which gave us a measure of how students rated their own knowledge of personal finance
- Comparative, which measured how students rated their financial knowledge relative to that of friends
- Objective, which provided a measure of a student's actual financial knowledge from how they answered a set of questions

Subjective measures. Subjectively, students overall rated their understanding of personal finance and money management as moderate—an average of 3.14 on a five-point scale where 3 equaled “moderate understanding.” A third of the students believed they had a high or very high understanding of personal finance, and 17% felt that they had a very low or low understanding.

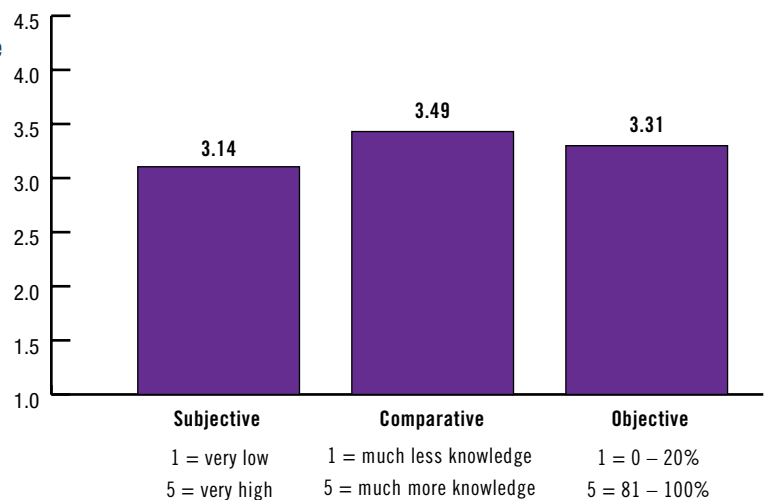
Comparative measures. On average, the APLUS students felt they had more financial knowledge than their friends. On a 5-point scale where 3 equaled “about the same” amount of financial knowledge, our sample averaged a 3.49. Almost half (48%) felt they knew more about finances than their friends.

Objective measures. For this measure, we gave students a set of 15 true/false questions related to money management, credit and saving (adapted from Hilgert, Hogarth & Beverly, 2003).

On average, students answered 8.9 questions correctly (59%). As such, our sample was similar to that of other relevant studies, such as the 1,032 first-year college students who, on average, scored 62.2% in the Jump\$tart personal financial literacy survey (Mandell, 2008).

Note: To visually compare the 3 perspectives as in Figure 8, we later converted objective measure results to a 5-point scale and then computed the overall average for the APLUS students.

Figure 8
Financial Knowledge



Note: We found that students rated their knowledge as moderate, knew slightly more than they thought they did and overall felt they knew more than their friends.

Males in our sample overestimated their financial knowledge.

Demographics & Financial Knowledge | See Table 4

Looking at how demographic factors might be related to financial knowledge, we found few significant differences.

Males and females scored roughly the same in objective knowledge measures, but males tended to overestimate their financial knowledge, scoring higher than females on both self-assessed knowledge and knowledge compared to friends.

Similarly, white students tended to overestimate their financial knowledge in both categories as compared to Asian/Pacific Islander students despite any significant differences in measured objective knowledge.

Table 4. Financial Knowledge

	Average	GENDER		ETHNICITY					RESIDENTIAL STATUS		
		Male	Female	White	Black	Asian/ Pacific Islander	Hispanic	Native American	In-State	Out-of-State	International
Subjective	3.14	3.27*	3.06	3.17 ^a	2.99	2.94 ^b	3.13	3.27	3.12	3.18	3.04
Comparative	3.49	3.59*	3.43	3.52 ^a	3.44	3.28 ^b	3.46	3.53	3.48	3.51	3.22
Objective (score)	.59	.60	.59	.60	.55	.58	.60	.57	3.55	3.41	3.33

Notes: Subjective & comparative measures showed students' self-assessments of their financial knowledge and how it compared to that of friends on a scale of 1 to 5. Objective measure showed average score on a true/false test. Asterisks (*) indicate significant differences between males and females. Letters (^{a, b}) indicate significant ethnic and residence differences.

We asked students about their financial behaviors during the 6 months before they took our survey.

Financial Behavior: What We Know

Family economists have suggested that effective financial behaviors develop in a specific order. People first learn cash management. Later, they exhibit responsible use of credit, and still later, they start to save for the future (Xiao, 2008).

Researchers have also linked available resources to how and when these behaviors emerge. Simply put, people with fewer resources may stay fixed in cash management behaviors whereas those with more resources are more likely to use credit responsibly and save money (Hilgert et al., 2003; Xiao, Noring & Anderson, 1997).

Discovering Students' Financial Behaviors

To assess the APLUS students' behaviors in the preceding 6 months, we asked them a series of questions about budgeting, paying, borrowing and saving, all of which we drew from vetted existing research (Hilgert et al. 2003; Lyons, 2004; Xiao, Sorhaindo & Garman, 2006).

Together, questions on these 4 aspects of behavior covered a wide range of activities, including:

- Budgeting—proactive financial management, including establishing a budget, tracking expenses and staying within a budget
- Paying—paying bills on time and paying credit card bills in full each month
- Borrowing—maxing out credit cards, borrowing from credit lines and borrowing from payday loan services
- Saving—putting money aside for emergencies, saving for the future and investing for longer-term financial goals

Each question had 5 possible responses, with 5s indicating more positive behaviors and 1s tied to more risky behaviors.

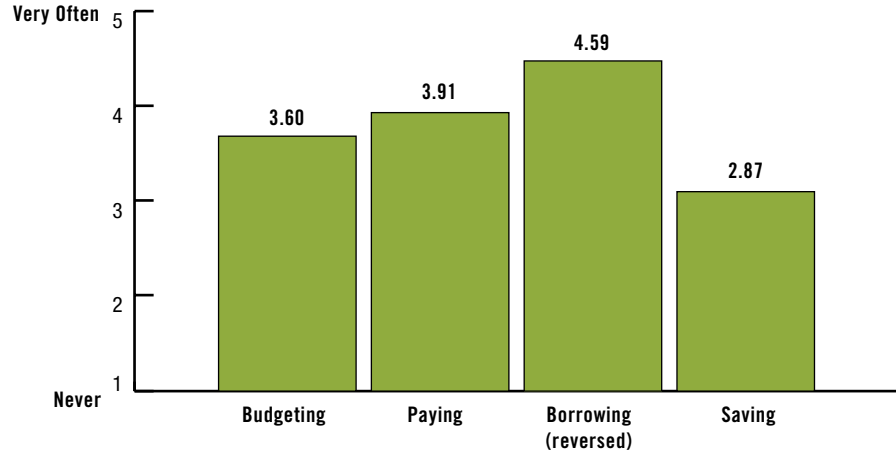
Not surprisingly, students fared better in budgeting and paying bills than they did at saving money.

The most differences between demographic groups showed up in borrowing behaviors.

Overall Behavior | See Figure 9

APLUS students on average reported more positive behaviors in cash management—budgeting, paying and borrowing—and less positive behaviors in saving. Given the previously mentioned research linking available resources to financial behaviors and the fact that most first-year college students have limited resources, we would expect this pattern of students not yet having developed good savings habits.

Figure 9. Average Financial Behaviors



Demographics & Financial Behaviors | See Table 5

Looking at how demographics might be related to financial behaviors, we found no differences in budgeting or saving behaviors. We did, however, see differences in other areas, with most showing up in borrowing behaviors.

Behaviors & gender. Females indicated more positive borrowing behaviors.

Behaviors & ethnicity. In borrowing behaviors, Hispanic and White students scored higher than Asian/Pacific Islander students. In paying behaviors, White students scored higher than Black or Hispanic students.

Table 5. Financial Behaviors

	Average	GENDER		ETHNICITY					RESIDENTIAL STATUS		
		Male	Female	White	Black	Asian/ Pacific Islander	Hispanic	Native American	In-State	Out-of-State	International
Budgeting	3.60	3.57	3.62	3.64 ^a	3.46	3.39 ^b	3.56	3.53	3.59	3.64	3.36
Paying	3.91	3.92	3.88	3.98 ^a	3.57 ^b	3.86	3.72 ^b	3.55	3.89	3.96	3.80
Borrowing	4.59	4.50	4.64 [*]	4.62 ^a	4.56	4.35 ^b	4.60 ^a	4.36	4.64 ^a	4.51 ^b	3.97 ^c
Saving	2.86	2.91	2.84	2.88	2.68	2.96	2.80	3.05	2.88	2.85	2.78

Notes: Average scores based on a scale of 1 to 5, with higher numbers showing more positive behaviors. Asterisks (*) indicate significant differences between males and females. Letters (a, b, c) indicate significant ethnic and residence differences.

Behaviors & residential status. Here, all groups showed differences in borrowing behaviors. In-state students reported the most positive behaviors, followed by out-of-state students who, themselves, scored higher than international students.

Almost three-fourths of our sample had engaged in risky financial behavior in the preceding 6 months.

Risky financial behaviors go hand in hand—students were less likely to have engaged in just one.

Some students had used the two most risky financial behaviors in our survey: taking out payday loans and using one credit card to pay another.

Risky Behaviors

Our questions included 5 behaviors we've here labeled "risky":

- Not paying bills on time
- Maxing out credit cards
- Not making full payments on credit cards
- Taking out payday loans
- Borrowing from credit cards

While overall, the APLUS students' behaviors look promising, a closer look revealed a darker side to the story: a full 72.5% reported at least 1 risky financial behavior in the 6-month period preceding the survey. And of the total sample, 12.7% reported 4 or more risky financial behaviors in that time.

Relations between risks. We also looked at the relations among the five risky financial behaviors and found that students reporting one were more likely to report others. We found two particularly strong relations among the behaviors:

- Students who didn't pay bills on time also reported not making full payments on credit cards
- Students who maxed out credit cards also reported using payday loans

These patterns raise questions for future research. For example, it may be that combinations of certain behaviors indicate different kinds of financial difficulties. For example, not paying bills on time and not paying full balances may be an early warning of rising financial obligations, and maxing out credit cards and using payday loans may indicate excessive accumulated debt.

Handling Financial Demands | See Figure 10

For more insight into students' financial behaviors, we looked at how they handled financial demands in that same 6 months preceding the study.

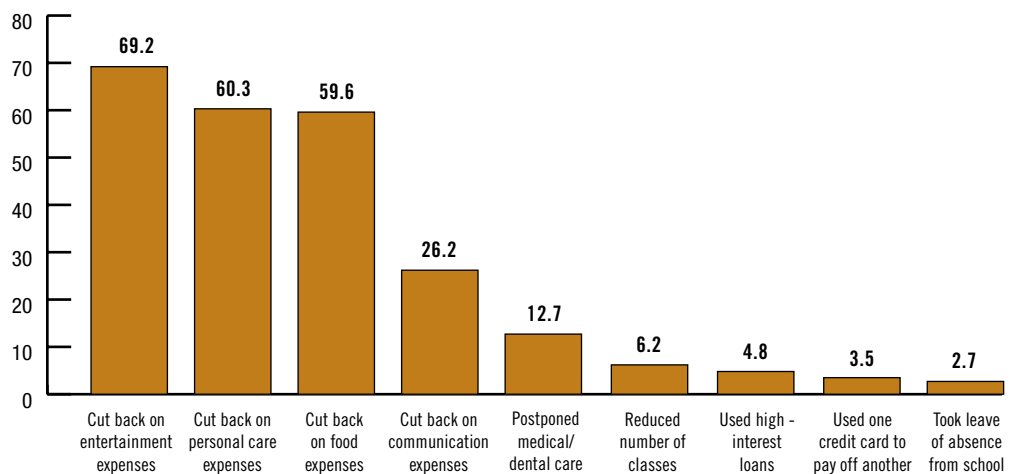
We asked about 4 non-risky strategies people typically use for short-term money problems—cutting back on entertainment and food spending, for example. We also asked about 5 more extreme coping strategies, such as using one credit card to pay off another.

Overwhelmingly, and not surprisingly, the APLUS students reported using one or more of the typical strategies (82.3%).

We didn't expect, however, our other finding: 18% reported using extreme behaviors to meet financial demands, and 6% had used more than one in the 6 months.

A small percentage of our students had used the two strategies with the most potential to increase near-term financial risk: taking out high-interest payday loans (4.8%) and using one credit card to pay another (3.5%).

Figure 10. How Students Cope



Note: Percentages of students using various strategies for coping with short-term financial shortfalls.

FIRST-YEAR STUDENTS & DEBT MANAGEMENT



Beyond credit cards, and education loans, APLUS students averaged \$512 in other debts.

Most students who had credit cards got their first cards before college.

36% of APLUS students reported using credit cards frequently.

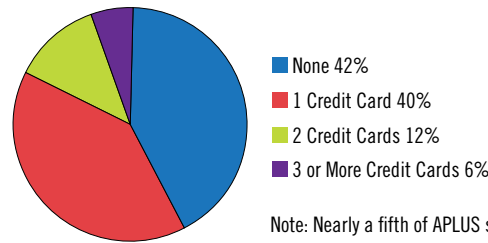
Many students face the challenges of debt management for the first time in their first year of college. A significant percentage of our sample carried credit card balances, and their reported education loan balances topped out at \$75,000 – after only one year in college. Beyond credit cards and education loans, our sample averaged \$512 in other debt.

Credit Cards among Students | See Figure 11 and Table 6

Most APLUS students had at least one credit card (58%), and 18% had two or more. However, most students with credit cards (55%) acquired their first card before coming to college.

Demographics & credit cards. Asian/Pacific students reported having more credit cards than White students, and out-of-state students had more credit cards than in-state students.

Figure 11. Students and Credit Cards



Note: Nearly a fifth of APLUS students had more than 1 credit card.

Credit card usage. We found no significant demographic differences in how often students used credit cards. Overall, more than a third of APLUS students used them frequently, and more than half used them occasionally:

- 13% used them almost daily
- 23% used them a few times a week
- 27% used them a few times a month
- 25% used them rarely
- 12% used them for emergencies only

Table 6. Students & Credit

	Average	GENDER		ETHNICITY					RESIDENTIAL STATUS		
		Male	Female	White	Black	Asian/ Pacific Islander	Hispanic	Native American	In-State	Out-of-State	International
Number of Credit Cards	0.85	0.87	0.84	0.81 ^b	0.77	1.04 ^a	0.90	0.68	0.79 ^b	.98 ^a	.96
Outstanding Debt ¹											
Credit Card	169	154	178	122	100	183	222	228	166	168	297
Educational Loans	2,046	1,979	2,089	1,849	3,415	2,063	2,698	1803	1,478 ^b	3,537 ^a	821 ^b
Other Loans	512	464	542	306 ^b	258	296	1,159 ^a	40	473	638	119
Total Outstanding	2,699	2,576	2,777	2,250 ^b	3,721	2,519	4,062 ^a	2,024	2,101 ^b	4,273 ^a	1,216

Notes: Asterisks (*) indicate significant differences between males and females. Letters (^{a, b}) indicate significant ethnic and residence differences. ¹Amounts in whole dollars.

Among students with education loans, balances ranged from \$1,000 to \$75,000.

Students with higher credit card balances tended to have higher balances on other loans.

Managing credit card debt. Consistent with other studies (The Education Resources Institute, 1998), we found that the more credit cards a student had, the higher her/his combined credit card debt. In our sample, 9% carried a credit card balance of \$500 or more.

We found no demographic differences in how students paid on credit card debt. We did find that while most of the APLUS students reported paying credit card bills in full each month (62%), more than 24% reported rarely or never paying in full each month.

Education Loans

Only 27% of APLUS students reported having an education loan balance, but among those students, the balances ranged from \$1,000 to \$75,000.

The average balance for the sample overall totaled slightly more than \$2,000 per student. Out-of-state students carried higher balances.

Total Debt

Looking at the total of all outstanding loan balances, we found that Hispanic students carried more debt than White students, and out-of-state students carried more than in-state students.

We also found alarming, though not surprising, positive associations among the debt balances: students with higher credit card balances tended to also have higher balances on other loans, education and otherwise. This relation may indicate that some first-year college students have already established patterns of risky debt management.

THE WELL-BEING OF FIRST-YEAR STUDENTS



On average, males reported higher levels of well-being than females.

Given the changes and challenges facing students, we looked at three perspectives on how students were faring during their first year at college:

- Overall well-being and life satisfaction—note that well-being indicates feelings about ones' self, whereas life satisfaction assesses feelings about current circumstances (Nickerson, Schwarz & Diener, 2007)
- Specific domains of life—finances, academics, physical health, relationships with parents and friends
- Future academic plans

We scored all perspectives on a 5-point scale, with higher values indicating more positive outcomes (see Table 7). Overall, students rated their well-being as moderately high (M=3.72 on a five point scale where 3 = good).

Demographics & Overall Well-Being

We found several differences in how different student groups reported their well-being:

- Males reported higher well-being than females
- White students reported higher levels of well-being than Asian/Pacific Islander or Hispanic students
- Out-of-state students reported higher well-being than in-state or international students

Table 7. Dimensions of Well-being by Gender, Ethnicity, and Residential Status

	Average	GENDER		ETHNICITY					RESIDENTIAL STATUS		
		Male	Female	White	Black	Asian/ Pacific Islander	Hispanic	Native American	In-State	Out-of-State	International
Current Perspective											
Overall sense of well-being	3.72	3.83*	3.65	3.78 ^a	3.59	3.58 ^b	3.62 ^b	3.63	3.69 ^b	3.81 ^a	3.45 ^b
Life satisfaction	3.60	3.58	3.61	3.67 ^a	3.27 ^b	3.40 ^b	3.56	3.65 ^b	3.57 ^b	3.70 ^a	3.16 ^c
Current Well-Being by Life Domain											
Finances	3.20	3.30*	3.14	3.26 ^a	2.85 ^b	3.29 ^a	3.02 ^b	3.04	3.19	3.24	3.05
Academics	3.37	3.28	3.42*	3.47 ^a	2.92 ^b	3.25	3.21 ^b	2.96 ^b	3.37	3.38	3.26
Health	3.59	3.76*	3.48	3.66 ^a	3.48	3.40 ^b	3.48 ^b	3.13 ^b	3.54 ^b	3.73 ^a	3.19 ^c
Relationship with parents	4.18	4.21	4.16	4.24 ^a	4.06	3.98 ^b	4.09	4.18	4.15	4.25	4.02
Relationship with friends	4.15	4.22*	4.11	4.23 ^a	3.92 ^b	3.95 ^b	4.07 ^b	4.03	4.11 ^b	4.27 ^a	3.96 ^b
Future Academic Aspirations											
Plans to return to UA	4.52	4.48	4.55	4.52	4.30	4.44	4.61	4.45	4.59 ^a	4.41 ^b	4.09 ^b
Plans to receive BA/BS	4.67	4.61	4.70*	4.69	4.58	4.60	4.64	4.47	4.70 ^a	4.63 ^a	4.28 ^b
Plans to pursue advanced degree	3.92	3.84	3.97*	3.87	4.14	4.04	4.01	3.87	3.98	3.86	3.74

Notes: Average scores based on a scale of 1 to 5, with higher numbers showing more positive behaviors. Asterisks (*) indicate significant differences between males and females. Letters (a, b, c) indicate significant ethnic and residence differences.

Black, Asian/Pacific Islander and Native American students reported lower life satisfaction compared to White students.

Females reported higher feelings of well-being in academics, while males reported higher levels in their finances, physical health and friendships.

Demographics & Life Satisfaction

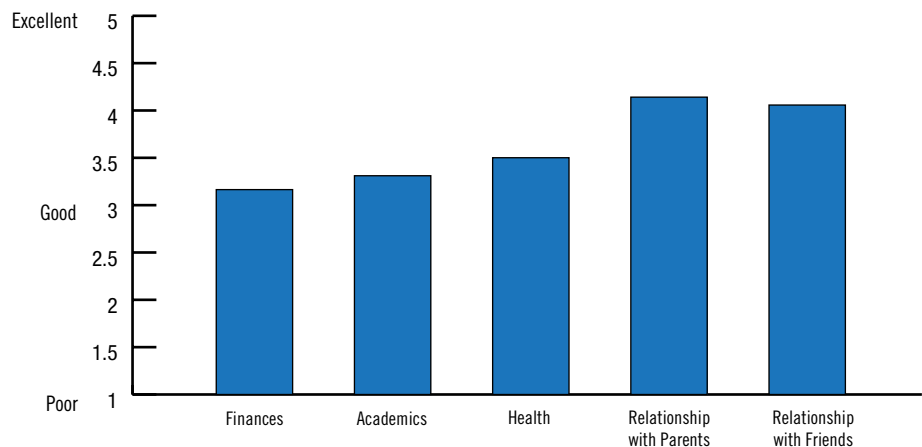
Students rated their life satisfaction lower, on average, than their well-being. And although we found no gender differences, we did find other demographic differences:

- White students reported higher levels of life satisfaction than Black, Asian/Pacific Islander or Native American students
- Differences showed up in all three residency groups, with out-of-state students reporting the highest levels of life satisfaction followed by in-state students and, at the lowest level, international students

Demographics & Well-Being in Specific Domains | See Figure 12 & Table 7

APLUS students reported highest levels of well-being in relationships with parents and friends and the lowest with respect to their finances.

Figure 12. Well-Being



Note: Average scores for students self-assessed well-being in 5 life domains

A small fraction of our sample—2%—said they were unlikely to get a college degree.

Compared to males, more females reported plans for graduate school.

Gender differences. In general, males indicated more well-being when reporting on finances, physical health and relationships with friends. Females reported a higher level in academics.

Ethnic differences. Across all 5 specific domains, White students reported higher levels of well-being.

Residency differences. Out-of-state students reported higher levels of well-being in terms of physical health and relationships with friends.

Academic Plans | See Figure 13

While a college degree doesn't guarantee financial success, studies show that adults with more education experience more well-being and life satisfaction (Dolan, Peasgood & White, 2007).

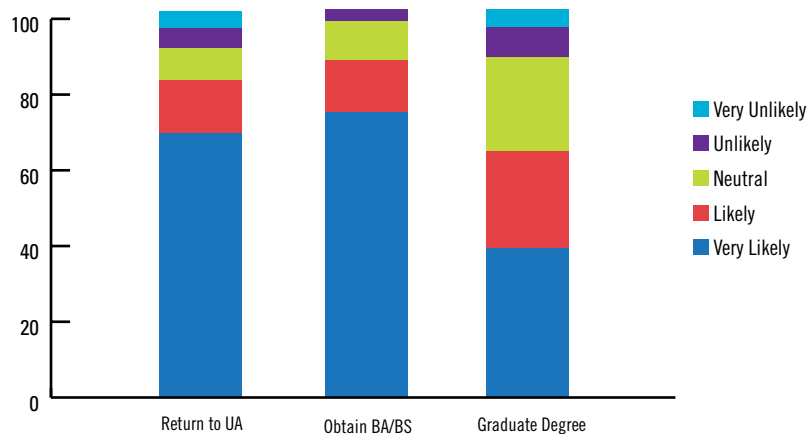
To get a sense of the APLUS students' hopes for the future, we looked at academic aspirations with an understanding that first-year students typically plan only 1-4 years out.

Most APLUS students had high aspirations for their immediate future. An overwhelming majority planned to return to the UA (73.8% very likely, 12.4% likely).

Of these, more than 90% planned to graduate (77.6% very likely and 13.3% likely), and 65% were considering pursuing a graduate degree.

Despite these generally high aspirations, about 5% of the students said they were unlikely or very unlikely to return to the UA, and roughly 2% reported that they weren't likely to receive an undergraduate degree from any college or university.

Figure 13. Academic Aspirations



Note: We asked students about the likelihood of their returning to their current college, getting an undergraduate degree from any college, and going on to graduate school.

Demographics & Academic Plans

Although we found no ethnic differences in academic aspirations, we did see differences in both gender and residence:

- More females planned both to graduate from college and pursue an advanced degree
- In-state students were most likely to return to the UA
- More in-state and out-of state students planned to graduate from college compared to international students

RISKS TO WELL-BEING



Part of our study looked at how risky financial behaviors correlated with lower feelings of well-being.

Many studies document connections between risky financial behaviors and lower well-being in several dimensions:

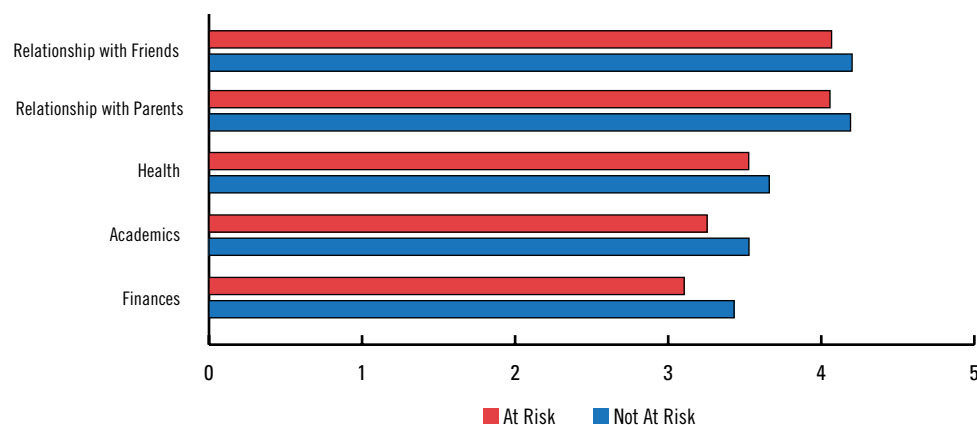
- Finances (Holub, 2002; Roberts & Jones, 2001)
- Psychological health (Dunkel-Schetter & Lobel, 1990; Norvilitis & Santa Maria, 2002; Roberts & Jones, 2001)
- Academic achievement (Ross et al., 2006)
- Physical health (Adams & Moore, 2007; Nelson et al., 2008)

The Impacts of Risky Financial Behavior | See Figure 14

To see how risky financial behaviors related to well-being, we divided the sample into two groups:

- At-risk: the 1,522 students who had reported using any risky financial behavior—such as maxing out credit cards or using payday loans—in the preceding 6 months
- Not-at-risk: the other 576 students

Figure 14. Well-Being & Risk



Note: We compared average feelings of well-being for students we classified as at-risk and not-at-risk, all on a scale of 1 to 5, with higher numbers showing more positive feelings.

We then compared the groups' average scores for each of the five specific domains of well-being. While the differences in these averages appeared small, at-risk students scored significantly lower in every domain.

The largest difference between average scores for the two groups surfaced in their reported feelings of financial well-being, followed by academics.

Percentage-wise, the most pronounced differences showed up in academic aspirations: only 70% of at-risk students said they were very likely to return to the university in the fall, compared to 83.7% of the students not-at-risk.

Similarly, only 73% of at-risk students said they were very likely to graduate from college, compared to 89% of the students not-at-risk.

In reporting how likely they are to graduate from college, at-risk students trailed others by 16%.

THE LINK BETWEEN FINANCIAL ATTITUDES & RISKY FINANCIAL BEHAVIORS



Attitudes, social norms and our perceived control over behavior all affect our intentions.

Our study suggests that levels of parental expectations directly relate to students' financial behaviors.

Since risky behaviors are related to more negative outcomes, it's important to understand how college students choose the behaviors they'll use to meet the financial demands of daily life.

Through our research, we hope to better understand the guiding factors and processes that lead students to engage in risky financial behaviors.

Research on Behavior & Intention

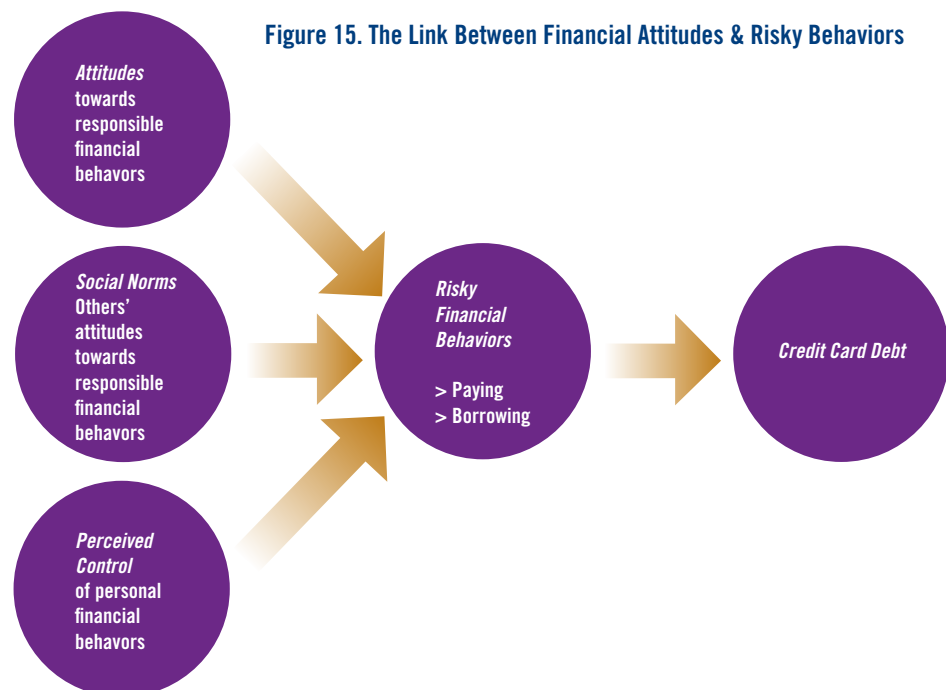
Other research on behavior offers 3 important insights for our current study.

1. Behavior—what someone actually does— follows from an intention (Ajzen, 1991; Ajzen & Fishbein, 1980).
2. Intentions are influenced by various factors, including:
 - Attitude towards the behavior—beliefs about whether it's good or bad or if doing it has some personal effect
 - Social norms about the behavior—beliefs about what other people think of it (especially people whose opinions one values)
 - Perceived control over the behavior—beliefs about how easy or hard it would be to do
3. The stronger an intention, the more likely the behavior (Ajzen, 1991; Ajzen & Fishbein, 1980).

Attitudes, Perceived Expectations & Debt | See Figure 15

Based on the research described above, we expected that students would engage in fewer risky financial behaviors and thus have less debt if they:

- Had positive attitudes toward responsible financial behaviors
- Believed their parents endorsed and expected these behaviors
- Felt in control of their financial behaviors



Additional research will help us understand why certain factors may influence some behaviors but not others.

Overall, our initial results supported our prediction and what we expected conversely: students with less favorable attitudes or who felt less parental expectations engaged in more risky behaviors and had higher credit card balances.

Perceived Control & Debt

Interestingly, students who felt they had more control over their finances engaged in less risky borrowing behaviors. However, they engaged in more risky paying behaviors: paying bills late or not paying credit card balances in full each month.

Since an important goal of the APLUS study is to understand how behaviors develop—not just identify the factors that contribute to behaviors—we'll continue to refine our research to better understand why certain factors may influence certain behaviors differently or not at all.

THE IMPACT OF POSITIVE FINANCIAL ATTITUDES



Research shows that financial well-being is positively associated with psychological health.

Although much of the research on young adults and financial literacy examines the negative impact of risky financial behaviors, some recent studies reverse that trend to look at the role of positive financial attitudes and behaviors on positive life outcomes.

For example, one study found that college students who intended to perform positive financial behaviors and who reported feeling more control over their finances were both more satisfied with their financial status and less likely to incur debt (Shim et al. in press).

This financial well-being was, in turn, positively associated with academic success, physical and psychological health and overall life satisfaction.

Similarly, other research has found that academic performance and satisfaction accounted for the relation between positive financial behaviors and life satisfaction (Xiao et al. 2008).

To extend the APLUS goal of understanding how students develop financial behaviors—in this case, positive financial behaviors—we looked at socialization factors among our students before they arrived at college.

Specifically, we examined how interactions with other people and their own learning opportunities may have helped our students form positive financial attitudes and behaviors.

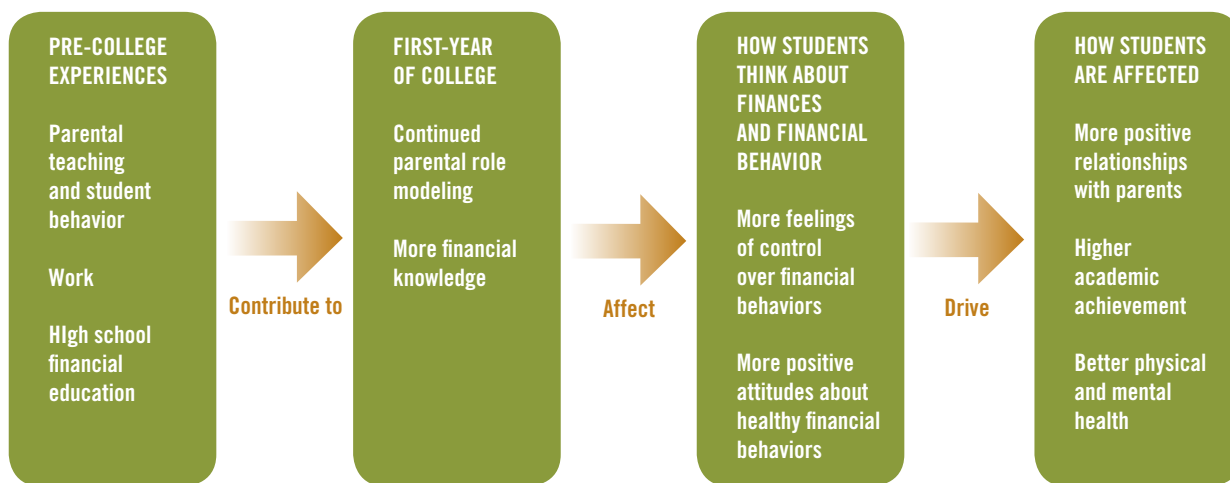
The Financial Socialization Pathway | See Figure 16

We propose that financial socialization follows a specific pathway, which starts with...

- 1) Anticipatory socialization before college, which contributes to...
- 2) Learning outcomes as college freshmen, which affects...
- 3) Students' financial attitudes, which drive...
- 4) Students' actual financial behaviors

Anticipatory socialization. For our research focus, anticipatory socialization—the first step in the pathway—includes any pre-college interactions with people and situations that expose students to money matters.

Figure 16. How Positive Socialization Leads to Financial Well-Being



Parents teach their children not only through direct instruction but also by modeling behavior.

Research confirms that both formal and informal financial education promote financial responsibility.

Parents, for example, play unique roles in preparing their children to live independent lives. They teach their children how to manage financial resources not only by directly instructing them (Danes & Dunrud, 1993; Moschis, 1987) but also by modeling appropriate behavior (Hayhoe, Leach, Turner, Bruin, & Lawrence, 2000; Joo, Grable, & Bagwell, 2003).

Work experience may also improve financial decisions (Xiao et al., 1995; Nellie Mae, 2004), making students more responsible with money possibly because of the effort they expended to earn it.

Finally, research into a third kind of anticipatory socialization confirms that pre-college financial education—both formal classes and informal workshops—promotes financial responsibility (Borden, Lee, Serido & Collins, 2008; Peng, Bartholomae, Fox, & Cravener, 2007).

Financial learning in college. In the second step of the pathway, we see how role modeling by parents while students are in college and students' own financial knowledge relate to financial learning outcomes as freshmen.

At college, students often learn about managing money through formal education—classes and seminars that can influence their financial attitude (Bryant, Stone, & Wier 2006).

At the same time, students continue to learn from role models. And while parental influence gradually declines (Steinberg & Silverberg 1986), for a new task, such as financial management, more parental involvement during the first year of college may foster healthier financial attitudes.

Indeed, among the APLUS students, both the involvement of their parents and students' own financial knowledge contributed to the formation of more positive attitudes towards responsible financial behaviors.

Financial attitudes. The third step in the pathway reveals how financial learning in college—both formal education and the influence of role models—contributes to students' financial attitudes. Parental expectations, and compliance with those expectations affect those attitudes, as does how much control students feel they have over their own financial behavior.

Financial behavior. Finally, in the fourth step in the pathway, we see how financial attitudes of the students in the APLUS sample are related to financial behavior. In this step, we can predict, based on past research, that more positive attitudes towards responsible behaviors should result in more responsible behaviors (Ajzen, 1991; Ajzen & Fishbein, 1980).

Parental influence had the most impact on students' financial behaviors

Connecting the Steps

Our results supported the expected connections between each step in our proposed Financial Socialization Pathway, offering insight into how families and society may help shape better financial behavior in young adults.

Our results showed that each step in our proposed model influenced later steps, ultimately leading to students' financial behaviors. Specifically, we found that:

- Parental direct teaching, high school work experience and high school financial education all related to students' having more financial knowledge by their first year in college
- Of these three, parental teaching had the strongest influence, more than the other 2 factors combined—in fact, this link was stronger than connections between any other variables we measured
- That higher financial knowledge was, in turn, linked to students having more positive financial attitudes and more feelings of control over their financial behavior
- Those two factors—attitudes and feelings of control—were both linked to the final step in our model: more healthy financial behaviors
- More financial knowledge was also directly related to more healthy behaviors

Overall, the factors at each step in the pathway model showed a unique ability to predict the factors at later steps.

The statistical results for the full Structured Equation Model are available upon request.

IMPLICATIONS



Mounting financial demands increase risks to students' well-being.

Our research findings suggest that parents, schools and the marketplace would do well to partner to help children and young adults develop positive financial attitudes and behavior.

Working Now for Future Well-Being

Consistent with current research, APLUS students who practiced good financial behaviors reported more well-being than students who engaged in risky financial behaviors.

This association held for broad aspects of well-being as well as for specific life domains—academics, physical health and relationships, for example—and academic aspirations.

We also know that financial behaviors affect more than the present. Research clearly shows that our financial behaviors today can positively or negatively impact our future well-being.

Yet, the generation of youth now entering college has grown up in an era of lenient attitudes to debt and increased consumerism. And while going to college often sets young people on a pathway to financial success and well-being in adulthood, mounting financial demands in a rapidly changing social and economic climate increase risks to students' well-being.

For these reasons, it's critical that students be able to take a more active, responsible role in their personal finances. In fact, in our uncertain economic landscape, financial literacy and positive financial behaviors in emerging adults may be more important than ever.

As life's expenses grow and sources to finance those expenses tighten up, students will need to quickly develop the skills to manage their resources effectively. Our study found that many first-year students had already engaged in risky financial behaviors, with a small percentage engaging in

If we're committed to graduating students poised for success, we must understand how they acquire good financial behaviors.

Young adults need people they trust to help them synthesize the vast amounts of information available online.

Planting the seeds of positive financial behaviors in K-8 education lays the foundation for more responsibility in young adulthood.

more than one and/or the highest-risk behaviors—using payday loans and paying one credit card bill with another.

Although these activities may provide a temporary respite from current financial demands, over time these extreme behaviors have serious future consequences, including increased anxiety and stress (Pinto, Parente & Palmer, 2001), lower academic achievement (Ross, Cleland & Macleod 2006) and more high-risk behaviors in other areas, such as binge drinking, substance use and violence (Nelson, Lust, Story & Ehlinger, 2008). However, when students don't have enough money to cover expenses, they may feel they have no choice but to turn to strategies that, whether they know it or not, put them at greater financial risk (Borden, et al., 2008).

If we are to effectively build financial management skills—if we're truly committed to increasing the number of college graduates entering adulthood poised for success—we must fully understand how students acquire good financial behaviors and how those behaviors affect well-being.

Parents Matter

We know that financial literacy makes a difference in young people's attitudes and behaviors. We also know that education alone cannot safely guide young people as they manage new financial demands. So first and foremost, our study demonstrates that parents matter.

Children learn about the world and how to thrive in it by listening to and observing their parents, but that role doesn't end when those children turn 18. During their first year of college, students must seek and evaluate information to decide how to meet new challenges.

While young adults today are more and more tapping into the vast and ever-growing stores of information online, they still need to talk to people they trust to help them synthesize that information and use it to make responsible decisions.

Thus, it's important that parents cultivate adult relationships with their children—bonds that encourage discussion about problems students may face and responsibilities ahead of them.

The Role of Education

Educators and school administrators also have a vital role to play in helping families promote financial independence and well-being in their children, especially as those children transition to young adulthood. Financial literacy programs must teach young adults how to be more effective in managing their own financial matters.

Planting the seeds of positive financial behaviors earlier in the K-8 curriculum would lay the foundation for more financial understanding and responsibility in young adulthood—qualities that could be strengthened throughout high school and into college. As our study demonstrates, pre-college financial education leads to more financial knowledge in college, which, in turn, links to more healthy financial behaviors.

It's also important to note that financial literacy can grow and deepen through life-long learning. Community workshops and seminars for adults can create a powerful domino effect, building financial literacy among adults who are or may become parents. These kinds of education experiences would also give adults the chance to model the value of continuing education for their children.

The Need for Education Options

With the need for young adults to quickly shore up on personal finance skills, demand for financial education may increase. But even as interest in financial education grows, the demands of students' academic schedules may keep them from adding financial literacy courses.

We suggest that this situation calls for more alternatives to traditional financial education, including webinars, online courses and workshops—all providing flexible, affordable options for college students.

SUMMARY & CONCLUSIONS



Our study raises questions about how the cost of college might drive behavior in students with less money.

We hope to develop a new theory for predicting financial behavior

Our two initial models examined pathways to both risky and positive financial behaviors.

The APLUS students' lifestyles and financial behaviors appear to represent those of emerging adults overall. Our students allocated time and money, in a way consistent with previous studies on the habits of college students. Similarly, their average financial literacy rate of 59%, while low, is consistent with findings of national surveys.

Objective Measures of Financial Healthiness

One of the APLUS students asked what a "financially healthy first-year college student" looked like. In our research, we examined this question through financial behaviors and observable and objective criteria such as how many hours a student worked, financial behaviors and how much debt students carried.

While the majority of the students in our sample appear to be fairly financially healthy based on these measures, we found that a small percentage were at risk for financial difficulties.

Accounting for Financially Risky Behavior

Despite differences between the two groups' financial behaviors and well-being, we found no differences in their levels of financial knowledge. In other words, we can't trace risky financial behaviors within our group to those students having a poorer understanding of finances.

That lack of relationship raises important questions: Are the students who engaged in risky financial behaviors financially irresponsible? Or could it be that these students—more than students who didn't engage in risky financial behaviors—simply lack the money that a college education/experience requires?

The fact that students are resorting to financially risky behaviors so early in college suggests that some may need more assistance to meet the financial demands of daily life. And the enormity of the current economic crisis may exacerbate that need. As yet, we have no way of knowing what assistance to offer, or to whom.

Predicting Financial Behavior

As a primary focus of the APLUS project, we hope to develop a new theory for predicting financial behavior and life-success outcomes.

First, we need to understand just how much positive financial behaviors matter to an individual's sense of well-being and how these behaviors form. We can then pass that knowledge to educators, public policy makers and employers seeking ways to improve quality of life for young adults.

As a step towards that goal, we've begun to create and test models of the pathways through which emerging adults may develop risky or responsible financial behaviors.

Pathways to Risk

To examine pathways to risky behaviors, we developed a model that emphasized the link between intentions and actual behaviors: the stronger an intention, the more likely that the behavior will follow (Ajzen, 1991; Ajzen & Fishbein, 1980).

Testing this model, we found that students' intentions towards financial behaviors—influenced by personal attitudes, parents' expectations and perceived control—did influence their financial behaviors. Students with less positive intentions engaged in more risky behaviors and had higher credit card balances.

Pathways to Positive Behaviors

Rather than focus solely on the "dark side" of financial behaviors, we developed a second model to explore how positive financial attitudes and behaviors form. This model emphasized socialization—

how students' experiences before college might contribute to learning outcomes as freshmen, which in turn contribute to their current financial attitudes and behaviors.

We found that 3 pre-college factors—parents, school and work—clearly influenced how young people learned about managing money during their first-year of college. Parents held the most influence, exceeding that of work experience and high-school financial education combined.

Among the APLUS students, we found that both the involvement of their parents and their own knowledge were linked to more positive attitudes towards responsible financial behaviors. As with our other model, these attitudes were reflected in behaviors.

WHAT'S AHEAD FOR APLUS?



Future research will reveal the long-range interplay of factors affecting financial behaviors.

The first APLUS survey yielded much more information than researchers typically collect.

We'll realize the full value of our current work in future research.

In later phases, we'll examine the impacts of our recent economic crisis and how normal college-years events affect financial attitudes and behaviors.

APLUS is a landmark longitudinal study to examine the lifelong interplay between financial behavior and well-being. And although our results contribute to understanding how young people develop positive financial behaviors, additional research is needed. Our results rely completely on students' self-reports, and therefore the factors may reflect response bias.

In addition, although we've evaluated—and found support for—a complex predictive model, it's important to note that we evaluated the model using concurrent data. Future longitudinal research will reveal the associations of these factors over time.

Extensive Information in Phase 1

Our students provided a robust set of information—much more than the demographic and financial behaviors information researchers have typically collected from college students.

That richness gives us a unique opportunity to probe deeper into factors linking financial attitudes and behaviors with multiple dimensions of well-being, including both antecedents and correlates of both positive and negative behaviors.

In this first phase, we focused on young adults' attitudes and behaviors as they enter college and begin the journey from financial dependence to financial independence.

Building Towards Greater Understanding: Future Phases

Ultimately, we'll realize the value of this initial work in future research. By testing potential pathways through which young adults develop risky or responsible financial behaviors, we created a framework for integrating research into a comprehensive model. With that model, we hope to explain how young adults develop financial behaviors and how those behaviors relate to bigger-picture well-being and life satisfaction.

In later phases of the project, we'll build on our growing understanding of factors that influence students' financial attitudes and behaviors and shape the trajectories of their lives.

In spring 2009, we'll conduct a follow-up survey to examine how the recent economic crisis affected the finances and well-being of a subsample of the APLUS students. Then, in the fall of 2010—our students' senior year—we plan to survey the entire APLUS sample as they prepare to transition into young adulthood. In that phase of the project, we'll look at several normal developmental events that transpire during college—changes related to school and education experience as well as changes in family relationships, work-related associations and peer and romantic relationships.

With data on these events, we hope to understand how the experiences impact students' financial habits, attitudes and behaviors.

Ultimately, we hope to follow students into adulthood to learn how the financial attitudes and behaviors established during their college careers influence their well-being and success as adults.

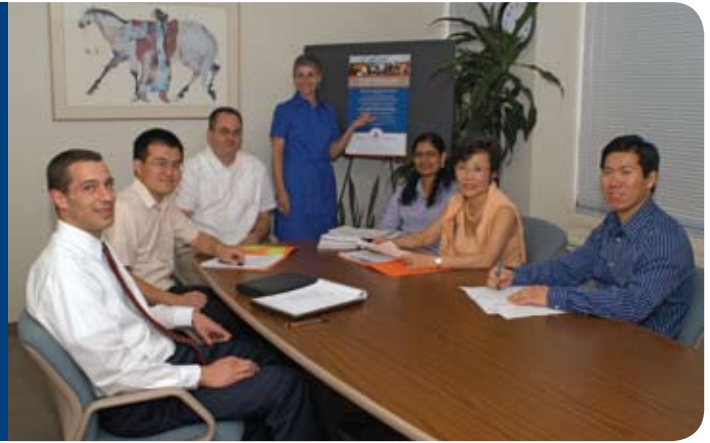
APLUS TEAM

(From left) Dr. Noel Card, Chuanyi Tang,
Robert Lanza, Dr. Joyce Serido, Anubha Mishra,
Dr. Soyeon Shim and Jiayun Wu

Not pictured Dr. Jing Jian Xiao,
Dr. Bonnie L. Barber and Dr. Michael Staten



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NEFE is an independent, nonprofit foundation committed to educating Americans on a broad range of financial topics and empowering them to make positive and sound decisions to reach their financial goals. For more than 30 years, NEFE has been providing funding, logistical support, and personal finance expertise to develop a variety of materials and programs, including the award-winning High School Financial Planning Program® (HSFPP), the CashCourse college program, and the consumer-oriented Smart

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REFERENCES

- Adams, T., & Moore, M. (2007). High-Risk Health and Credit Behavior Among 18- to 25-Year-Old College Students. *Journal of American College Health*, 56, 101-108.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Amato-McCoy, D. M. (2006). Back to school—Wachovia targets students with all-in-one college ID and bank card. *Bank Systems & Technology*, 43, 17-18.
- Arnett, J. J. (2000). Emerging Adulthood: A Theory of Development from the Late Teens through the Twenties. *American Psychologist* 55, 469-480.
- Borden, L. M., Lee, S., Serido, J. & Collins, D. (2008). Does participation in a financial seminar change financial knowledge, attitudes, and behavior of college students? *Journal of Family and Economic Issues*, 29, 23-40.
- Bryant, S. M., Stone, D.N., & Wier, B. (2006). Financial Attitudes: Implications for Personal Financial Planning Services (PFPSs) and Financial Literacy. Retrieved February 18, 2008 from <http://ssrn.com.ezproxy.library.wisc.edu/abstract=896101>.
- Danes, S., & Dunrud, T. (1993). *Children and Money: Teaching Children Money Habits for Life*. Publication No. HE-FO 6116. Minnesota Extension, University of Minnesota.
- Dolan, P., Peasgood, T., & White, M. (2007). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of Economic Psychology*, 29, 94-122.
- Dunkel-Schetter, C. & Lobel, M. (1990). Stress among students. *New Directions for Student Services*, 49, 17-34.
- Hayhoe, C. R., Leach, L. J., Turner, P. R., Bruin, M. J., & Lawrence, F. C. (2000). Differences in spending habits and credit card use of college students. *The Journal of Consumer Affairs*, 34, 113-133.
- Hilgert, M. A., Hogarth, J. M., & Beverly, S. G. (2003). Household Financial Management: The Connection Between Knowledge and Behavior. *Federal Reserve Bulletin July*: 309-322.
- Holub, T. (2002). Credit card usage and debt among college and university students. *ERIC Document Reproduction Service No.* ED466106.
- Joo, S., Grable, J. E., & Bagwell, D. C. (2003). Credit card attitudes and behaviors of college students. *College Student Journal*, 37, 405-419.
- Lyons, A. C. (2004). A profile of financially at-risk college students. *The Journal of Consumer Affairs*, 38, 56-80.
- Mandell, L. (2008). Financial literacy of high school students. In J. J. Xiao (Ed.) *Handbook of Consumer Finance Research* (pp163-184). New York: Springer.
- Moschis, G. P. (1987). *Consumer Socialization: A Life-Cycle Perspective*. Massachusetts: Lexington Books.
- National Survey of Student Engagement. (2006). Engaged learning: Fostering success for all students. Bloomington, Indiana: NSSE Institute for Effective Educational Practice. Retrieved February 18, 2008 from http://nsse.iub.edu/NSSE_2006_Annual_Report/index.cfm
- Nellie Mae. (2004). *Undergraduate students and credit cards: An analysis of usage rates and trends*. Retrieved February 18, 2008 from http://www.nelliemae.com/library/research_12.html
- Nellie Mae. (2005). *Undergraduate students and credit cards in 2004: An analysis of usage rates and trends*. Retrieved January 30, 2009 from http://www.nelliemae.com/library/research_12.html

REFERENCES

- Nelson, M. C., Lust, K., Story, M., & Ehlinger, E. (2008). Credit card debt, stress, and key health risk behaviors among college students. *American Journal of Health Promotion*, 22, 400-412.
- Nickerson, C., Schwarz, N. & Diener, E. (2007). Financial Aspirations, Financial Success, And Overall Life Satisfaction: Who? And How? *Journal of Happiness Studies*, 8, 467-515.
- Nonis, S. A., Philhours, M. J. & Hudson, G. I. (2006). Where Does the Time Go? A Diary Approach to Business and Marketing Students' Time Use. *Journal of Marketing Education*, 28, 121-134.
- Norvilitis, J. M., & Santa Maria, P. (2002). Credit card debt on college campuses: Causes, consequences, and solutions. *College Student Journal*, 36, 356-363.
- Peng, T. M., Bartholomae, S., Fox, J. J., & Cravener, G. (2007). The impact of personal finance education delivered in high school and college courses. *Journal of Family Economics Issues*, 28, 265-284
- Pinto, M. B., Parente, D. H. & Palmer, T. S. (2001). College student performance and credit card usage. *The Journal of College Student Development*, 42, 49-58.
- Reed, M. (2008). Student debt and the class of 2007. The Project on Student Debt, an initiative of The Institute for College Access & Success. Retrieved January 30, 2009 from <http://projectonstudentdebt.org/files/pub/classof2007.pdf>
- Roberts, J. A., & Jones, E. (2001). Money attitudes, credit card use, and compulsive buying among American college students. *The Journal of Consumer Affairs*, 35, 213-240.
- Ross, S., Cleland, J., & Macleod, M. J. (2006). Stress, debt and undergraduate medical student performance. *Medical Education*, 40, 584-589.
- Shim, S, Xiao, J. J., Barber, B. L., & Lyons, A. (In press). Pathways to life success: A conceptual model of financial well-being for young adults. *Journal of Applied Developmental Psychology*.
- Steinberg, L., & Silverberg, S. B. (1986). The vicissitudes of autonomy in early adolescence. *Child Development*, 57, 841-851.
- The Education Resources Institute. (1998). *Credit risk or credit worthy? College students and credit cards*. Boston, MA: Author.
- United States General Accounting Office. (2001). *Consumer finance: College students and credit cards* (GAO Publication No. GAO-01-773). Washington, DC: Author.
- Xiao, J. J. (2008). Applying behavior theories to financial behavior. In J. J. Xiao (ed.). *Handbook of Consumer Finance Research* (pp 69-81). New York: Springer.
- Xiao, J. J., Noring, F. E., & Anderson, J. G. (1995). College students' attitudes towards credit cards. *Journal of Consumer Studies and Home Economics*, 19, 155-174.
- Xiao, J. J., Noring, F. E., & Anderson, J. G. (1997). College students and credit cards: Do attitudes affect behavior? *Journal of Consumer Education*, 15, 25-35.
- Xiao, J. J., Sorhaindo, B., & Garman, E. T. (2006). Financial behavior of consumers in credit counseling. *International Journal of Consumer Studies*. 30(2), 108-121.
- Xiao, J. J., Tang, C., & Shim, S. (2008). Acting for happiness: Financial behavior and life satisfaction of college students. *Social Indicators Research*. Online first.

Michael Staten
Professor and Director, TCAI



The Take Charge America Institute is delighted to be hosting the APLUS project. The Institute's mission is to create research-based outreach programs that will improve financial decision-making, especially among young adults. The headlines remind us daily that the penalties to poor financial decisions are steep. We know that some college graduates enter young adulthood poised for financial success, but others stumble when they confront a complex array of financial choices. What factors do students encounter growing up at home and at school that contribute to financial socialization and ultimately financial self-confidence? The APLUS project will give us the data and insights to identify the paths that lead to financial well-being. And, those insights will help us to build more effective programs to prepare America's youth for the financial choices that await them.

A handwritten signature in black ink that reads "Michael Staten".

Michael Staten
Professor and Director, TCAI

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