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# Effects of gender on credit card usage among university students in Turkey

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**In recent years, much has been written about credit card usage among university students. Despite a vast number of studies, little has been written about credit card usage among university students in developing countries. This research surveyed university students in Turkey in an attempt to understand their uses of credit cards. In particular, we examined the impact of gender on credit card use. The literature on the impact of gender on credit card usage is a bit unsettled and this study seeks to add another dimension to the research in this area. Using both parametric and nonparametric measures, we sought to isolate gender and tested whether or not it affects the ways that young people in Turkey use credit cards. The importance of this research centers on the portrait it provides of credit card usage among young people in a developing country as well as to pointing the factors that may influence future credit card use.**

**Key words:** Credit card usage, effects of gender, university students, hypothesis testing, parametric and nonparametric measures, Turkey.

## INTRODUCTION

The use of the credit cards among university students has received much attention in recent years from both financial institutions and academics (United States General Accounting Office, 2001; Barron and Staten, 2004; Szmigin and O'Loughlin, 2010). However, the research has largely concentrated on developed countries such as the United States, and the United Kingdom. As credit cards become more widespread, their use is becoming an important issue among college students in developing countries as well. Yet, one cannot assume that the ways that credit cards are used is the same across cultures. Working in the area of behavioral finance, Meir Statman found that the collective set of common experiences that people of the same culture share, influences their cognitive and emotional approach to investing (Statman, 2008). Statman found that propensities for risk, regret, and maximization vary by country of origin and by gender. Furthermore, consumer decision-making styles also vary according to culture (Mokhlis, 2009). There are numerous possible factors that might cause distinct variations between sets of

countries such as: culture, sociology, level of average income, to name a few. A recent study about the effect of emotions on consumer behavior specifically focused on the consumer guilt. They showed that consumers' lived experiences revealed the existence of five dimensions of consumer guilt, namely, hesitation, sadness, reluctance to spend, regret and self-blame (Dedeoglu, 2010).

This paper investigates credit card use among university students in Turkey with a particular focus on the impact of gender on how young people use credit cards. As of 2006, there were more than thirty-two million credit cards in circulation in Turkey (Yurtseven, 2008). Turkey comprises the third largest credit card market in Europe with more than 1,300 million credit card transactions per year (Yurtseven, 2008). With an eye on young people as potential customers, banks spend millions each year on advertising campaigns to attract university students in particular. In 2005, the number of cards held by university students increased by 500,000 (Yurtseven, 2008). With such increases, university students represent an increasingly important aspect of this market.

Research completed in the U.S. found that 80% of the students in one study had at least one credit card while 10% had more than seven cards (Hayhoe et al., 1997). Turner similarly reported that 86% of students from a

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Midwestern university had at least one credit card and carried a balance on three or more of their credit cards (Turner, 1998). A more recent study conducted by Sallie, one of the largest student loan providers in the U.S., documented that 84% of undergraduates began the school year with credit cards, up from 76% in 2004, the last time the study was conducted. The average number of credit cards has grown to 4.6 and half of college students had four or more cards. The average outstanding balance on credit cards held by undergraduates was \$ 2,169 (Mae, 2005) in 2004 and grew to \$ 3,173 in 2008 (Sallie, 2009). Also, the median debt grew from 2004's \$ 946 to 1,645. Twenty-one percent of undergraduates had balances of between \$ 3,000 and 7,000, also up from the last study in 2004. In a counterpart study which examined credit card use among graduate students, 92% of graduate students were found to already have at least one credit card while the average credit card debt for graduate students was \$ 8,612 (Mae, 2005). On average, older graduate students (age 30 to 59 years) carry even more credit card debt with an average of \$ 12,593 (Mae, 2007).

In terms of their use of credit cards, university students reported that their primary credit card purchases consisted of school supplies (Mae, 2005). Ninety-two percent of undergraduate credit cardholders charged textbooks, school supplies, or other direct education expenses, up from 85% when the study was last conducted, in 2004. The most common education expenses were textbooks (76%), school supplies (75%) and commuter costs (54%). Food (84%), clothing (70%) and cosmetics (69%) ranked at the top of the other expenses charged. Another interesting finding of the study is that one-third of students rarely or never discuss credit card use with parents and nearly all undergraduates would like more information on financial management topics (Sallie, 2009). This finding also confirms Austin and Phillips (2001) claim that educating students to improve their ability to manage their debt is an important and ethical responsibility for credit card companies. They also suggest that this will help credit card companies maintain contact after graduation. Several studies also found that students purchased a number of different items ranging from clothing to gasoline, food and entertainment (Armstrong and Craven, 1992). Some graduate students even reported paying some of their tuition expenses with credit cards (Mae, 2007). Thirty percent of the undergraduates paid at least some portion of their tuition with their credit cards, up from 24% in 2004. Perhaps, a more troubling finding is the number of students who report using their credit cards for cash advances. Hayhoe et al. (1997) found that 19% of students use their credit cards to obtain cash while Turner reported that 22% of women and 24% of men obtain cash advance on their credit cards. In the Nellie Mae study of 2004, about one-fifth (21%) said they paid off their credit card balances in full each month and this rate decreased to 17% in Sallie's

study of 2009, and in 2004, only 4% said their parents were responsible for the payments but this also decreased to only 1% in 2009 (Mae, 2005; Sallie, 2009). However, another study reported a higher rate of 32% of students paying off their credit cards each month (Norvarlitis et al., 2003). Paradoxically, in this same study, 22% of respondents claimed to have no debt which translates to more than 2/3 of the students carrying some amount of credit card debt from month to month (Norvarlitis et al., 2003).

The literature specifically focused on the intersection of gender and credit card use is quite limited. This research results demonstrate no consensus on the impact of gender on how people use credit cards. Several studies have found that women tend to have a higher number of credit cards than men but women carry lower balances and have a better record in paying off their cards each month (Armstrong and Craven, 1993; Carpenter and Moore, 2008; Gan et al., 2008). On the other hand, Joo et al. (2001) concluded that there is no significant difference between men and women in terms of number of credit cards held, balances, and level of monthly payments or general attitudes toward credit cards. While it seems that college students in general have difficulty in managing their credit card debts, women do not appear to hold excessive amounts of credit card debt, yet, they still have problems in making their payments on time (Lyons, 2004).

While few previous studies have been conducted on the relationship between gender and credit cards, there is a growing literature on the influence of gender on various forms of financial behavior. Barber and Odean explored the role of gender in the context of investment decision-making. They reported that, on average, men traded 45% more than women did. The difference between single men and single women is starker, with single men trading 67% more (Barber and Odean, 2001). Lytton and Grable (1997) report similar differences in the level of financial confidence between men and women with men far more confident than women. A number of studies demonstrate that women are generally less risk tolerant than men (Churaman, 1988; Lytton and Grable, 1997; Prince, 1993). A more recent Turkish financial market study by Kucukaslan and Celik (2010) claims that women are more pessimistic than men in financial decisions, due to lower levels of wealth. Kara et al. (1994) specifically focused on the attributes of college students in order to help improve the effectiveness of marketing plans for managers in credit card market. Their results indicated that the interest rates and the type of the payment are the two most important factors for the college students. It was also found that deferred payment type is considered more important for males than females. On the other hand, lower interest rates are considered more important for females than for males.

Another stream of research links students' demographic and socioeconomic backgrounds to their credit

card attitudes and behaviors. Male students are found to have more favorable attitudes towards credit cards (Xiao et al., 1995). In this study, Xiao et al. (1995) developed a Likert summated rating scale composed of a series of statements relating to credit cards. These statements were concentrated on three subheadings: feelings, knowledge and behavior. They concluded that in general, college students had favorable attitude toward credit cards (Xiao et al., 1997).

Several attempts have been made to develop a scale to measure money attitudes (Forman, 1987; Furnham, 1984; Tang, 1992; Yamauchi and Templer, 1982; Wernimont and Fitzpatrick, 1972). These studies proved that attitudes toward money are multidimensional. Hayhoe et al. (1999) used a modified version of Furnham's Money Beliefs and Behaviors Scale, which consists of six factor areas: obsession, power/spending, retention, security, inadequacy, effort/ability, to examine student credit card use. They found that students with no credit cards were more likely to score higher on the money attitudes of obsession and retention than those with credit cards. Students with four or more credit cards are more likely to score higher on effort/ability than those with one to three credit cards. In addition to credit and money attitudes, gender and age were significant variables predicting students with four or more credit cards. Tokunaga (1993) found that heavy users of credit cards viewed money as a source of power/prestige, experienced more anxiety about financial matters and were less concerned about retaining money. Roberts and Jones (2001) also investigated the role of money attitudes and credit card use in compulsive buying within a sample of American college students. Their findings suggest that the money attitudes power/prestige, distrust, and anxiety are closely related to compulsive buying and credit card use often moderates these relationships. However, the findings of a Malaysian based study by Ahmed et al. (2010) were different due to socio-cultural differences across Malaysia. Their study showed that self-esteem did not have any impact on their attitude toward credit cards because Malaysians did not consider credit cards as a prestige item to possess. They rather consider credit cards as a necessity and need it for convenience.

In one of the only studies that deal directly with Turkish university students' credit card behavior, Yurtseven (2008) who sampled 1,278 students, found that 66% of the participants used credit cards. The study also noted that men and women in equal numbers possessed and used credit cards (Yurtseven, 2008). Suner (2008) however, found that about 50% of Turkish university students in the Izmir area<sup>1</sup> did not use their credit cards for their expenditures. The students claimed that even though they own a credit card, they do not use them unless they are in "tough times". The lack of use is most

likely related to the fact that they do not want their families to track their expenditure (Kuburlu, 2010). Although more interest is being shown in university students' credit card behavior in Turkey, this is an area that merits much more research.

## DATA AND METHODOLOGY

The survey was conducted among university students in Istanbul at several different state and private universities. The survey mechanism included questions concerning credit card usage, financial knowledge, demographic characteristics, and personal consumption attitudes and behaviors. Questionnaires were completed at home using a computer-scored answer sheet. The survey was administered in Turkish. There were 642 students (375 male, 267 female) who participated in the study. In order to determine the sample size, Cochran's approach was used. 58% of the participants were male and 42% female. Participants were evenly distributed among 2<sup>nd</sup> and 4<sup>th</sup> year students while there were more 1<sup>st</sup> year student participants than those in their 3<sup>rd</sup> year. Respondents ranged in age from 18 over 26 years with an average age of 22.36. While we received responses from both undergraduates and graduate students, the vast majority of respondents were undergraduates. Those who participated in the study were students in a variety of departments with the majority composed of those in the social sciences. Table 1 provides the overall demographics of the sample.

We also employed Cronbach's alpha (reliability coefficient) which is a measure of internal consistency and content validity. In other words, how closely related a set of items are as a group. The reliability coefficient reached 0.78, demonstrating that the items in this study have a relatively high internal consistency. Descriptive analyses were performed to examine the credit card use behaviors of the sample respondents. In addition to other measures of central tendency, confidence interval of each groups are statistically significant and not wide which indicates that there is enough data for the estimated parameters at 95% level.

## EMPIRICAL RESULTS AND DISCUSSION

In our study, we found that 77% of the participants had at least one credit card. They had credit cards despite the fact that nearly the same number of students was also unemployed. In almost the same numbers, we found that students held cards in their own names rather than as an extension of a family account. Contrary to several earlier studies, we observed that there was no significant gender difference in overall credit card ownership as shown in Table 2. In fact, among Turkish students, our study revealed that men tend to possess more credit cards than women. Nearly 60% of the women held only one credit card compared to 46% of the men. 36% of men versus 29% of the women had two cards. Although the numbers of men and women with three cards was almost even, the gender gap widens to more than double for those with four or more cards. More than twice as many men had four credit cards than women. This result may, in part, stem from the fact that there were more male participants than female, however, it is a significant enough difference from previous research where women either hold more cards or that there was no gender difference in the

<sup>1</sup> Izmir is the third largest city in Turkey.

**Table 1.** Description of sample.

(%)	Male (%)	Female (%)	Total
<b>Gender</b>			
Male	58		376
Female		42	267
<b>Grade Level</b>			
Freshman	36	28	209
Sophomores	21	25	149
Juniors	13	15	86
Seniors	20	17	120
Masters	7	12	58
PhD	4	3	24
<b>Age</b>			
18	2	4	18
19	10	10	65
20	18	21	123
21	13	16	95
22	18	20	122
23-25	24	20	141
26-+	15	10	82
<b>Major</b>			
Social Sciences	51	55	337
Life Sciences	26	20	152
Vocational Schools	12	12	78
Graduate School	11	13	79

**Table 2.** Description of credit cards.

<b>N = 644</b>	Male (%)	Female (%)
<b>Work status</b>		
Employed	28	21
Unemployed	72	79
<b>Credit card ownership</b>		
Yes	76	79
No	24	21
<b>Personal vs. Family card</b>		
Personal	79	67
Family	21	33
<b>Number of credit cards</b>		
1	46	59
2	36	29
3	9	8
± 4	9	4

numbers of cards that students possessed, to warrant further examination.

Another interesting gendered aspect concerns personal versus family cards. As mentioned earlier, among the

university students that we surveyed, three quarter reported owning a credit card. Yet, a third of these women related that the card was an extension of a parental account rather than one solely in their name. This contrasts sharply with just 21% of men reporting using family credit cards. A number of factors could explain this divergence ranging from the dismal employment possibilities for women in Turkey with women constituting just 22% of the work force to families' desire to track young women's purchases and the traditional gender division which often places finances in the hands of men.

The non-parametric Mann Whitney-U<sup>2</sup> difference test and t-test are used to analyze whether a significant difference occurs between the genders. Other demographic

factors were not tested due to the fact that the focal point of this study is to consider affect gender might exert on credit card owners and users. Nonparametric tests were applied due to the non-symmetrical nature of the distribution of data and property of scale. Possible factors that affect credit cards usage in terms of some selected demographic characteristics are assessed by non-parametric test. We employed the Mann Whitney U test and t-test with each groups of credit cards analysis in terms of gender for the questions below:

H<sub>0</sub>: Factors in credit card usage do not demonstrate difference in terms of gender of credit card owners and users.

H<sub>1</sub>: Factors in credit card usage demonstrate difference in terms of gender of credit card owners and users.

P-values of all hypotheses showed a greater than selected level of significance (0.01) and as a result of these, H<sub>0</sub> is not rejected. The findings of this test indicate that there is no significant difference between purchases and gender affects credit card usage for the stated hypotheses.

According to Figure 1, more than half of those surveyed claimed to pay their credit card bills on or before the due date. There was no gender difference for this result (Table 3). However, nearly a quarter of those polled stated they did not make their payments on time and men were more likely found in this category. Perhaps the most troublesome is the amount of young people who claimed to have no idea about paying their bills on time. In this group, we saw more women than men. Part of this gender difference may be explained by the fact that more women use family cards and therefore the responsibility for payment is in someone else's hands, but this is a troublesome finding nonetheless.

P-values of three questions showed less than a selected level of significance (0.01) and therefore H<sub>0</sub> is

rejected. The results of this test indicate that there is a significant difference between categories and gender is a factor affecting credit card usage in terms of type of purchases.

In contrast to university students in the U.S. and the U.K., Turkish university students use their credit cards primarily to purchase clothing, fuel and school supplies. We asked students to rate on a scale of 1 to 5 (1 representing most and 5 least) in what category they made the most purchases (Table 4). Women rated clothing highest with 37% claiming that this was what they purchased most often. Interestingly, an almost equal number of women, 34%, claimed that clothing is what they bought least often. On the other hand, only 24% of men reported that clothing was their most likely credit card purchase. Yurtseven (2008) reported similar results with 27% of women and 24% of men using their credit cards primarily to purchase clothing. For the male respondents in our study, rather than clothing, they used their cards to buy fuel with nearly 31% stating this was what they bought most often.

A slightly higher number of women, 32%, made the same claim. This is a decidedly different result from that of Yurtseven who found that just 3.2% of women and 6.8% of men purchased fuel with their credit cards. Moreover, there is a decided gender difference in the purchase of fuel by men and women in the Yurtseven study with men buying gasoline at twice the rate of women. Our study also shows that there is gender effect for this category of consumption based on Mann Whitney U-test.

In terms of overall credit card usage, the students in the study reported quite modest expenditures (Figure 2). Slightly more than half of the respondents charged an average of \$ 300 or less a month on their credit cards. Yurtseven (2008) reported a similar finding with 66% of Turkish university students in Ankara charging between \$ 125 and 375 a month.

Among our respondents, women overall tended to spend less on their credit cards. In line with the fact that men held more cards, they also spend more than women particularly as monthly expenditures increased.

In addition to simply compiling a profile of credit card usage among university students, we also wanted to explore why students use credit cards. A potentially disturbing trend among these students is the number of students reporting that they use their credit cards to get cash. A full one-quarter of both men and women claimed that access to cash was a primary motivation in using their credit cards. This rate is slightly higher than Turner reported among U.S. students. Among our respondents, there was divergence based on gender for use of cards to withdraw extra cash (Table 5). P-values of all questions showed less than a selected level of significance (0.01) and therefore H<sub>0</sub> is rejected. The results of this test indicate that there is a significant difference between categories and gender is a factor affecting credit card usage for cash.

<sup>2</sup> "When the validity of the assumptions of t-test are questionable, the Mann-Whitney test comes into play and hence has wider Choudhury A, (2010)" applicability" (<http://www.experiment-resources.com/mann-whitney-u-test.html#ixzz12H09NIIr>)

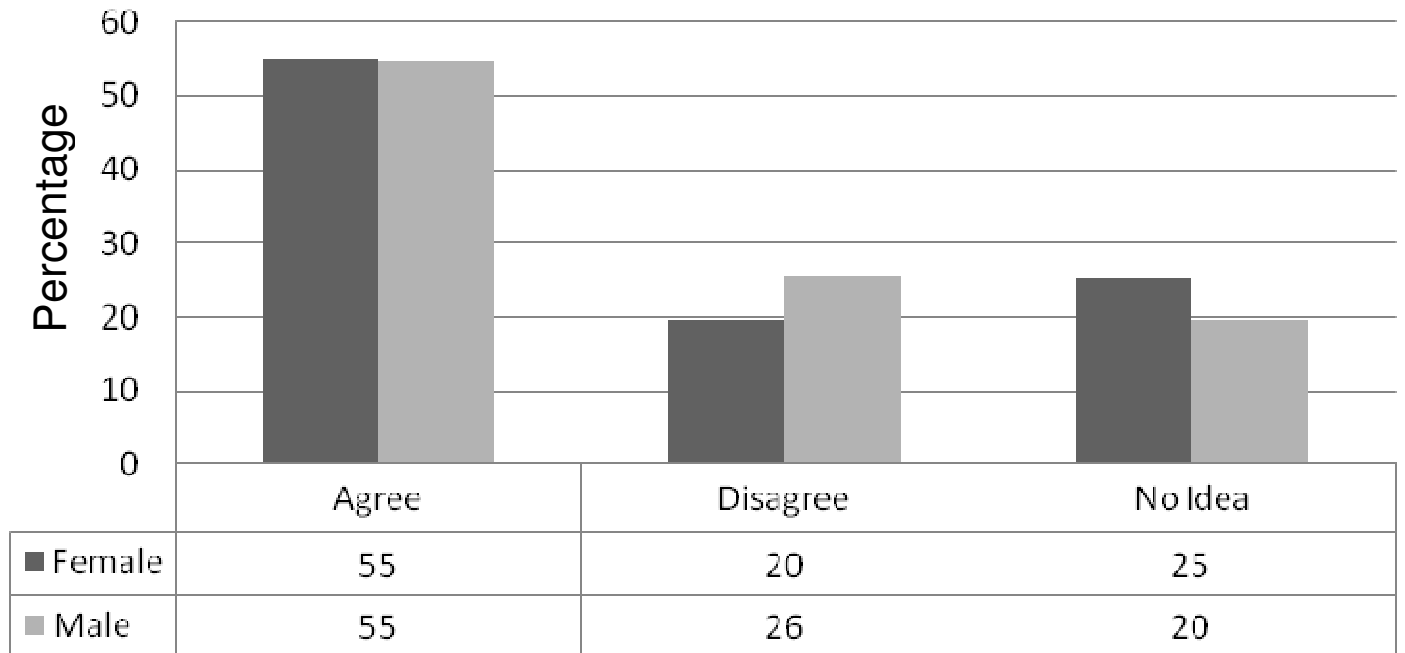


Figure 1. Payment before due date.

Table 3. Test results.

Variables	Mann –Whitney U Test
“Using credit cards in shopping increases expenses.” Please rate your level of agreement with this statement by choosing a number on a scale ranging from strongly disagree (1) to strongly agree (5).	1.19 (p=1.77)
“I usually make my credit card payments before the due date.” Please rate your level of agreement with this statement by choosing one of the statements below.	0.47 (p=1.36)
“I use the credit card because it gives me the opportunity to shop even though I don’t have cash.” Please rate your level of agreement with this statement by choosing a number on a scale ranging from strongly disagree (1) to strongly agree (5).	2.96 (p=2)

1- Most and 5- Least for credit card expenditures.

Table 4. Purchases.

Variable	Gender	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mann -Whitney U Test
Clothing	Female	37.22	10.76	8.97	8.52	34.53	3.22 (p=0.02)*
	Male	24.07	17.9	20.37	16.36	21.3	
Book and stationery	Female	14.57	26.13	28.14	20.6	10.55	2.76 (p=0.01)*
	Male	17.94	17.28	17.61	21.26	25.91	
Food	Female	13.64	23.64	27.27	24.55	10.91	1.17 (p=1.76)
	Male	16.4	26.81	26.18	18.3	12.3	
Fuel	Female	32.24	12.15	6.07	13.08	36.45	2.72 (p=0.03)*
	Male	30.91	15.15	9.7	13.64	30.61	
Entertainment and vacation	Female	11.81	19.83	23.63	0,3	17.72	0.96 (p=1.66)
	Male	14.12	21.47	22.35	27.35	14.71	

1 = most and 5 = Least for credit card expenditures; \* denotes 0.95 significant level.

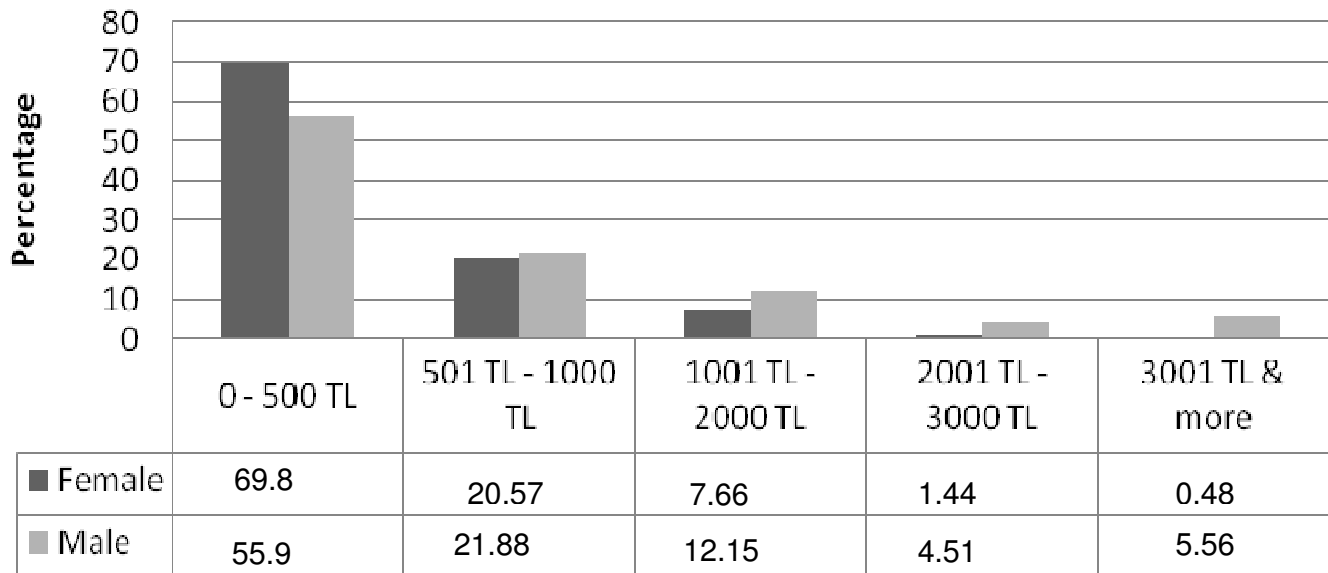


Figure 2. Monthly credit card expenditure.

Table 5. Attitude toward credit cards.

Variable		1 (%)	2 (%)	3 (%)	4 (%)	T-Test	Total
I use credit cards when I need extra cash	Women	26.75	21.02	22.29	29.94	15.31 (p=0)*	157
	Men	25.97	19.05	27.27	27.71		
I use credit cards because it is easier to make payments with credit cards	Women	14.56	36.71	33.54	15.19	15.37 (p=0)*	158
	Men	20.91	32.27	29.55	17.27		
It is prestigious to use credit cards	Women	51.23	9.26	6.17	33.33	9.6 (p=0)*	162
	Men	44.74	12.28	11.4	31.58		
I use credit cards because it provides advantages (bonuses, installment, etc.)	Women	19.17	22.8	28.5	29.53	19.34 (p=0)*	193
	Men	18.35	27.34	26.59	27.72		

\* denotes 0.95 significant levels.

When we asked students to respond to the statement "It is prestigious to use credit cards" the same picture emerged. 51% of women stated that they agreed with that statement as compared to 44% of men. Previous studies revealed that heavy users of credit cards viewed money as a source of prestige (Tokunaga, 1993), yet, our findings demonstrate that it is women who see credit card usage as prestigious despite the fact that they held less cards and spent less than their male counterparts. The connection that these young women make between credit cards and prestige is particularly interesting when we consider that a third of the women in this study also reported that the cards that they use are in fact family cards rather than their own. This begs the question of whose prestige is established through the use of these cards: their own or that of the family.

## Conclusion

In brief, we found that gender does affect credit card usage among Turkish university students although the effect is not consistent. We found that women tended to own fewer cards and spend less than their male counterparts. There was some difference in actual purchases with more young women preferring to purchase clothing. Women appear to do a little better on the issue of paying their credit card bills on time although a fair number also claimed to have no idea about the payment due dates. Perhaps, the most interesting effect of gender centered on the result that more women than men felt it was prestigious to use credit cards. Given that men are often assumed to be more concerned with both money and prestige, it is an interesting wrinkle in the relationship of

women to money and what it is seen to represent. Understanding gender differences in use and management of credit cards among university students in the developing countries such as Turkey has important implications. Exploring the ways students' use their credit cards will give banks, marketers, researchers and economists more information to understand their spending habits. With this kind of knowledge, banks or marketing strategists could tailor their marketing and communication programmes according to university students' consumption behaviors or patterns.

Moreover, understanding the potentially different ways that men and women use credit cards and other monetary instruments gives us insight into the ways that gender continues to inform various aspects of life. In this paper, only the impact of gender on credit card usage was the sole consideration. Future research could focus on social and psychological theories in the form of consumer behavior applications, such as lifestyles and motivational theories (Edwards, 1961; Tajfel and Turner, 1986; Ajzen, 1991) and the interactions of these variables in a group setting.

Further research should also concentrate on extending the current limited literature on effects of gender on credit card usage among university Students in developing countries. There is considerable amount of research related to developed countries such as U.S. or U.K. However, the current literature is quite limited concerning the developing countries. Marketing strategists of credit card companies or banks should focus on these markets since they have a large potential with their high percentage of young population.

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