Chapter IV

Findings and Discussion

This study was designed to examine the consumer knowledge of high school students from Middlesex County, Virginia and to determine the needs of this community. The consumer issues are defined as consumer credit, checking/savings, automobile insurance, housing rental, food purchase, and automobile purchase. In this chapter, the data concerning the knowledge of the high school students are presented. A report of what occurred at the school when collecting the data also is included. Descriptive demographic statistics of the population and the results are presented and discussed.

Personal Characteristics

The population consisted of 55 volunteers from a total pool of 375 (15%). There was a 20.5% participation rate from both the freshman and sophomores. Only 7.4% of the juniors and 9.9% of the total senior class agreed to complete the survey. The participants in this study were twenty-four freshmen (43.6%), fifteen sophomores (27.3%), seven juniors (12.7%), and nine seniors (16.4%).

The students who agreed to take the survey closely represent the demographic make-up of the school, in reference to gender and ethnicity. In the school population, 51% are female and 49% are male. Of the total number of respondents, 56% were females 44% were males. See Figure 1. The ethnicity of the school is 72% Caucasian, 27% African-American and 1% Native American. The majority of the participating high school students were white (73%). The other ethnic groups in the sample were 24% African-American and 4% Native American. There were no Asian (or Pacific Islander) or Hispanic students or participants. See Figure 2. Although the sample size is small, it is reflective of the student population with regards to gender and ethnicity, which helps strengthen the validity of the results of the study. Table 2 presents the gender and race of each grade level of the high school respondents.

The majority of respondents of all four sub-samples were Caucasian. The freshmen were 67% Caucasian, 29% African American and 4% Native American. The



Gender of Middlesex High School



<u>Figure 1.</u> Gender of Middlesex, Virginia High School Students compared to the Gender of the Consumer Knowledge Survey Participants



Ethnicity of Middlesex High School



Ethnicity of Survey Respondents

<u>Figure 2.</u> Ethnicity of Middlesex, Virginia High School Students compared to the Ethnicity of the Consumer Knowledge Survey Participants

	Fres	hmen	Soph	omores	Jur	niors	Ser	niors	Total	Overall
Characteristic	<u>n</u>	% ^a								
Gender	(N=24)	(N	l =15)	(N	l=7)	(N	=9)	(N	=55)
Male	12	50.0	5	33.3	5	71.4	2	22.2	24	43.6
Female	12	50.0	10	66.7	2	28.6	7	77.8	31	56.4
Ethnicity										
Native Americar	n 1	4.2	0	0.0	1	14.3	0	0.0	2	3.6
Asian (or Pacific	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Islander)										
African-America	n 7	29.2	2	13.3	1	14.3	3	33.3	13	23.6
Hispanic	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Caucasian	16	66.7	13	86.7	5	71.4	6	66.7	40	72.7

Gender and Race of Middlesex, Virginia High School Student Respondents

sophomores were 87% Caucasian, and 13% African American. The juniors were 71% Caucasian, 14% African American and 14% Native American. The seniors were 67% Caucasian and 33% African American.

The high school students' total family income was reported by 24% of respondents to be in the range of \$15,000–\$24,999. A third of the freshmen reported total family income in the same range, \$15,000–\$24,999. Forty three percent of the juniors and 33% of seniors reported family income in the \$35,000–\$49,999 range. A third of the sophomores reported total family income of \$35,000–\$49,999 and a third reported total family income of \$50,000 and over. Only 6% of the subjects reported their families earning under \$15,000. Twenty percent of the students did not know or refrained from reporting their family income. Table 3 presents the family income and personal monthly spending habits of the high school respondents.

The monthly spending habits of the high school students vary throughout the subsample groups (Table 3). Overall, 36% of the students spend under \$50; 22% spend between \$50–\$99 at 22%; 27% spend between \$100–\$249; 11% spend between \$250– \$499; and 4% spend \$500 and over. The sophomores and juniors had the most students in their sub-samples and reported spending in the \$100–\$249 range (40% and 43%, respectively).

The majority (69%) of high school students surveyed in Middlesex County do not have a personal checking account (Table 4). Since the majority of students were freshmen and sophomores the numbers may not accurately represent the student body of the school. Only eight out of thirty-nine freshmen and sophomores have checking accounts (8% and 40% respectively), however, more than half of the juniors and seniors reported having personal checking accounts (57% and 56%, respectively).

There were almost as many students who had taken a course, either at school or outside of school, in economics, marketing, business law, consumer education, or money management as there were students who had no additional consumer education (Table 4). There were 49% who had received some type of education versus 51% who reported having no additional training.

The majority (66%) of students reported attending a four-year college as their future plan after graduating from high school (Table 5). The next most frequently

Total Family Income and Personal Monthly Spending of the Consumer Knowledge Survey

Respondents

	Fres	hmen	Soph	omores	Ju	niors	Sei	niors	Total	Overall
Characteristic	n	% ^a	n	% ^a	n	% ^a	n	% ^a	n	% ^a
	(N=	=24)	(N	l=15)	(N	l=7)	(N=9)	(N	=55)
Family Income										
Under \$15,000	3	12.5	0	0.0	0	0.0	0	0.0	3	5.5
\$15,000 - 24,999	8	33.3	2	13.3	1	14.3	2	22.2	13	23.6
\$25,000 - 34,999	4	16.7	1	6.7	0	0.0	1	11.1	6	10.9
\$35,000 - 49,999	1	4.2	5	33.3	3	42.9	3	33.3	12	21.8
\$ 50,000 and over	1	4.2	5	33.3	2	28.6	2	22.2	10	18.2
Omitted	7	29.2	2	13.3	1	14.3	1	11.1	11	20.0
Monthly Spending										
Under \$50	11	45.8	5	33.3	1	14.3	3	33.3	20	36.4
\$50 - 99	4	16.7	4	26.7	1	14.3	3	33.3	12	21.8
\$100 - 249	4	16.7	6	40.0	3	42.9	2	22.2	15	27.3
\$250 - 499	3	12.5	0	0	2	28.6	1	11.1	6	10.9
\$ 500 and over	2	8.3	0	0	0	0.0	0	0.0	2	3.6

Middlesex, Virginia High School Student Participants who have/had a Personal Checking Account

	Fres	hmen	Sopho	mores	Juni	ors	Sen	iors	Total (Overall
Characteristic	<u>n</u>	% ^a	n	% ^a	<u>n</u>	% ^a	<u>n</u>	% ^a	<u>n</u>	% ^a
Personal Checking	(N	=24)	(N=	=15)	(N=	=7)	(N	=9)	(N=	=55)
Account										
Yes	2	8.3	6	40.0	4	57.1	5	55.6	17	30.9
No	22	91.7	9	60.0	3	42.9	4	44.4	38	69.1
Consumer Education										
Yes	10	41.7	10	66.7	3	42.9	4	44.4	27	49.1
No	14	58.3	5	33.3	4	57.1	5	55.6	28	50.9

and have/had a Consumer Education Course

Future Plans of I	Middlesex, Vi	rginia High	School Students after	Graduating from High	School

	Free	hmon	Soph	omores	Ju	niors	Se	niors	Tota	Overall
Characteristics	<u>n</u>	% ^a								
Graduation Plans	1)	N=24)	(N	=15)	1)	N=7)	(N	l=9)	٩)	l =55)
Permanent full-time employment	1	4.2	0	0.0	0	0.0	0	0.0	1	1.8
Vocational/technical school	1	4.2	1	6.7	2	28.6	0	0.0	4	7.3
Two-year community college	3	12.5	2	13.3	1	14.3	1	11.1	7	12.7
Four year college	15	62.5	10	66.7	3	42.9	8	88.9	36	65.5
Other	4	16.7	1	6.7	1	14.3	0	0.0	6	10.9
Omitted	0	0	1	6.7	0	0.0	0	0.0	1	1.8

reported future plan was attending a two-year community college (13%). Overall 86% of the high school students reported plans to gain further education at a two or four year college or a vocational/technical school. Eleven percent had other plans besides the choices given and two percent chose not to answer the question.

Findings Overall Knowledge

The 52 items that measured consumer knowledge were divided into six categories. The categories are credit, checking/savings accounts, auto insurance, housing rental, food purchases, and car purchases. The average score for the entire survey was 38.9%, and on none of the six topics did the students score above 50%.

The students scored the lowest on consumer credit questions and highest on housing rental. They scored only 31% on credit, 35% on auto insurance and 39% on food purchases. They scored 40% on the car purchases, 43% on checking/savings accounts and 45% on housing rental.

Findings of Knowledge by Demographic Groups

The senior students scored the highest percentage total (48%) (Table 6). The seniors scored the best of all four groups on the credit, food purchase and car purchase categories. The sophomores average score was the second highest at 46%. This sub-group scored the highest in checking/savings accounts and housing rental. The juniors scored the highest in auto insurance. The freshmen did not score the highest in any category, however they did not score the lowest in all the categories either. They scored the lowest in three categories (credit, auto insurance, and food purchases) with the juniors scoring the lowest in the other three areas (checking/savings accounts, housing rental, and car purchases).

Gender

Regarding gender, female students scored higher than the males in all four-grade levels (Table7). The female score (42%) was higher than the male score (37%) by an average of five percentage points. This finding concurs with the nationwide test of

Middlesex High School Students' Consumer Knowledge of Credit, Checking/Savings Accounts, Auto Insurance, Housing Rental, Food Purchases, and Car Purchases

	Freshmen	Sophomores	Juniors	Seniors	Total Overall
	%	%	%	%	%
	(<u>n</u> =24)	(<u>n</u> =15)	(<u>n</u> =7)	(<u>n</u> =9)	(n= 55)
Credit	31.3	42.9	39.8	43.7	30.9
Checking/Savings Accounts	40.5	51.4	22.4	50.8	43.4
Auto Insurance	27.6	40.4	44.4	35.7	34.8
Housing Rental	39.6	52.5	39.3	51.4	44.8
Food Purchases	34.9	40.8	35.7	51.4	39.3
Car Purchases	34.5	45.7	28.6	52.4	40.3
TOTAL SCORE	34.7	45.6	35.0	47.6	38.9

	Freshmen		Soph	Sophomore Junior		ior	Senior		Total Overall	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	(<u>n</u> =12)	(<u>n</u> =12)	(<u>n</u> =5)	(<u>n</u> =10)	(<u>n</u> =5)	(<u>n</u> =2)	(<u>n</u> =2)	(<u>n</u> =7)	(<u>n</u> =24)	(<u>n</u> =31)
	%	%	%	%	%	%	%	%	%	%
Credit	30.3	32.1	41.4	43.6	40.0	39.3	39.3	44.9	35.4	39.2
Checking/Savings Accounts	47.6	33.3	48.6	74.0	25.7	14.3	64.3	46.9	44.6	41.5
Auto Insurance	22.9	32.2	40.0	40.0	37.5	31.3	50.0	44.6	31.8	37.5
Housing Rental	38.5	40.6	40.0	57.5	37.5	43.8	37.5	55.4	38.5	49.6
Food Purchases	32.3	37.5	37.5	42.5	30.0	50.0	62.5	48.2	35.4	42.3
Car Purchases	32.1	36.9	45.7	45.7	25.7	35.7	50.0	55.1	35.1	43.8
TOTAL SCORE	34.0	35.4	42.2	50.6	32.7	35.7	50.6	49.2	36.8	42.3

consumer knowledge by the Consumer Federation of America and American Express Company where the females scored higher than the males by an average of four percentage points (Brobeck, 1993). Although the high school seniors' total score was the highest overall, the subgroups with the highest score (51%) were the sophomore females and senior males. The greatest differences were in the housing rental (11 percentage points), car purchases (9 percentage points) and food purchases (7 percentage points).

Ethnicity

Regarding ethnicity, the Caucasians scored the highest on the survey of consumer knowledge with a score of 42%. Table 8 presents the scores of each ethnic group and by grade levels. African-Americans and Native Americans each answered slightly more than one-third of the questions correctly (34%). The national test had similar results. The Caucasians answered 44% of the items correctly and the African-American answered 34% correctly (Brobeck, 1993). In the national survey there were no Native American participants.

Only the Native American junior (42%) and the three African-American seniors (49%) scored higher than the Caucasians in their own sub-group of grade level. The gap between the Caucasian and African-American group was greatest on the food purchases category (16 percentage points). The Native Americans scored especially low on the car purchase (14%) and auto insurance (25%) portions of the survey, however they scored high on the credit category (46%).

Family Income

Students from the poorest families had the lowest scores on all the categories. The students from families with an income under \$15,000 answered 25% of the questions correctly (Table 9). Those respondents whose family incomes were in the highest range, \$50,000 and over, had the highest percentage score (46%). The next highest scores (43% and 42%) were from the students whose family income was in the \$25,000–\$34,999 range and \$35,000–\$49,999 range, respectively. These results were quite similar to the results of the nationwide study of consumer knowledge in high school seniors. Students from families with the highest income scored the highest (44%), then there was a tie of

Consumer Knowledge of Ethnic Groups at Middlesex High School

		Freshmen			Sophomores
	Native American	African-American	White	Native American	African-American
	(<u>n</u> =1)	(<u>n</u> =7)	(<u>n</u> =16)	(<u>n</u> =0)	(<u>n</u> =2)
	%	%	%	%	%
Credit	35.7	24.5	33.9	na	39.3
Checking/Savings Accounts	42.9	28.6	45.5	na	42.9
Auto Insurance	12.5	25.0	29.7	na	37.5
Housing Rental	25.0	37.5	41.4	na	56.3
Food Purchases	25.0	17.9	43.0	na	43.8
Car Purchases	14.3	28.6	38.4	na	50.0
TOTAL SCORE	25.9	27.0	38.7	na	45.0

		Juniors		Seniors		
	Native American	African-American	White	Native American	African-American	
	(<u>n</u> =1)	(<u>n</u> =1)	(<u>n</u> =5)	<u>(n</u> =0)	(<u>n</u> =3)	
	%	%	%	%	%	
Credit	57.1	28.6	38.6	na	47.6	
Checking/Savings Accounts	42.9	0.0	22.9	na	66.7	
Auto Insurance	37.5	12.5	40.0	na	41.7	
Housing Rental	62.5	12.5	40.0	na	45.8	
Food Purchases	37.5	25.0	37.5	na	41.7	
Car Purchases	14.3	14.3	34.3	na	52.4	
TOTAL SCORE	42.0	15.5	35.6	na	49.3	

Consumer Knowledge of Ethnic Groups at Middlesex High School cont.

		Total Overall	
	Native American	African-American	White
	<u>(n</u> =2)	(<u>n</u> =13)	(<u>n</u> =40)
	%	%	%
Credit	46.4	32.4	38.8
Checking/Savings Accounts	42.9	37.4	44.6
Auto Insurance	25.0	29.8	36.9
Housing Rental	43.8	40.4	46.3
Food Purchases	31.3	27.9	43.4
Car Purchases	14.3	36.3	42.1
TOTAL SCORE	34.0	34.0	42.0

43% correct with the \$25,000-\$34,999 and \$35,000-\$49,999 income ranges, then the \$15,000-\$24,999 range scored 40% and the group with the least correct answers was the income range of under \$15,000 (Brobeck, 1993).

Students whose family income was in the \$25,000–\$34,999 range knew the most about checking/savings accounts (52%). Students whose family income was in the \$35,000–\$49,999 range knew the most about the credit portion of the survey (46%). Thirty-five percent of the students surveyed either did not know their family's income level or chose not to answer that question in the survey. Table 9 presents the scores of respondents in different family income ranges and by grade level.

Monthly Spending Habits

One would expect that students who consumed more, and therefore had more experience in the marketplace, would score higher than those who spent less. This was not the result that was found in this survey. The students who consumed the most each month, \$500 and more, and \$250–\$499, earned the lowest scores (30% and 31%) (Table 10). However there were only 2 participants in the first category and six in the second. The 12 students who reported spending \$50–\$99 had the highest scores, 45%. The majority of students surveyed (20) spent less than \$50, and they scored in the middle range with a 38%. The national survey data concurs with the assumption and not the data reported. According to Brobeck (1993) the subjects who spent \$250–\$499 scored the highest (45%), then the \$100–\$249 range (43%), followed by the \$50–\$99 (42%), then those who spend over \$500 (41%), and finally those who spend under \$50 (35%). Brobeck suggested that the lower score for the over \$500 range group was related to the small number of persons in this sub-sample (14 out of 428 high school seniors—3%). However, it could also be that those with more money do not have to be as careful spenders as those with less.

The students in the highest spending range scored the highest total in the housing rental portion of the survey (56%). They also were the ones who scored the lowest total in auto insurance. The junior in the \$50–\$99 range scored the highest in housing rental along with both the junior and seniors score in food purchase (75%).

Consumer Knowledge of Middlesex High School Students According to Total Family Income

	Freshmen									
	<u>Under \$15,000</u>	<u> \$15,000 - 24,999</u>	<u> \$25,00 - 34,999</u>	<u> \$35,000 - 49,999</u>	\$50,000 and over	Missing Data				
	(<u>n</u> =3)	(<u>n</u> =8)	(<u>n</u> =4)	(<u>n</u> =1)	(<u>n</u> =1)	(<u>n</u> =7)				
	%	%	%	%	%	%				
Credit	21.4	39.3	30.4	35.7	28.6	36.7				
Checking/Savings Accounts	19.0	60.7	35.7	28.6	42.9	30.6				
Auto Insurance	16.7	34.4	34.4	12.5	12.5	25.0				
Housing Rental	33.3	46.9	25.0	25.0	37.5	44.6				
Food Purchases	33.3	40.6	34.4	0.0	62.5	30.4				
Car Purchases	23.8	39.3	39.3	14.3	42.9	32.7				
TOTAL SCORE	24.6	43.5	33.2	19.4	37.8	33.3				

			Sophom	ores		
	<u>Under \$15,000</u>	<u> \$15,000 - 24,999</u>	\$25,00 - 34,999	\$35,000 - 49,999	\$50,000 and over	Missing Data
	(<u>n</u> =0)	(<u>n</u> =2)	(<u>n</u> =1)	(<u>n</u> =5)	(<u>n</u> =5)	(<u>n</u> =2)
	%	%	%	%	%	%
Credit	na	39.3	64.3	44.3	41.4	35.7
Checking/Savings Accounts	na	50.0	57.1	57.1	48.6	42.9
Auto Insurance	na	31.3	37.5	42.5	45.0	31.3
Housing Rental	na	31.3	75.0	40.0	62.5	62.5
Food Purchases	na	37.5	62.5	32.5	45.0	43.8
Car Purchases	na	35.7	28.6	45.7	57.1	35.7
TOTAL SCORE	na	37.5	54.2	43.7	49.9	42.0

Consumer Knowledge of Middlesex High School Students According to Total Family Income cont.

			Junio	ors		
	<u>Under \$15,000</u>	<u> \$15,000 - 24,999</u>	<u> \$25,00 - 34,999</u>	<u> \$35,000 - 49,999</u>	\$50,000 and over	Missing Data
	(<u>n</u> =0)	(<u>n</u> =1)	(<u>n</u> =0)	(<u>n</u> =3)	(<u>n</u> =2)	(<u>n</u> =1)
	%	%	%	%	%	%
Credit	na	57.1	na	59.5	28.6	42.9
Checking/Savings Accounts	na	42.9	na	9.5	35.7	14.3
Auto Insurance	na	37.5	na	29.2	37.5	50.0
Housing Rental	na	62.5	na	41.7	31.3	25.0
Food Purchases	na	37.5	na	50.0	25.0	12.5
Car Purchases	na	14.3	na	42.9	21.4	14.3
TOTAL SCORE	na	42.0	na	38.8	29.9	26.5

			Senio	ors		
	Under \$15,000	<u> \$15,000 - 24,999</u>	<u>\$25,00 - 34,999</u>	\$35,000 - 49,999	\$50,000 and over	Missing Data
	(<u>n</u> =0)	(<u>n</u> =2)	(<u>n</u> =1)	(<u>n</u> =3)	(<u>n</u> =2)	(<u>n</u> =1)
	%	%	%	%	%	%
Credit	na	50.0	35.7	42.9	50.0	28.6
Checking/Savings Accounts	na	50.0	85.7	57.1	35.7	28.6
Auto Insurance	na	31.3	62.5	45.8	43.8	50.0
Housing Rental	na	6.3	75.0	58.3	68.8	62.5
Food Purchases	na	43.8	87.5	41.7	75.0	12.5
Car Purchases	na	35.7	57.1	57.1	57.1	57.1
TOTAL SCORE	na	36.2	67.3	50.5	55.1	39.9

Consumer Knowledge of Middlesex High School Students According to Total Family Income cont.

			Total Ove	erall		
	<u>Under \$15,000</u>	<u> \$15,000 - 24,999</u>	<u> \$25,00 - 34,999</u>	<u> \$35,000 - 49,999</u>	\$50,000 and over	Missing Data
	(<u>n</u> =3)	(<u>n</u> =13)	(<u>n</u> =6)	(<u>n</u> =12)	(<u>n</u> =10)	(<u>n</u> =11)
	%	%	%	%	%	%
Credit	21.4	42.3	36.9	45.8	39.3	36.4
Checking/Savings Accounts	19.0	22.0	52.4	42.9	42.9	31.2
Auto Insurance	16.7	33.7	40.0	37.5	40.0	30.7
Housing Rental	33.3	39.4	41.7	43.8	55.0	47.7
Food Purchases	33.3	40.4	47.9	36.5	48.8	29.5
Car Purchases	23.8	36.3	40.5	45.2	48.6	33.8
TOTAL SCORE	24.6	35.7	43.2	42.0	45.8	34.9

Consumer Knowledge of Middlesex High School Students According to Monthly Spending

			Freshmen					Sopho	omores	
	Under \$50	\$50-99	\$100 - 249	\$250 - 499	\$500 +	Under \$50	\$50-99	\$100 - 249	\$250 - 499	\$500 +
	(<u>n</u> =11)	(<u>n</u> =4)	(<u>n</u> =4)	(<u>n</u> =3)	(<u>n</u> =2)	(<u>n</u> =5)	(<u>n</u> =4)	(<u>n</u> =6)	(<u>n</u> =0)	(<u>n</u> =0)
	%	%	%	%	%	%	%	%	%	%
Credit	27.3	42.9	35.7	28.6	25.0	41.4	42.9	44	na	na
Checking/Savings Accounts	33.0	42.9	60.7	28.6	28.6	54.3	46.4	52.4	na	na
Auto Insurance	23.9	37.5	34.4	29.2	12.5	40.0	25.0	50.0	na	na
Housing Rental	36.4	37.5	50.0	29.2	56.3	60.0	37.5	54.2	na	na
Food Purchases	44.3	40.6	25.0	16.7	28.6	45.0	31.3	43.8	na	na
Car Purchases	31.1	39.3	42.9	28.6	35.7	37.1	39.3	57.1	na	na
TOTAL SCORE	32.7	40.1	41.5	26.8	31.1	46.3	37.1	50.3	na	na

			Juniors					Seniors		
	Under \$50	\$50-99	\$100 - 249	\$250 - 499	\$500 +	Under \$50	\$50-99	\$100 - 249	\$250 - 499	\$500 +
	(<u>n</u> =1)	(<u>n</u> =1)	(<u>n</u> =3)	(<u>n</u> =2)	(<u>n</u> =0)	(<u>n</u> =3)	(<u>n</u> =3)	(<u>n</u> =2)	(<u>n</u> =1)	(<u>n</u> =0)
	%	%	%	%	%	%	%	%	%	%
Credit	42.9	50.0	42.9	28.6	na	40.5	50.0	42.9	35.7	na
Checking/Savings Accounts	14.3	28.6	12.5	35.7	na	38.1	61.9	42.9	71.4	na
Auto Insurance	50.0	50.0	25.0	37.5	na	37.5	50.0	43.8	50.0	na
Housing Rental	25.0	75.0	37.5	31.3	na	45.8	66.7	37.5	50.0	na
Food Purchases	12.5	75.0	37.5	25.0	na	50.0	75.0	31.3	25.0	na
Car Purchases	14.3	57.1	28.6	21.4	na	47.6	61.9	50.0	42.9	na
TOTAL SCORE	26.5	56.0	30.7	29.9	na	43.3	60.9	41.4	45.8	na

Consumer Knowledge of Middlesex High School Students According to Monthly Spending cont.

			Total	Overall	
	Under \$50	\$50-99	\$100 - 249	\$250 - 499	\$500 +
	(<u>n</u> =20)	(<u>n</u> =12)	(<u>n</u> =15)	(<u>n</u> =6)	(<u>n</u> =2)
	%	%	%	%	%
Credit	33.6	45.2	41.4	29.8	25.0
Checking/Savings Accounts	40.7	47.6	45.7	38.1	28.6
Auto Insurance	31.3	37.5	40.0	35.4	12.5
Housing Rental	43.1	47.9	47.5	33.3	56.3
Food Purchases	43.8	42.7	35.8	20.8	18.8
Car Purchases	34.3	46.4	46.7	28.6	35.7
TOTAL SCORE	37.8	44.6	42.9	31.0	29.5

Personal Checking Accounts

Overall, those who had checking accounts scored higher (44%) than those who did not (38%). This data agrees with the findings of the study by Consumer Federation of America and American Express (Brobeck, 1993). Students with personal checking accounts scored a 44% while the ones that did not have an account answered 41% of the items correctly.

Freshmen and sophomores who had checking accounts scored higher than those without accounts. In the junior and senior grade the results were opposite (Table 11). The junior and senior students with checking accounts scored slightly lower than those without accounts. The students who had checking accounts scored better in the housing rental portion by 10 percentage points and in the auto insurance by 15 percentage points.

Consumer Education

Education was a factor in increasing the score (Table 12). In each grade level, as well as overall, the students who had taken a course at school or outside of school in economics, marketing, business law, consumer education, or money management scored higher by at least 4%. The overall score was 44% from those students who had additional training versus 36% for those who had not taken a course in consumer education. The consumer knowledge survey reported by Brobeck (1993) reports that those who had consumer education scored higher (43%) than those who did not have any additional training (41%).

Overall, those who had consumer education scored higher in all categories except for the food purchases. The students with consumer education scored higher in auto insurance and housing rental by 12 percentage points. The data from the individual grade levels reveals that for both juniors and seniors those who reported not having any consumer education scored higher in the credit portion of the survey. The non-consumer educated freshman scored higher in the food purchases, the juniors scored higher in the housing rental and credit and the seniors scored higher in the food purchases and credit, than those students with additional consumer education.

Consumer Knowledge of Middlesex High School Students Accordi	ng to the Ownership of a Personal Checking Account
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	Fres	hmen	Soph	omores	Jun	iors	Sen	iors	Total O	verall
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
	(<u>n</u> =2)	(<u>n</u> =22)	(<u>n</u> =6)	(<u>n</u> =9)	(<u>n</u> =4)	(<u>n</u> =3)	(<u>n</u> =5)	(<u>n</u> =4)	(<u>n</u> =17)	(<u>n</u> =38)
	%	%	%	%	%	%	%	%	%	%
Credit	33.3	31.5	46.4	40.5	39.3	40.5	27.7	42.9	42.0	35.5
Checking/Savings Accounts	28.6	41.6	54.8	49.2	32.1	9.5	33.9	46.4	46.2	41.4
Auto Insurance	43.8	26.1	50.0	33.3	40.6	29.2	42.5	46.9	44.9	30.3
Housing Rental	43.8	39.2	60.4	45.8	37.5	41.7	55.0	46.9	51.5	41.8
Food Purchases	25.0	35.8	37.5	43.1	25.0	50.0	47.5	56.3	36.0	40.8
Car Purchases	35.7	34.4	17.9	42.9	17.9	42.9	54.3	50.0	43.7	38.0
TOTAL SCORE	35.0	29.0	44.5	42.5	32.1	35.6	43.5	48.2	44.1	38.0

Consumer knowledge of Migglesex Fligh School Students According to Having Previous Consumer Educatio	Consumer Know	vledae of Middlese	x Hiah School Studen	ts According to Having	a Previous Consumer Educatior
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	Fres	shmen	Soph	omores	Jur	niors	Ser	niors	Total C	Overall
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
	(<u>n</u> =10)	(<u>n</u> =14)	(<u>n</u> =10)	(<u>n</u> =5)	(<u>n</u> =3)	(<u>n</u> =4)	(<u>n</u> =4)	(<u>n</u> =5)	(<u>n</u> =27)	(<u>n</u> =28)
	%	%	%	%	%	%	%	%	%	%
Credit	34.3	29.1	45.7	37.1	35.7	42.9	37.5	48.6	39.2	36.0
Checking/Savings Accounts	44.3	37.8	51.4	51.4	23.8	21.4	64.3	40.0	47.6	38.3
Auto Insurance	31.3	25.0	46.3	27.5	41.7	31.3	50.0	40.0	40.7	29.0
Housing Rental	43.8	36.6	56.3	42.5	37.5	40.6	65.6	40.0	50.9	38.8
Food Purchases	31.3	37.5	41.3	40.0	41.7	31.3	43.8	57.5	38.0	40.6
Car Purchases	37.1	32.7	50.0	37.1	33.3	25.0	57.1	48.6	44.4	35.2
TOTAL SCORE	37.0	33.1	48.5	39.3	35.6	32.1	53.1	45.8	43.5	36.3

Graduation Plans

The majority of students responded that their post-graduation plan was to attend a four-year college and this group scored the highest (44%) on the consumer survey (Table 13). The national consumer knowledge data also reported that the students who planned to attend a four-year college scored the highest at 44% (Brobeck, 1993). The students who had other plans after graduation in the CFA study scored the second highest at 36%. In this study, the students who expected to go to a vocational/technical school (32%) and those who plan to attend a two-year community college (31%) after graduating from high school scored very similarly. Those planning to directly enter the work force with full-time employment scored the lowest (12%); however there was only one person in this sub-sample.

Knowledge of Categories

The survey answers and the mean score of each individual question are presented in Appendix E. The consumer knowledge of Middlesex High School students versus the National Average of High School Seniors is presented in Figure 3.

Consumer Credit

The consumer credit portion surveyed the students' knowledge of definitions, obtaining credit, the cost of credit, and making payments. There was poor understanding of credit with a 31% overall score. The seniors scored the highest at 44% with the sophomores scoring just slightly lower at 43%. The juniors scored 40% and the freshmen answered 31% of the questions in the category correctly. The national average of high school seniors' score was 39% (Brobeck, 1993). The seniors', juniors' and sophomores' average scores were higher than the national average in the consumer credit portion of the survey.

Knowledge of factors that lenders use when deciding whether to approve a loan was extremely high (93%), as was understanding of the reasons why lenders could deny credit (69%). Yet, there is a very poor understanding of credit bureaus. A few subjects (36%) knew that credit bureaus provide reports of consumers' bill-paying records. Only 4% of the respondents knew that if one believes that the credit bureau includes incorrect

Consumer Knowledge of Middlesex High School Students According to Future Plans after Graduation from High School

			Freshmen			
-	Full-time	Vocational or	Two-year	Four year		
	Employment	Technical school	community college	college	Other	Missing Data
-	(<u>n</u> =1)	(<u>n</u> =1)	(<u>n</u> =3)	(<u>n</u> =15)	(<u>n</u> =4)	(<u>n</u> =0)
	%	%	%	%	%	%
Credit	7.1	35.7	33.3	31.0	35.7	na
Checking/Savings Accounts	0.0	42.9	38.1	44.8	35.70	na
Auto Insurance	25.0	12.5	25.0	27.5	34.4	na
Housing Rental	12.5	25.0	37.5	45.0	31.3	na
Food Purchases	12.5	25.0	25.0	37.5	40.6	na
Car Purchases	14.3	14.3	19.0	39.0	39.3	na
TOTAL SCORE	11.9	25.9	29.7	37.5	36.2	na

	Sophomores					
-	Full-time	Vocational or	Two-year	Four year		
	Employment	Technical school	community college	college	Other	Missing Data
-	(<u>n</u> =0)	(<u>n</u> =1)	(<u>n</u> =2)	(<u>n</u> =10)	(<u>n</u> =1)	(<u>n</u> =1)
	%	%	%	%	%	%
Credit	na	42.9	39.3	45.7	35.7	28.6
Checking/Savings Accounts	na	42.9	50.0	57.1	42.9	14.3
Auto Insurance	na	25.0	31.3	40.0	50.0	62.5
Housing Rental	na	75.0	31.3	58.8	37.5	12.5
Food Purchases	na	37.5	25.0	43.8	50.0	37.5
Car Purchases	na	42.9	21.4	50.0	57.1	42.9
TOTAL SCORE	na	44.4	33.1	49.2	45.5	33.1

Consumer Knowledge of Middlesex High School Students According to Future Plans after Graduation from High School cont.

	Juniors						
-	Full-time	Vocational or	Two-year	Four year			
	Employment	Technical school	community college	college	Other	Missing Data	
-	(<u>n</u> =0)	(<u>n</u> =2)	(<u>n</u> =1)	(<u>n</u> =3)	(<u>n</u> =1)	(<u>n</u> =0)	
	%	%	%	%	%	%	
Credit	na	42.9	28.6	45.2	28.6	na	
Checking/Savings Accounts	na	21.4	42.9	14.3	28.6	na	
Auto Insurance	na	25.0	62.5	41.7	12.5	na	
Housing Rental	na	37.5	25.0	45.8	37.5	na	
Food Purchases	na	31.3	25.0	45.8	25.0	na	
Car Purchases	na	14.3	28.6	42.9	14.3	na	
TOTAL SCORE	na	28.7	35.4	39.3	24.4	na	

	Seniors					
-	Full-time	Vocational or	Two-year	Four year		
	Employment	Technical school	community college	college	Other	Missing Data
-	(<u>n</u> =0)	(<u>n</u> =0)	(<u>n</u> =1)	(<u>n</u> =8)	(<u>n</u> =0)	(<u>n</u> =0)
	%	%	%	%	%	%
Credit	na	na	35.7	44.6	na	na
Checking/Savings Accounts	na	na	71.4	48.2	na	na
Auto Insurance	na	na	50.0	43.8	na	na
Housing Rental	na	na	50.0	51.6	na	na
Food Purchases	na	na	25.0	54.7	na	na
Car Purchases	na	na	42.9	53.6	na	na
TOTAL SCORE	na	na	45.8	49.4	na	na

Consumer Knowledge of Middlesex High School Students According to Future Plans after Graduation from High School cont.

	Total Overall						
-	Full-time Employment	Vocational or Technical school	Two-year community college	Four year college	Other	Missing Data	
-	(<u>n</u> =1)	(<u>n</u> =4)	(<u>n</u> =7)	(<u>n</u> =36)	(<u>n</u> =6)	(<u>n</u> =1)	
	%	%	%	%	%	%	
Credit	7.1	41.1	17.2	39.3	34.5	28.6	
Checking/Savings Accounts	0.0	32.1	46.9	46.4	35.7	14.3	
Auto Insurance	25.0	21.9	35.7	35.8	33.3	62.5	
Housing Rental	12.5	43.8	35.7	50.3	33.3	12.5	
Food Purchases	12.5	31.3	25.0	43.8	39.6	37.5	
Car Purchases	14.3	21.4	24.5	45.6	38.1	42.9	
TOTAL SCORE	11.9	31.9	30.8	43.5	35.8	33.1	





information in one's credit bureau file, one has only the right to add an explanation to the file.

There is a limited understanding of the costs of credit. Not many of the high school students reported understanding an annual percentage rate. Only 13% surveyed knew that the annual percentage rate was the best indicator of the cost of credit while 44% said that interest rate was the best indicator.

A slight majority of students surveyed (58%) understood that a co-signer is responsible for repaying the loan if the other signer defaults. However, there is a poor understanding of payments and debts. Only 20% knew that a charge card required full payment after the monthly statement is received. Twenty percent of the students knew that when using a credit card, if there is a balance carried over from the previous month the interest charge begins on the new credit purchase the day of the purchase. In the event of a lost or stolen credit card only 2% of those surveyed knew that they would be responsible for only \$50 of any unauthorized charges. Sixty-two percent believe that one must pay any unauthorized charges until the loss or theft is reported.

Checking/Savings

The checking/savings category contained questions dealing with these two types of accounts. The overall score on these items was 43%. The sophomores and seniors scored the highest (51%). The freshmen answered 41% of the items correctly but the juniors scored only 22%. The national average of high school seniors was 36% (Brobeck, 1993). The seniors, sophomores and freshmen reported higher scores than the national average of high school seniors in the checking and savings category.

There is a moderate to good understanding of checking accounts. There were 58% who knew to keep a minimum balance in the account at all times. When given information about charges and account activity, 60% of the students were able to calculate the monthly cost of a checking account. However only 16% knew that both the check writer and the person to whom the check is written are charged a fee in the event of in-sufficient funds. Sixty-nine percent believe that a fee is charged to the check writer only.

There is a moderate to good understanding of savings accounts. Students surveyed knew that shoppers for a savings account need to pay the most attention to the annual interest rate (62%) and that interest that was compounded daily would pay the most (51%). Only 40% knew that a person must wait 3 months before they receive any interest if it is credited quarterly. There was poor understanding of the different types of accounts and which would pay the highest interest. Only 16% were aware that a certificate of deposit pays a higher interest rate than does a passbook saving account, NOW account, or money market account.

Automobile Insurance

Questions on auto insurance dealt with coverage, costs, complaint resolution, and agent representation. The average score on this segment of the survey was 35%. For the national sample of seniors the average was 40% (Brobeck, 1993). Only the juniors scored higher (44%) than the national average and the sophomores tied with the national average. The non-driving freshmen scored the lowest (28%). The seniors were in the middle of the range and closest to the average at 36%.

There is a moderately high understanding of insurance coverage. Of the students surveyed, 55% knew that liability coverage protects drivers against lawsuits from other people who suffer losses in an accident. However only 36.4% knew that comprehensive is the type of insurance coverage that pays for a replacement when a car is stolen. Regarding collision coverage, 40% knew that it does not make financial sense to buy this type of insurance for an old and run-down car. When the students were given information about a loss and deductible, 58% were able to compute the amount of the claim. There was a much poorer understanding of the bodily injury limits (20%) for each person injured versus the total limit for each accident.

The students surveyed were unaware that the costs of auto insurance vary tremendously. Only 15% knew that auto insurance rates vary as much as 100%, or more, for the same person with different companies, and that once you hire an insurance agent they still only legally represent the insurance company (16%). There were 38% who knew to contact the state level of government when there is an unresolved complaint against an insurance company.

Housing Rental

Items about housing rental concerned tenant obligations, landlord obligations and rights, and how to negotiate a lease. The average score on these items was 45%. Both the sophomores and seniors showed a moderate understanding of this subject. The sophomores scored the highest with a 53%. The seniors answered 52% of the items correctly. The freshmen answered 40% correctly and the juniors scored a 39%. The national average was 44% and once again the seniors and sophomores scored higher than the average (Brobeck, 1993).

A typical lease is a complicated legal document that emphasizes the landlord rights and tenant obligations. There were 31% of those surveyed who knew to ask the landlord to strike out any objectionable clauses before signing a contract. If a person was to sign a one-year lease but then changed his/her mind, 47% knew that legally the person would owe rent for the entire year. Only 31% knew that the security deposit is required as a part of the rental agreement to pay for any damages caused by the tenant's negligence. If there was a problem with a tenant, 24% knew that to evict a tenant a landlord must go to court, but there were also 24% who answered "report the tenant to the local housing authority".

There was a higher understanding of the landlord's rights and obligations. There were 64% who knew that a landlord has the right to come into a tenant's home to make repairs, investigate possible fires, and show the unit to prospective tenants. A landlord is responsible for making the unit livable by providing certain necessities. There were 64% of the respondents who knew that an electronic security system was not a required responsibility of the landlord.

Food Purchase

Questions in this section were about purchasing food related to cost control and quality of ingredients. The average score on these questions was 39%. The seniors had a moderate understanding and scored the highest (51%). The sophomores had a score of 41%. The juniors and freshmen were very close with scores of 36% and 35% respectively. The national average of high school seniors was 44% (Brobeck, 1993). Only the seniors from Middlesex scored higher than the national average.

There was poor understanding of where to go and the best technique to buy groceries. Only 18% reported that a "no-frills" grocery store would have the lowest food prices. There were 38% who claimed that supermarkets have lower prices. Another 20% knew that a good technique in food purchasing is not to buy only those products for which they have coupons. There were 38% who thought shopping after having eaten was not a technique for smart food shopping.

The results indicated the students had a good understanding of the food products that are in the store. There were 69% who knew that national brands at regular prices are almost always more expensive than store brands. Another 66% knew that grade indicates a quality standard and that it does not judge nutritional or safety standards. There were 47% who knew that unit prices are the indicators of the price per pound, quart or other measuring unit.

There was a lower understanding of ingredients in a food product. Only 29% of those surveyed knew that ingredients are listed by weights in food labels, from the most to the least. However, there were 40% who knew that for a beverage to be labeled as "fruit drink", it must contain at least 10% fruit juice. Only 26% knew that a typical 12-ounce can of carbonated drink contains 10 teaspoons of sugar.

Automobile Purchase

Questions about automobile purchase dealt with sources of information, costs, and the protection afforded by warranties and service contracts. The average score on these items was 40%. The seniors scored the best in this section (52%). The sophomores answered 46% of the questions correctly. The non-driving freshmen (35%) knew more about automobile purchases than the driving juniors (29%). The juniors' low score is a concern. Those students are driving now, however they have no consumer knowledge about cars. Only the seniors scored higher than the national average of high school seniors (50%) in the automobile section of the consumer knowledge survey (Brobeck, 1993).

There was moderately high understanding concerning the cost of purchasing an automobile. The sticker price is usually the price a buyer should begin negotiating down (49%). The students (56%) also knew that certain features such as an air bag save the

owner money on insurance. There were 36% who knew that smaller cars, which are lighter, usually use less fuel than larger cars. According to the 49% of the students who got the answer right, a car loses the greatest value during its first year.

There was poor understanding of warranties and service contracts. Only 13% knew that the warranties on cars driven less then 12,000 miles usually cover repair to the transmission, engine, and drive train. More than two times that amount (31%) thought the warranties covered the replacement of fluids (such as oil, brake, coolant, etc.). Only 15% knew that car service contracts only supplement warranties by paying for some repairs that are not covered by warranties. There were 38% who thought that these contracts pay for repairs made under the car warranty. However there was a high understanding (66%) that when a person buys a used car "as is" the seller is free of any responsibilities for problems with the car.

Cooperating School Efforts

The investigator learned from the research process as well as the actual data results. Virginia Cooperative Extension has high credibility in the county and the school system. Unfortunately, not all of the high school personnel were as responsible or cooperative as the researcher had anticipated.

The researcher first met with the School Superintendent and explained the study. He then referred the researcher to the high school principal. The principal gave his approval for an in-school research study on consumer knowledge (Appendix F). The principal thought it would be best to conduct the survey in the classroom as an extended homeroom class. The Institutional Review Board requires that the investigator receive written consent from both the parents and child (since they are minors) before they may participate in a survey. The investigator relied heavily on the support of the homeroom teachers to distribute and collect the consent forms. Very few students (69 out of 375) returned their consent forms (17% response rate). The students either lost the form, forgot to bring it back, or just did not want to take another survey.

The researcher met with the principal who welcomed the research. However, the researcher experienced a lack of assistance from the homeroom teachers. Even though extensive communication was developed between the principal and the researcher, the

teachers were not adequately informed of the project. At a weekly faculty meeting, a few teachers did not recognize the importance of the research even after a presentation was given by the researcher. The teachers felt that the students would not participate because there was no reason why they should—that there was nothing in it for them. If students could choose between a free class and taking a survey, the majority would chose to do nothing.

A supportive letter was written to the teachers asking them to try to encourage their students to participate (Appendix G). More consent forms were provided and left in the office for the students and teachers to obtain. When the researcher went to the school to collect the consent forms, only 3 teachers out of 17 had returned the packets to the office. The secretaries in the office gave very little assistance to the researcher in locating the packets. Some students stated that they did not even hear about the survey and were never given a consent form. The survey was rescheduled to accommodate other school activities and allow more time to return the forms. Upon returning to the school two more times, 12 teacher's packets were made available out of a total of 17. There were 69 responses—60 who agreed to take the survey and nine that chose not to participate. Four students did not give a reason on their consent form why they were not going to participate. One consent form said the student just did not want to take the survey. Another student stated he/she would prefer to focus on other studies. A student claimed that he/she did not like researching in a group and that the activity was not one he/she enjoys. Another student's parent wrote that it seems like a lot of wasted effort. There was a 15% participation response from the entire school—21% participation response from the freshmen, 23% from the sophomores, 7% from the juniors, and 8% from the seniors. It was very unfortunate that so few students were responsible enough to return the consent forms, with either a yes or a no.

The surveys were distributed the morning of the selected day in the homeroom teachers' mailboxes. A letter to the teachers explaining the proper procedure for distributing and collecting the exam was sent (Appendix H). In the letter were instructions to encourage the students to "not guess" at the answers—the survey's purpose was to assess the knowledge of the students. The researcher distributed the survey in one class that had a substitute teacher. The environment was very noisy, due to

the majority of the students who were not taking the survey, and the homeroom not being used as a study hall. The students in that particular homeroom class were not told in advance there was to be an extended homeroom to be used for studying and therefore were not prepared. The students talked and were disruptive even when asked to remain quiet for the sake of those taking the survey. The researcher separated the students taking the survey into another room to give them more privacy. The researcher hopes that the teachers in the other classes were able to create more suitable conditions for the students taking the survey.

All students who were not able to finish during homeroom class reported to the cafeteria for completion. When all the surveys were completed, the researcher returned to the office to pick up the forms. Unfortunately, two teachers did not return their packets to the office so their packets were missing. The researcher had to return two more times to obtain all the data from the students' homeroom teachers. The packets were eventually returned and located in the secretaries' office. There were four participating youth who were absent from school the day of the survey and one who dropped out, due to the fact that the researcher separated him from his friends. A total of 55 students participated in the Consumer Knowledge Survey. The researcher returned to the school with letters of thanks to all the homeroom teachers and principal (Appendix I). The researcher gave the teachers who had students who participated in the survey a small gift along with their thank you letter.

<u>Summary</u>

This chapter included findings and discussion. Unfortunately since there was such a small number of participants, statistical comparisons between the grades were not possible. The data could not be manipulated to give reliable results by using a frequency distribution or an ANOVA comparison among the four grade levels.

The research questions of similarities and differences among the grade levels and among the grade levels and each of the consumer categories were addressed. The data were analyzed using means and percentages. Non-statistical comparisons were made between grade levels, descriptive demographic characteristics, and categories. There also were comparisons made between the data collected and the data of the National

Consumer Knowledge Survey by the Consumer Federation of America and American Express Company (Brobeck, 1993).

The group of students surveyed were mostly freshmen, female, Caucasian, had a family income in the \$15,000-24,999 range, spent less than \$50 a month, had no personal checking account, and plan to attend a four-year college after graduating from high school. Almost as many students reported having received consumer education, as not having consumer education (49% versus 51%).

The average score for the entire survey was 39%, and on none of the six subjects did the students score above 50%. On an average the Middlesex high school seniors scored the highest with 48% correct. The freshmen scored the lowest in all six categories of the consumer knowledge survey. Students' scores were the lowest in the credit portion and the highest in housing rental.