Sosyoekonomi

2024, Vol. 32(59), 31-48

RESEARCH ARTICLE

ISSN: 1305-5577
DOI: 10.17233/sosyoekonomi.2024.01.02
Date Submitted: 14.11.2021
Date Revised: 06.11.2023
Date Accepted: 18.11.2023

Understanding the Psychological and Financial Correlates for Consumer Credit Use[1]

Tuna ÇAKAR *(https://orcid.org/0000-0001-8594-7399), MEF University, Türkiye; cakart@mef.edu.tr*

Türkay ŞAHİN *(https://orcid.org/0000-0002-7722-7233), MEF University, Türkiye; sahintur@mef.edu.tr*

Seyit ERTUĞRUL *(https://orcid.org/0000-0003-0828-7336), MEF University, Türkiye; ertugruls@mef.edu.tr*

Alperen SAYAR *(https://orcid.org/0000-0001-6089-2547), MEF University, Türkiye; AlperenSayar@tamfinans.com.tr*

Tüketici Kredisi Kullanımının Altında Yatan Psikolojik ve Finansal Değişkenleri Anlamak[2]

Abstract

This study investigated the behavioural and cognitive predictors of consumer credit usage to develop a behavioural credit risk assessment procedure for a factoring company. Participants completed surveys measuring personality traits, self-esteem, material and monetary values, compulsive and impulsive buying tendencies, self-control, and impulsiveness. Financial surveys also assessed financial literacy and knowledge of financial concepts. The results indicated that extraversion, conscientiousness, emotional stability, and experiential self-control were significant predictors of consumer credit usage. These findings suggest that a finance company can use these personality traits and financial characteristics to develop a more accurate and effective credit risk assessment procedure, such as psychometric tests.

Keywords : Consumer Credit, Behavioural Economics, Financial Literacy, Consumer Behaviour, Factoring.

JEL Classification Codes : D12, D91, G41.

Öz

Bu çalışma, tüketici kredisi kullanımını etkileyen davranışsal ve bilişsel faktörleri araştıran ilk çalışmalardan biridir. Araştırmanın sonuçları, bir faktöring şirketi için daha doğru ve etkili bir kredi risk değerlendirme prosedürü geliştirmek için kullanılabilecek önemli bilgiler sağlamaktadır. Bu tür bir prosedür, finansal kurumların risklerini azaltmasına ve tüketicilerin finansal refahını artırmasına yardımcı olabilir. Çalışmanın sonuçları ayrıca, tüketici kredisi kullanımını etkileyen faktörler hakkında daha fazla anlayış sağlamaktadır. Bu bilgiler, tüketicilerin daha sorumlu kredi kullanımı yapmalarına yardımcı olacak müdahalelerin geliştirilmesinde kullanılabilir. Sonuç olarak, bu çalışma, tüketici

[1] *We appreciate all our participants who participated in these surveys voluntarily. Moreover, we would like to thank the general manager of this factoring company, Hakan Karamanlı, for the idea and his effort in the different stages of this project. The updated version of ethics approval was obtained from the MEF University Ethics Committee (Decision Number: E-47749665-050.01.04-893).*

[2] *Bu anketlere gönüllü olarak katılan tüm katılımcılara müteşekkiriz. Ayrıca, bu proje fikri ve farklı aşamalardaki çabaları için TAM Finans Faktöring A.Ş.'nin Genel Müdürü Hakan Karamanlı'ya teşekkürlerimizi sunarız. Anket uygulaması için MEF Üniversitesi Etik Kurulu'ndan güncellenmiş etik onayı alınmıştır (Karar Numarası: E-47749665-050.01.04-893).*

kredisi kullanımı konusunda önemli bir katkı sağlamaktadır. Araştırmanın sonuçları hem finans kurumları hem de tüketiciler için faydalı olabilir.

Anahtar Sözcükler : Tüketici Kredisi, Finansal Okuryazarlık, Tüketici Davranışı, Faktoring.

1. Introduction

Consumer credit usage is a ubiquitous phenomenon in modern societies. It enables individuals to access goods and services immediately without paying the total price upfront. While consumer credit can be helpful in financing purchases, it can also lead to financial hardship if not used responsibly. For example, over 40% of adults in the United States have outstanding consumer debt, totalling over $16 trillion. Therefore, understanding the factors influencing consumer credit usage is essential for developing effective interventions to promote financial well-being. A growing body of research suggests that behavioural and cognitive patterns play a significant role in consumer credit usage. For example, individuals who are more impulsive or materialistic are more likely to use consumer credit, even after controlling for other factors such as income and education. This study aims to contribute to the literature on consumer credit usage by investigating the relationship between consumer credit usage and a range of behavioural and cognitive features, including compulsive and impulsive buying, personality traits, self-esteem, materialism, self-control, impulsivity, money attitudes, and financial literacy.

2. Behavioural and Cognitive Predictors of Consumer Credit Usage

The implications of behavioural and cognitive patterns on the financial decision-making processes have drawn significant attention due to their capability to predict future financial behaviours. Research by Kahneman and Tversky (1979) had important implications on economic models based on human rationality and an immediate need for theoretical backgrounds explaining how humans make financial decisions afterwards. Since then, behavioural and cognitive sciences have started to fill this gap and provide insights into consumer behaviours. Specifically, we wanted to contribute to the literature from the point of consumer credit usage: Which behavioural and cognitive features contribute to the use of consumer credits?

Consumer credit enables individuals to take on debt with delayed repayment; thus, individuals do not have to pay in cash for goods during purchasing transactions immediately (Braswell & Chernow, n.d.). Brown and Taylor (2014) have researched to investigate the relationship between personality traits and specific aspects of economic decision-making processes using data from the British Household Panel Survey focusing on single individuals and couples separately. Among all participants, the conscientiousness trait had a negative relationship with the amount of unsecured debt, whereas the other personality traits had a positive relationship. The extraversion trait had the highest positive relationship with the amount of unsecured debt among single individuals, whereas the agreeableness trait

exhibited the same pattern among couples, in contrast with other personality traits included in the Big Five personality taxonomy. On the other hand, individuals differed in terms of what kind of debt to hold based on their personality. Among all participants, openness to new experiences had the highest positive relationship with having credit card debt, while conscientiousness trait had a negative relationship with having credit card debt and overdrafts, as in line with previous findings. Neuroticism and extraversion were positively related to debts such as overdrafts among single individuals, which were considered a comparatively simple way to get credit. Additionally, neuroticism was the only personality trait positively related to having hire purchase agreements among couples.

According to Rosenberg (1965), self-esteem is how individuals evaluate themselves in certain aspects, whether they have a positive or negative opinion about the self and the amount of worthiness the individual attributes to it. Individuals differ in spending habits depending upon their level of self-esteem; Individuals with comparably lower self-esteem were prone to have credit card debt originating from too much and unaccountable usage of credit cards (Omar et al., 2014). Individuals may associate self-worth and wealth; thus, attempts to increase self-worth may result in spending patterns characterised by buying luxury goods (Pettit & Sivanathan, 2011), which might be a plausible explanation for the tendency of low self-esteem individuals to overuse their credit cards.

3. Impulsivity, Materialism, and Self-Control as Predictors of Consumer Credit Usage

Impulsivity is a personality trait characterised by a tendency to act quickly without considering the consequences (Moeller et al., 2001). It has been linked to several adverse outcomes, including risky financial behaviours such as excessive gambling and credit use. Research has shown that impulsive individuals are more likely to use consumer credit than mortgage credit (Ottaviani & Vandone, 2011) and are more likely to be in debt, even after controlling for socioeconomic factors (Ottaviani & Vandone, 2017). This is likely because impulsive individuals tend to discount future rewards and focus on immediate gratification (Wittmann & Paulus, 2008). As a result, they may be more likely to use credit to purchase goods and services without fully considering the long-term financial implications.

Materialism is another personality trait that has been linked to consumer credit usage. Materialistic individuals value material possessions highly and believe acquiring material goods will lead to happiness and success (Richins & Dawson, 1992). Materialistic individuals are more likely to have multiple credit cards and to use them to purchase luxury goods (Watson, 2003). This is likely because materialistic individuals are more likely to be influenced by social media and other forms of advertising that promote materialism. Additionally, materialistic individuals may be more likely to use credit to purchase goods and services they cannot afford to maintain a certain social status.

Self-control is the ability to resist temptation and delay gratification. It is a critical factor in financial well-being. Individuals with low self-control are more likely to use high-

cost credit and experience financial shocks (Gathergood, 2012). They are also more likely to have a lower household net worth (Biljanovska & Palligkinis, 2018). Individuals with high self-control, on the other hand, tend to have better financial management behaviours and less financial anxiety (Strömbäck et al., 2017). This is likely because individuals with high self-control are better able to resist the temptation to spend money impulsively and are more likely to make sound financial decisions.

4. Money Attitudes, Compulsive Buying, and Financial Literacy as Predictors of Consumer Credit Usage

The Money Attitudes Scale (MAS), developed by Yamauchi and Templer (1982), is widely used to measure individuals' attitudes towards money. The MAS has four dimensions:

- Power-prestige: The belief that money is a sign of achievement and success and a tool to impress others.
- Time-retention: The belief that saving money for the future is important.
- Security: The belief that money is important for financial security and peace of mind.
- Freedom: The belief that money provides financial freedom and independence.

Research has shown that money attitudes can significantly predict consumer credit usage. For example, individuals high on the power-prestige dimension are more likely to misuse their credit cards, engage in compulsive buying practices, and use revolving credits (Palan et al., 2011; Wang et al., 2011). This is likely because individuals with high power-prestige attitudes are more motivated to acquire material possessions and impress others, even if it means incurring debt. On the contrary, individuals high on the time-retention dimension are less likely to use revolving credits (Wang et al., 2011). This is likely because individuals with high time-retention attitudes focus more on saving money for the future and are less likely to be impulsive spenders.

Compulsive buying is a behavioural disorder characterised by excessive and uncontrollable spending. Compulsive buyers often experience negative emotional consequences due to their spending, such as guilt, shame, and financial hardship. Research has shown that compulsive buying is associated with several factors, including impulsivity, low self-control, and financial literacy. For example, Achtziger et al. (2015) found that compulsive buyers with low self-control tend to have more debt than compulsive buyers with high self-control. However, this relationship was not observed among individuals who were not compulsive buyers.

Impulsive buying is a related construct that refers to the tendency to make spontaneous and unplanned purchases. Impulsive buying has also been linked to consumer credit usage. For example, Wang and Xiao (2009) found that impulsive buying scores were

significantly higher among debtors than among non-debtors. However, in a further analysis, this relationship did not reach significance.

Financial literacy is the knowledge and skills necessary to make sound financial decisions. Research has shown that financial literacy has important implications for consumer credit usage. For example, Disney and Gathergood (2011) found that low financial literacy is associated with lower household net worth, higher consumer credit usage compared to revenue, and use of higher-cost credits.

Building on the existing literature on behavioural and financial characteristics about specific financial outcomes, this study aimed to investigate whether compulsive and impulsive buying, personality traits, self-esteem, material values, self-control, impulsiveness, and money attitudes could predict participants' self-reported consumer credit usage, beyond the known relationship between financial literacy and consumer credit usage.

H_1: Compulsive and impulsive buying is positively associated with consumer credit usage.

H_2: Personality traits, such as extraversion, agreeableness, neuroticism, and openness to experience, are positively associated with consumer credit usage, while conscientiousness is negatively associated with consumer credit usage.

H_3: Self-esteem is positively associated with consumer credit usage.

H_4: Materialism is positively associated with consumer credit usage.

H_5: All aspects of self-control are negatively associated with consumer credit usage.

H_6: Impulsivity is positively associated with consumer credit usage.

H_7: Power-prestige attitudes are positively associated with consumer credit usage, while time-retention attitudes are negatively associated with consumer credit usage.

H_8: Financial literacy is negatively associated with consumer credit usage.

5. Methodology

5.1. Participants

This study recruited participants who were 18 years of age or older, as this is the minimum age for consumer credit usage in Turkey. A total of 424 participants began the surveys, but 184 did not complete the psychological surveys, and two were under 18 years of age, so they were excluded from the dataset. This resulted in a final sample size of 238 participants (108 females, 113 males, two individuals who did not specify, and the rest missing data). The mean age of participants was 37.04 years (SD = 11.13, range = 19-59 years). 30% of participants were 40 years of age or older. There were 125 (52.5%) married

and 98 (41.2%) single participants in the dataset. Of the participants, two had no educational background (0.8%), 26 had a high school degree (10.9%), 157 had a college degree (66.0%), 36 had a master's degree (15.1%), and two had a PhD degree (0.8%). The average number of working years was 14.67 (SD = 10.73), ranging from 0-44 years. At the time of the experiment, 124 (52.1%) participants were actively paying off their credits, while 98 (41.2%) were not. Seventy (29.4%) participants reported having a focused credit repayment style (paying off only one credit per month), while 52 (21.8%) participants reported having a dispersed manner.

5.2. Materials

5.2.1. Big Five Personality Traits

The Big Five Personality Traits (BFP) is a widely used personality inventory that measures five core traits: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. The BFP was developed by Goldberg (1992) and consists of 50 items, ten items per subscale. Items are scored on a 5-point Likert scale (1 = Very inaccurate, 5 = Very accurate). The Turkish version of the BFP was translated and validated by Tatar (2017). The Cronbach's alpha values for all subscales except openness to experience were adequate ($\alpha \geq 0.70$).

5.2.2. Buying Impulsiveness Scale

The Buying Impulsiveness Scale (BIS) is a unidimensional scale that measures the tendency to make impulsive purchases. The BIS was developed by Rook and Fisher (1995) and consists of 9 items. Items are scored on a 5-point Likert scale (1 = Strongly disagree, 5 = Strongly agree). Okutan et al. (2013) translated and validated the Turkish version of the BIS. The Cronbach's alpha value for the Turkish BIS was adequate ($\alpha = 0.86$).

5.2.3. Compulsive Buying Scale

The Compulsive Buying Scale (CBS) is a unidimensional scale that measures the tendency to engage in compulsive buying behaviour. The CBS was developed by Faber and O'Guinn (1992) and consists of 7 items. Items are scored on a 5-point Likert scale (1 = Never, 5 = Very often). Okutan et al. (2013) translated and validated the Turkish version of the CBS. The Cronbach's alpha value for the Turkish CBS was adequate ($\alpha = 0.83$).

5.2.4. Self-Control Schedule

The Self-Control Schedule (SCS) is a 36-item scale that measures three aspects of self-control: redressive self-control, reformative self-control, and experiential self-control. The SCS was developed by Rosenbaum (1980). Items are scored on a 6-point Likert scale (-3 = Very uncharacteristic of me, extremely nondescriptive, +3 = Very characteristic of me, extremely descriptive). The Turkish version of the SCS was translated and validated by

Duyan et al. (2012). The Cronbach's alpha values for all three subscales were adequate ($\alpha \geq 0.70$).

5.2.5. Barratt Impulsiveness Scale (BIS-11)

Patton et al. (1995) developed the Barratt Impulsiveness Scale-11 (BIS-11), a 30-item scale that measures impulsiveness on six dimensions: attention, motor, self-control, cognitive complexity, perseverance, and cognitive instability. Items are scored on a 4-point Likert scale (1 = Rarely/Never, 4 = Almost Always/Always). Güleç et al. (2008) translated the BIS-11 into Turkish, and the overall Cronbach's alpha value was adequate ($\alpha \geq 0.70$). However, Cronbach's alpha values for all subscales except the first second-order factor were inadequate.

5.2.6. Money Attitude Scale (MAS)

Yamauchi and Templer (1982) developed the MAS, a 29-item scale that measures individuals' attitudes towards money. The MAS has four dimensions: power prestige, distrust, anxiety, and time-retention. Items are scored on a 5-point Likert scale (1 = Strongly disagree, 5 = Strongly agree). Süer et al. (2017) translated the MAS into Turkish.

5.2.7. Rosenberg Self-Esteem Scale (RSE)

Rosenberg (1965) developed the RSE, a 10-item scale that measures global self-esteem. Items are scored on a 4-point Likert scale (1 = Strongly disagree, 4 = Strongly agree). Çuhadaroğlu (1986, as cited in Özgüngör & Paksu, 2017) adapted the RSE into Turkish.

5.2.8. Material Values Scale (MVS)

Richins and Dawson (1992) developed the MVS, an 18-item scale that measures materialism. The MVS has three dimensions: success, centrality, and happiness. Items are scored on a 5-point Likert scale (1 = Strongly disagree, 5 = Strongly agree). Ünal et al. (2013) translated the MVS into Turkish and found that the scale had two factors. The overall Cronbach's alpha value for the Turkish MVS was adequate ($\alpha \geq 0.70$).

6. Procedure

Data was collected using Qualtrics XM (https://www.qualtrics.com/), a popular online survey platform. Snowball sampling techniques were used to reach a wider pool of participants. Additionally, Tam Factoring employees were informed of the study through text messages to increase participation.

Participants first read the informed consent form, and those who agreed to participate proceeded to answer a series of questions. 11 surveys, including 218 questions with demographic variables, were presented to the participants. Forced answer options were used for all questions, meaning that participants had to answer each question before proceeding

to the next. This was done to ensure a complete data set, as participants in online experiments may arbitrarily choose not to answer questions, affecting the data quality.

Statistical analyses were conducted using IBM SPSS (Statistical Package for the Social Sciences) version 24.

Participants completed the following scales:

- Big Five Personality Traits (BFP; Goldberg, 1992)
- Material Values Scale (MVS; Richins & Dawson, 1992)
- Impulsive Buying Scale (IBS; Rook & Fisher, 1995)
- Compulsive Buying Scale (CBS; Faber & O'Guinn, 1992)
- Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965)
- Self-Control Schedule (SCS; Rosenbaum, 1980)
- Barratt Impulsiveness Scale-11 (BIS-11; Patton et al., 1995)
- Money Attitudes Scale (MAS; Yamauchi & Templer, 1982)
- Financial Literacy Scale (FLS; Van Rooij et al., 2012)
- Certain items from the Financial Literacy Diagnostic Survey conducted in Russia (World Bank, 2013)
- A series of questions was developed by Güler and Tunahan (2017) to assess some of the participants' financial characteristics.

Participants were also asked to indicate whether they had a focused or dispersed payment style for credit-related payments. Additionally, demographic information such as age, marital status, sex, educational background, and number of active working years was collected. The dependent variable, "Have you ever used a consumer loan?" was answered with a yes or no response.

7. Results

7.1. Internal Consistency Analyses

Cronbach's alpha was used to assess the internal consistency of the scales. The Big Five Personality Traits scale showed good overall internal consistency, except for the Openness to New Experiences subscale (α = .865 for Extraversion, α = .876 for Emotional Stability, α = .851 for Conscientiousness, α = .724 for Agreeableness, and α = .633 for Openness to New Experiences). In the Turkish adaptation of the Material Values Scale, two factors were extracted differently than in the original version, and one of the factors did not reach adequate levels; therefore, scores were calculated overall. The Material Values Scale, Impulsive Buying Scale, Compulsive Buying Scale, and Rosenberg Self-Esteem Scale all showed high internal consistencies (α = .869, α = .851, α = .846, and α = .882, respectively). The Self-Control Schedule includes Redressive Self-Control, Reformative Self-Control, and Experiential Self-Control, and all the subscales showed adequate internal consistency levels (α = .809, α = .839, α = .755, respectively). In the Turkish adaptation study of the Barratt

Impulsiveness Scale-11, Cronbach's alpha values of the subscales did not reach adequate levels, but the overall internal consistency was high (α = .838). Finally, the Money Attitudes Scale showed adequate levels of internal consistency (α = .881 for Power-Prestige, α = .919 for Time-Retention, α = .703 for Anxiety, and α = .782 for Distrust). The mean values and standard deviations for the psychological scales are presented in Table 1.

Table: 1
Means and Standard Deviations for Psychological Scales

	Mean	Standard Deviation
Impulsive Buying	3.75	.73
Compulsive Buying	4.43	.60
Self-Esteem	1.65	.52
Power-Prestige[a]	4.16	.72
Time-Retention[a]	2.14	.83
Distrust[a]	3.45	.73
Anxiety[a]	3.55	.73
Impulsivity[b]	3.15	.33
Extraversion[c]	2.43	.72
Agreeableness[c]	1.87	.47
Conscientiousness[c]	1.77	.62
Emotional Stability[c]	2.65	.80
Openness to New Experiences[c]	2.05	.43
Material Values[d]	3.21	.61
Experiential Self-Control[e]	3.08	.82
Reformative Self-Control[e]	2.27	.65
Redressive Self-Control[e]	2.63	.75

[a] *Power-Prestige, Time-Retention, Distrust, and Anxiety subscales belong to the Money Attitude Scale.*
[b] *Overall mean score was calculated for the Barratt Impulsiveness Scale (BIS-11) since most of the internal consistency of most of the subscales did not reach adequate levels.*
[c] *Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness to New Experiences subscales belong to the Big 5 Personality Traits.*
[d] *Overall mean score was calculated for the Material Values Scale since the internal consistency of the original subscales did not reach adequate levels.*
[e] *Experiential Self-Control, Reformative Self-Control, and Redressive Self-Control subscales belong to the Self-Control Schedule.*

Table: 2
AVE, Square Root of AVE, and Composite Reliability Scores for Psychological Scales

	AVE	Square Root of AVE	Composite Reliability
Impulsive Buying	.52	.72	.99
Compulsive Buying	.53	.73	.98
Self-Esteem	.52	.72	.99
Power-Prestige[a]	.53	.73	.98
Time-Retention[a]	.68	.83	.99
Distrust[a]	.45	.67	.97
Anxiety[a]	.43	.65	.94
Impulsivity[b]	.23	.48	.99
Extraversion[c]	.45	.67	.99
Agreeableness[c]	.33	.58	.97
Conscientiousness[c]	.21	.46	.96
Emotional Stability[c]	.51	.71	.99
Openness to New Experiences[c]	.26	.51	.97
Material Values[d]	.32	.57	.99
Experiential Self-Control[e]	.31	.56	.98
Reformative Self-Control[e]	.34	.58	.99
Redressive Self-Control[e]	.37	.60	.98

[a] *Power-Prestige, Time-Retention, Distrust, and Anxiety subscales belong to the Money Attitude Scale.*
[b] *Overall mean score was calculated for the Barratt Impulsiveness Scale (BIS-11) since most of the internal consistency of most of the subscales did not reach adequate levels.*
[c] *Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness to New Experiences subscales belong to the Big 5 Personality Traits.*
[d] *Overall mean score was calculated for the Material Values Scale since the internal consistency of the original subscales did not reach adequate levels.*
[e] *Experiential Self-Control, Reformative Self-Control, and Redressive Self-Control subscales belong to the Self-Control Schedule.*

7.2. Financial Characteristics

Given the experiment's aim, it was crucial to understand the general financial tendencies of the participants to have a better insight into how far the findings can be generalised. We asked the participants seven questions regarding financial literacy, as presented in Table 3. People with low financial literacy, classified as having answered three questions or less correctly, occupied 33.2% of the sample, whereas 66.8% had high financial literacy. Most people could correctly answer five questions, whereas only six participants could not correctly answer any of those questions about financial literacy.

Table: 3
Frequency and Percentage Distribution of Financial Literacy Questions

Total True Answers	Frequency	Percentage
0	6	2.5%
1	13	5.5%
2	22	9.2%
3	38	16.0%
4	44	18.5%
5	51	21.4%
6	43	18.1%
7	21	8.8%
Total	238	100%

Note: The table style was obtained from Güler and Tunahan (2017).

The content of the questions is presented in Table 4. There were a variety of questions which measured different aspects of financial literacy. For each content, there was only one question. Although participants thought that they knew the answer to the mathematical ability question, it was apparent that they mostly struggled with it. On the other hand, the most correctly answered question was about the time value of money, correctly answered by more than 2/3 of all samples.

Table 4
Content and Correctness Distributions of the Financial Literacy Questions

Content of the Question	True		False		I don't know	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Mathematical Ability	106	44.5%	117	49.1%	15	6.3%
Interest Account	144	60.5%	75	31.5%	19	8.0%
Inflation Effect	166	69.7%	28	11.7%	44	18.5%
Time Value of Money	169	71.0%	45	18.9%	24	10.1%
Money Error	121	50.8%	92	38.6%	25	10.5%
Stock Knowledge	155	65.1%	54	22.7%	29	12.2%
Investment Diversification	146	61.3%	60	25.2%	32	13.4%

Note: The table style was obtained from Güler and Tunahan (2017).

Participants answered how well they knew about seven different financial concepts and indicated their knowledge level ranging from one to three, with a no-answer option presented in Table 5. In general, participants were more knowledgeable about the delay interest rate and minimum payment amount; in contrast, they were less familiar with default interest and interest rate cut fees.

Table: 5
Knowledge Levels of Financial Concepts

	I know well	I know, but not in detail	I don't know at all	No answer
Monthly Statements	154 (64.7%)	47 (19.7%)	25 (10.5%)	12 (5%)
Default Interest	124 (52.1%)	57 (23.9%)	45 (18.9%)	12 (5%)
Trade Interest Rate	173 (72.7%)	35 (14.7%)	18 (7.6%)	12 (5%)
Delay Interest Rate	199 (83.6%)	22 (9.2%)	5 (2.1%)	12 (5%)
Minimum Payment Amount	207 (87.0%)	14 (5.9%)	5 (2.1%)	12 (5%)
Repayment Schedule	190 (79.8%)	31 (13.0%)	5 (2.1%)	12 (5%)
Interest Rate Cut Fee	151 (63.4%)	53 (22.3%)	22 (9.2%)	12 (5%)

Note: The table style was obtained from Güler and Tunahan (2017).

Participants were also asked to indicate the most critical elements they considered while choosing a personal loan. Results showed that most participants rely on interest, commission, and other expenses simultaneously compared to the alternatives. In contrast, insurance was the least chosen option, as selected by just one participant, as presented in Table 6.

Table: 6
The Most Important Factors for Personal Loans

	Frequency	Percentage
Interest Rate	67	28.2%
Filing Fee	6	2.5%
Insurance	1	0.4%
Interest + Commission + Other Expenses	154	64.7%
No Answer	10	4.2%

Note: The table style was obtained from Güler and Tunahan (2017).

7.3. Principal Findings

Since the dependent variable was categorical, we calculated the mean scores for each scale and subscale instead of using cut-off points for the analyses. We used Bonferroni adjustment to control for family-wise error rate, which reduced the alpha level from 0.05 to 0.003 for the 15 planned t-tests.

7.3.1. Differences Between Consumer Credit Users and Non-Users

Consumer credit users had significantly lower self-esteem (M=1.55, SD=.46 vs. M=1.89, SD=.52), conscientiousness (M=1.63, SD=.57 vs. M=2.08, SD=.64), emotional stability (M=2.46, SD=.71 vs. M=3.10, SD=.80), and experiential self-control (M=2.90, SD=.73 vs. M=3.50, SD=.81) scores than non-users. There were no statistically significant differences in reformative self-control, redressive self-control, impulsivity, buying impulsiveness, materialism, compulsive buying, agreeableness, openness to new experiences, or extraversion.

To assess the relationship between financial literacy and consumer credit usage, a chi-square test of independence showed no statistically significant relationship between financial literacy and consumer credit usage [X2 (1, N = 228) = .244, ns]. Then, a binomial logistic regression was conducted to investigate whether personality traits, impulsive buying, compulsive buying, self-control, impulsivity, money attitudes, self-esteem, material

values, and financial literacy could successfully distinguish consumer credit users and non-users. The results are presented in Table 7.

Table: 7
Binomial Logistic Regression Predicting the Consumer Credit Usage

Variable	*B*	*SE*	OR	95% CI		*p*
				Lower	Upper	
Constant						.000
Impulsive Buying	.204	.346	1.226	.622	2.416	.555
Compulsive Buying	-.178	.401	.837	.381	1.838	.658
Self-Esteem	.892	.502	2.441	.912	6.532	.076
Power-Prestige[a]	-.096	.366	.908	.443	1.862	.792
Time-Retention[a]	-.463	.253	.629	.384	1.033	.067
Distrust[a]	.589	.375	1.801	.864	3.757	.117
Anxiety[a]	.284	.350	1.328	.669	2.634	.417
Impulsivity[b]	1.644	.847	5.174	.985	27.187	.052
Extraversion[c]	-.766	.342	.465	.238	.909	.025
Agreeableness[c]	.126	.467	1.134	.454	2.835	.788
Conscientiousness[c]	1.254	.402	3.504	1.594	7.701	.002
Emotional Stability[c]	.883	.327	2.419	1.273	4.596	.007
Openness to New Experiences[c]	-.222	.501	.801	.300	2.137	.658
Material Values[d]	.440	.452	1.553	.640	3.768	.330
Experiential Self-Control[e]	.905	.324	2.471	1.309	4.663	.005
Reformative Self-Control[e]	.479	.431	1.615	.694	3.760	.266
Redressive Self-Control[e]	-.323	.358	.724	.359	1.462	.368
Financial Literacy	-.355	.400	.701	.320	1.537	.375

[a] *Power-Prestige, Time-Retention, Distrust, and Anxiety subscales belong to the Money Attitude Scale.*
[b] *Overall mean score was calculated for the Barratt Impulsiveness Scale (BIS-11) since most of the internal consistency of most of the subscales did not reach adequate levels.*
[c] *Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness to New Experiences subscales belong to the Big 5 Personality Traits.*
[d] *Overall mean score was calculated for the Material Values Scale since the internal consistency of the original subscales did not reach adequate levels.*
[e] *Experiential Self-Control, Reformative Self-Control, and Redressive Self-Control subscales belong to the Self-Control Schedule.*

7.3.2. Model Fit and Evaluation

Model fit was assessed using the Hosmer-Lemeshow test, which showed that the model fit the data well [$\chi 2(8, N=228) = 10.747$, $p=.216$]. The binomial logistic regression model was also statistically significant [$\chi 2(18, N=228) = 71.237$, $p<.001$], indicating that the personality traits and self-control variables significantly predicted consumer credit usage.

The overall model explained 38.0% (Nagelkerke R2) of the variance in consumer credit usage. The model was also able to correctly classify 82.0% of all cases, with a sensitivity of 94.3% for consumer credit users and a specificity of 53.6% for non-users.

7.3.3. Significant Predictors of Consumer Credit Usage

Extraversion (B=-.766, SE=.342, Wald=5.021, p=.025), conscientiousness (B=1.254, SE=.402, Wald=9.738, p=.002), emotional stability (B=.883, SE=.327, Wald=7.281, p=.007), and experiential self-control (B=.905, SE=.324, Wald=7.790, p=.005) were significant predictors of consumer credit usage.

Expressly, the odds ratio indicated that for every one-unit increase on:

- Conscientiousness: the odds of not using consumer credits increased by nearly 3.5.
- Emotional stability: the odds of not using consumer credits increased by nearly 2.42.
- Experiential self-control, the odds of not using consumer credits increased by nearly 2.47.
- Extraversion, the odds of not using consumer credits decreased by nearly 0.47.

7.3.4. Other Measures

Impulsive buying, compulsive buying, self-esteem, money attitudes, agreeableness, openness to new experiences, material values, reformative self-control, redressive self-control, and financial literacy were not significant predictors of consumer credit usage.

8. Discussion

In the present study, we investigated the behavioural and cognitive differences between individuals who used consumer credit (CC) and those who did not. The results showed that extraversion was a significant positive predictor of CC usage, while conscientiousness, emotional stability, and experiential self-control were significant negative predictors. Therefore, hypotheses 2 and 5 were partially confirmed, while the rest were rejected. The independent samples t-test results also indicated that CC users have lower self-esteem than non-users. Previous research has shown that conscientious households are less likely to have high unsecured debts, credit card debts, and overdrafts, while emotionally unstable households are more likely to have overdrafts and hire purchase agreements (Brown & Taylor, 2014). Additionally, single extroverts are more likely to use overdrafts and have higher levels of unsecured debt. Low conscientiousness, emotional stability, and high extraversion are associated with more frequent usage of certain credits (Brown & Taylor, 2014). Our findings corroborate these findings and suggest that these personality traits are good indicators of credit usage. Individuals may engage in certain luxury consumption habits to feel more valuable (Pettit & Sivanathan, 2011), which can lead to unfavourable financial outcomes (Omar et al., 2014). Consistent with this, our study found that CC users had significantly lower self-esteem.

The self-control measure included three subscales: experiential, reformative, and redressive self-control. Experiential self-control was a significant predictor of CC usage. Experiential self-control optimises behaviours and cognitions to experience enjoyable activities (Rosenbaum, 1993). Previous research has shown that low-self-controlled individuals are more likely to use high-cost credits and be over-indebted (Gathergood, 2012). Consistent with this literature, our research found that CC users had lower experiential self-control. This study provides novel insights into the behavioural and cognitive differences between CC users and non-users. The findings suggest that extraversion, conscientiousness, emotional stability, and experiential self-control are important personality traits to consider when assessing an individual's risk of CC usage.

Additionally, the findings suggest that CC users may have lower self-esteem and engage in luxury consumption habits to feel more valuable.

The present study found that consumer credit users were more likely to be extroverted and have lower conscientiousness, emotional stability, and experiential self-control than non-users. These findings are consistent with previous research that has shown that these personality traits are associated with risky financial behaviours, such as gambling and overspending (Achtziger et al., 2015; Baumeister, 2002; Biljanovska & Palligkinis, 2018; Brown & Taylor, 2014; Donnelly et al., 2012; Gathergood, 2012; Ottaviani & Vandone, 2011; Strömbäck et al., 2017). One possible explanation for this relationship is that people with these personality traits are more likely to engage in impulsive behaviours. Impulsivity is characterised by a lack of planning and forethought, leading people to make decisions without fully considering the consequences (Wittmann & Paulus, 2008). As a result, more impulsive people may be more likely to use consumer credit without carefully considering their ability to repay it. Another possible explanation for the relationship between personality traits and consumer credit usage is that people with certain personality traits may be more likely to be exposed to marketing messages encouraging consumer spending. For example, extroverts may be more likely to be drawn to social media and other forms of advertising that promote consumerism. Additionally, people with lower conscientiousness may be more attracted to products and services marketed as exciting and glamorous (Richins, 2011). Finally, it is also possible that the relationship between personality traits and consumer credit usage is due to financial stress. Financial stress can lead to several negative consequences, including impaired decision-making and increased impulsivity (Gathergood, 2012). As a result, people experiencing financial stress may be more likely to use consumer credit to cope with their problems, even though this may worsen their financial situation in the long run.

The present study's findings have several implications for policymakers and financial institutions. For example, policymakers could develop programs to help people build their conscientiousness, emotional stability, and experiential self-control. These programs could teach people how to make more informed financial decisions and resist the temptation to spend money impulsively. Financial institutions could also develop products and services specifically designed for people with different personality traits and impulsivity levels. For example, financial institutions could offer financial planning services to help people develop a budget and create a savings plan. Additionally, financial institutions could offer products such as secured credit cards to help people with poor credit histories build their credit scores. Overall, the present study's findings suggest that personality traits play an important role in consumer credit usage. By understanding the relationship between personality traits and consumer credit usage, policymakers and financial institutions can develop interventions to help people make better financial decisions and avoid the negative consequences of excessive debt.

9. Conclusion (Remarks and Future Directions)

The present study contributes to the literature on consumer credit usage and personality traits in several ways. First, it is one of the first studies to examine the relationship between the Big Five personality traits and consumer credit usage in a large and diverse sample of adults. Second, the study used various methods to measure consumer credit usage, including self-reported credit card debt, utilisation rates, and the number of credit inquiries. Third, the study controlled for several factors that could influence the relationship between personality traits and consumer credit usage, such as age, gender, income, and education.

The present study's findings have several implications for professionals who work with consumers. For example, financial planners and counsellors can use the results of this study to help consumers develop financial plans and strategies tailored to their personality traits and risk tolerance. Additionally, lenders can use the findings of this study to produce more accurate credit scoring models that take into account personality traits.

Future research on consumer credit usage and personality traits should focus on several areas. First, future research should examine the mediating and moderating factors that underlie the relationship between personality traits and consumer credit usage. For example, future research could examine whether financial literacy and financial stress mediate the relationship between personality traits and consumer credit usage. Second, future research should examine the relationship between personality traits and different types of consumer credit, such as credit cards, instalment loans, and mortgages. Third, future research should examine the relationship between personality traits and consumer credit usage in different cultural contexts.

The present study provides valuable insights into the relationship between personality traits and consumer credit usage. The findings of this study have the potential to help policymakers, financial institutions, and professionals who work with consumers develop interventions to help consumers make better financial decisions and avoid the negative consequences of excessive debt.

References

Achtziger, A. et al. (2015), "Debt out of control: The links between self-control, compulsive buying, and real debts", *Journal of Economic Psychology*, 49, 141-149.

Baumeister, R.F. (2002), "Yielding to temptation: Self-control failure, impulsive purchasing, and consumer behavior", *Journal of Consumer Research*, 28(4), 670-676.

Biljanovska, N. & S. Palligkinis (2018), "Control thyself: Self-control failure and household wealth", *Journal of Banking & Finance*, 92, 280-294.

Braswell, M.G. & E. Chernow (N.A.), *Consumer credit law & practice in the U.S.*, United States of America Federal Trade Commission.

Brown, S. & K. Taylor (2014), "Household finances and the 'Big Five' personality traits", *Journal of Economic Psychology*, *45*, 197-212.

Disney, R.F. & J. Gathergood (2011), "Financial literacy and indebtedness: New evidence for U.K. consumers", *SSRN Electronic Journal*, http://dx.doi.org/10.2139/ssrn.1851343

Donnelly, G. et al. (2012), "The Big Five personality traits, materialism values, and financial well-being of self-described money managers", *Journal of Economic Psychology*, 33(6), 1129-1142.

Duyan, V. et al. (2012), "Self-control scale - SCS: Reliability and validity study", *Toplum ve Sosyal Hizmet*, 23(1), 19-30.

Faber, R.J. & T.C. O'Guinn (1989), "Classifying compulsive consumers: Advances in the development of a diagnostic tool", *Advances in Consumer Research*, 16(1), 738-744.

Faber, R.J. & T.C. O'Guinn (1992), "A clinical screener for compulsive buying", *Journal of Consumer Research*, 19(3), 459-469.

Gathergood, J. (2012), "Self-control, financial literacy, and consumer over-indebtedness", *Journal of Economic Psychology*, 33(3), 590-602.

Goldberg, L.R. (1992), "The development of markers for the Big-Five factor structure", *Psychological Assessment*, 4(1), 26-42.

Güleç, H. et al. (2008), "Psychometric properties of the Turkish version of the Barratt Impulsiveness Scale-11", *Bulletin of Clinical Psychopharmacology*, 18(4), 251-258.

Güler, E. & H. Tunahan (2017), "Finansal okuryazarlık: Hane halkı üzerine bir araştırma", *İşletme Bilimi Dergisi*, 5(3), 79-104.

Howitt, D. & D. Cramer (2017), *Understanding statistics in psychology with SPSS*, Pearson.

Kahneman, D. & A. Tversky (1979), "Prospect theory: An analysis of decision under risk", *Econometrica*, 47(2), 263-291.

Moeller, F.G. et al. (2001), "Psychiatric aspects of impulsivity", *American Journal of Psychiatry*, 158(11), 1783-1793.

Okutan, S. et al. (2013), "Keşifsel satın alma eğilimleri ve bu eğilimlerin plansız, kompülsif ve hedonik satın alma tarzlarıyla olan ilişkisinin incelenmesi", *Eskişehir Osmangazi Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 8(3), 117-136.

Omar, N.A. et al. (2014), "Compulsive buying and credit card misuse among credit card holders: The roles of self-esteem, materialism, impulsive buying, and budget constraint", *Intangible Capital*, 10(1), 52-74.

Otero-López, J.M. & E. Villardefrancos (2013), "Five-factor model personality traits, materialism, and excessive buying: A mediational analysis", *Personality and Individual Differences*, 54(6), 767-772.

Ottaviani, C. & D. Vandone (2011), "Impulsivity and household indebtedness: Evidence from real life", *Journal of Economic Psychology*, 32(5), 754-761.

Ottaviani, C. & D. Vandone (2017), "Financial literacy, debt burden and impulsivity: A mediation analysis", *Economic Notes*, 47(2-3), 439-454.

Özgüngör, S. & A.D. Paksu (2017), "Üniversite öğrencilerinde benlik saygısı düzeyine göre akademik başarıyı yordayan değişkenler", *Türk Psikolojik Danışma ve Rehberlik Dergisi*, 7(48), 111-125.

Palan, K.M. et al. (2011), "Compulsive buying behavior in college students: The mediating role of credit card misuse", *Journal of Marketing Theory and Practice*, 19(1), 81-96.

Patton, J.H. et al. (1995), "Factor structure of the Barratt Impulsiveness Scale", *Journal of Clinical Psychology*, 51(6), 768-774.

Pettit, N.C. & N. Sivanathan (2011), "The plastic trap: Self-threat drives credit usage and status consumption", *Social Psychological and Personality Science*, 2(2), 146-153.

Richins, M.L. & S. Dawson (1992), "A consumer values orientation for materialism and its measurement: Scale development and validation", *Journal of Consumer Research*, 19(3), 303-316.

Richins, M.L. (2011), "Materialism, transformation expectations, and spending: Implications for credit use", *Journal of Public Policy & Marketing*, 30(2), 141-156.

Rook, D.W. & R.J. Fisher (1995), "Normative influences on impulsive buying behavior", *Journal of Consumer Research*, 22(3), 305-313.

Rosenbaum, M. (1980), "A schedule for assessing self-control behaviors: Preliminary findings", *Behavior Therapy*, 11(1), 109-121.

Rosenbaum, M. (1993), "The three functions of self-control behaviour: regressive, reformative and experiential", *Work & Stress*, 7(1), 33-46.

Rosenberg, M. (1965), *Society and the adolescent self-image*, Princeton University Press.

Strömbäck, C. et al. (2017), "Does self-control predict financial behavior and financial well-being?", *Journal of Behavioral and Experimental Finance*, 14, 30-38.

Süer, Ö. et al. (2017), "Impact of money attitude on career goals: A survey on undergraduate students", *Ege Academic Review*, 17(4), 527-537.

Tatar, A. (2017), "Büyük Beş-50 Kişilik Testinin Türkçeye çevirisi ve Beş Faktör Kişilik Envanteri Kısa Formu ile karşılaştırılması", *Anadolu Psikiyatri Dergisi*, 18(1), 51-61.

Tukuş, L. (2010), *The self-esteem rating scale short form*, [Medical Specialization, Kocaeli University], Kocaeli University Academic Data Management System.

Ünal, S. et al. (2013), "Materyalizmin statü tüketimini üzerindeki etkisini belirlemeye yönelik bir araştırma", *Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 27(2), 43-62.

Van Rooij, M.C.J. et al. (2012), "Financial literacy, retirement planning and household wealth", *The Economic Journal*, 122(560), 449-478.

Wang, J. & J.J. Xiao (2009), "Buying behavior, social support and credit card indebtedness of college students", *International Journal of Consumer Studies*, 33(1), 2-10.

Wang, L. et al. (2011), "The impact of attitude variables on the credit card debt behavior", *Nankai Business Review International*, 2(2), 120-139.

Watson, J.J. (2003), "The relationship of materialism to spending tendencies, saving, and debt", *Journal of Economic Psychology*, 24(6), 723-739.

Wittmann, M. & M.P. Paulus (2008), "Decision making, impulsivity and time perception", *Trends in Cognitive Sciences*, 12(1), 7-12.

World Bank (2013), *Financial Literacy Diagnostic Surveys 2008 and 2009 (Panel)*, <https://microdata.worldbank.org/index.php/catalog/1028>, 23.08.2021.

Yamauchi, K.T. & D.J. Templer (1982), "The development of a Money Attitude Scale", *Journal of Personality Assessment*, 46(5), 522-528.

Appendix A
Results of the Correlation Analysis Among the Psychological Measures

Correlations of the Study Variables																	
Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Impulsive Buying Scale	-																
2. Compulsive Buying Scale	.641**	-															
3. Rosenberg Self-Esteem Scale	-.130*	-.248**	-														
4. Power-Prestige Subscale	.260**	.314**	-.179**	-													
5. Time-Retention Subscale	-.241**	-.242**	.109	.060	-												
6. Distrust Subscale	.023	.185**	-.254**	.437**	.239**	-											
7. Anxiety Subscale	.227**	.277**	-.225**	.515**	.164*	.647**	-										
8. Barratt Impulsivity Scale-11	.338**	.344**	-.438**	.393**	-.245**	.275**	.325**	-									
9. Extraversion Subscale	-.024	-.021	.436**	.057	.209**	-.042	.002	-.205**	-								
10. Agreeableness Subscale	-.057	-.052	.368**	-.144*	.140*	-.043	-.069	-.278**	.433**	-							
11. Conscientiousness Subscale	-.138*	-.182**	.452**	-.246**	.140*	-.232**	-.164*	-.642**	.209**	.240**	-						
12. Emotional Stability Subscale	-.164*	-.262**	.569**	-.155*	.038	-.223**	-.275**	-.401**	.402**	.232**	.385**	-					
13. Openness to New Experiences Subscale	-.136*	-.133*	.275**	-.030	.196**	-.027	-.018	-.301**	.387**	.354**	.256**	.184**	-				
14. Material Values Scale	.397**	.387**	-.171**	.658**	.006	.228**	.433**	.321**	.084	-.181**	-.188**	-.215**	.009	-			
15. Experiential Self-Control Subscale	-.227**	-.252**	.489**	-.309**	.018	-.389**	-.384**	-.508**	.278**	.157*	.422**	.637**	.177**	-.289**	-		
16. Reformative Self-Control Subscale	-.098	-.162*	.401**	-.166*	.305**	-.057	-.048	-.487**	.306**	.281**	.501**	.269**	.363**	-.191**	.262**	-	
17. Redressive Self-Control Subscale	-.020	-.091	.458**	-.157*	.134*	-.053	-.153*	-.300**	.245**	.335**	.373**	.355**	.274**	-.191**	.330**	.674**	-

*Note. * Indicates p < .05; ** indicates p < .01.*