

SOSYAL SAĞLIK DERGİSİ

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EVALUATION OF POSSIBLE INFLUENCING FACTORS ON THE LEVEL OF ONLINE SHOPPING ADDICTION AND ITS RELATIONSHIP WITH THE LEVEL OF SELF-ESTEEM IN A UNIVERSITY'S STUDENTS

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Abstract

Objective: The aim of this research is to assess the possible influencing factors on the level of online shopping addiction (OSA) in university students and its relationship with the level of self-esteem. Methods: This study is cross-sectional and designed as an online survey and scale application. The study group consisted of 202 university students. The level of OSA was evaluated with the Online Shopping Addiction Scale (OSAS). Rosenberg Self-Esteem Scale (RSES) was used for determining the level of self-esteem. Statistical analyses were conducted using the Mann-Whitney U test, Kruskal Wallis test, and Spearman Correlation test. Results: At the end of this study, the OSAS in the study group was found to be moderate (Median: 38.00). Especially being a woman, having a female-dominated circle of friends at school, shopping for oneself, spending most of her pocket money on online shopping, and a high frequency of shopping were found to be associated with OSA (For each one $p < 0.05$). No correlation was between the OSAS score and RSES score ($p > 0.05$). Conclusion: The OSAS in the study group was found to be moderate.

Keywords: Online Shopping, Addiction, University, Student

BİR ÜNİVERSİTENİN ÖĞRENCİLERİNDE ÇEVİRİMİÇİ ALIŞVERİŞ BAĞIMLILIĞI DÜZEYİNİ ETKİLEYEBİLECEK OLASI FAKTÖRLERİN VE BUNUN BENLİK SAYGISI DÜZEYİYLE İLİŞKİSİNİN DEĞERLENDİRİLMESİ

Öz

Amaç: Bu araştırmanın amacı, üniversite öğrencilerinde çevrimiçi alışveriş bağımlılık (ÇAB) düzeyi üzerinde etkili olabilecek faktörleri ve bunun benlik saygısı düzeyi ile ilişkisini değerlendirmektir. Yöntem: Bu çalışma kesitsel olup çevrimiçi anket ve ölçek uygulaması olarak tasarlanmıştır. Çalışma grubu 202 üniversite öğrencisinden oluşmaktadır. Çevrimiçi Alışveriş Bağımlılığı Ölçeği (ÇABÖ) kullanılarak çevrimiçi alışveriş bağımlılık düzeyi değerlendirilmektedir. Benlik saygısı düzeyini değerlendirmek için Rosenberg Benlik Saygısı Ölçeği (RBSÖ) kullanılmıştır. İstatistiksel analizler Mann-Whitney U testi, Kruskal Wallis testi ve Spearman Korelasyon testi kullanılarak yapıldı. Bulgular: Bu çalışma sonunda çalışma grubunun ÇABÖ skoru orta düzeyde bulunmuştur (Medyan: 38.00). Özellikle kadın olmak, okulda kadın ağırlıklı bir arkadaş çevresine sahip olmak, kendisi için alışveriş yapmak, harçlığının çoğunu internette alışverişe harcamak ve alışveriş sıklığının fazla olması ÇAB ile ilişkili bulunmuştur (Her biri için $p < 0,05$). ÇABÖ skoru ile RBSÖ skoru arasında korelasyon saptanamadı ($p > 0,05$). Sonuç: Online alışveriş bağımlılığı puanı orta düzeyde bulunmuştur.

Anahtar Kelimeler: Çevrimiçi Alışveriş, Bağımlılık, Üniversite, Öğrenci

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1. INTRODUCTION

Addiction is defined as the persistent use of a substance or behavior despite its negative consequences (Kardefelt-Winther et al., 2017). Shopping addiction, defined as uncontrolled and excessive shopping, is also considered an addiction that some individuals use to relieve mental tension. The use of credit cards and incentives such as discounts have increased individuals' purchasing incentives. Online shopping, which is affected by these situations, is rapidly increasing today and becoming a public health problem (Sohn & Choi, 2014; Doğan Keskin & Günüç, 2017). It is observed that everything, including expensive products such as electronic goods and furniture, is sold through the Internet today. The increase in time spent shopping online has led to an increase in addiction levels (Fan et al., 2020; Dolega et al., 2021). Online shopping addiction (OSA) refers to an individual's tendency to be unable to control their online purchases. The recent Covid-19 pandemic has led to an increase in online shopping due to prolonged stay-at-home measures in Turkey and around the world. As a result, OSA has become increasingly important during the Covid-19 pandemic. Recently, researchers have focused on the factors that encourage online buying behavior (Kuss & Griffiths, 2011; Jiang et al., 2017; Niedermoser et al., 2021; Cojocariu et al., 2021; Gori et al., 2022; Wang et al., 2022; Leblebicioğlu & Türkyilmaz, 2022). The reasons why people shop online include increased promotions, price reductions, greater variety and convenience in the shopping process, and entertainment. However, online shopping can also lead to unnecessary purchases and become an economic problem (Rakesh & Khare, 2012; Günüç & Keskin, 2016).

Predictive variables for OSA include low self-esteem, low self-regulation, negative emotional state, pleasure in online shopping, female gender, social anonymity, and cognitive overload. Low self-esteem can be cited as a factor that directly affects OSA (Rose & Dhandayudham, 2014). Introverts and individuals with low self-esteem tend to view the internet as a source of relief when they feel sad, depressed, anxious, or alone, highlighting their tendency to escape reality (Suresh & Biswas, 2020).

In this context, it is not wrong to say that shopping has gained many different meanings over time. It can be used as an activity to fill free time, as a space for socializing, or as a means of coping with negative situations and events (Kim, 2002; Leung & Lee, 2005).

Our aim in this study is to determine the possible factors affecting the OSA level of students at a university in Turkey. In addition, the relationship between OSA and self-esteem was evaluated.

2. MATERIAL-METHODS

This cross-sectional study was conducted between 1 October 2022 and 9 March 2023 with an online survey. The duration of the survey was reported to the participants as 30 minutes.

2.1. Data Collection Tool

The first part of the questionnaire consisted of 17 questions related to the participants' sociodemographic characteristics and online shopping behaviors, and was prepared by the researchers based on the literature (Kim, 2002; Leung & Lee, 2005; Angres & Bettinardi-Angres, 2008; Kuss & Griffiths, 2011; Rakesh & Khare, 2012; Rose & Dhandayudham, 2014; Sohn & Choi, 2014; Günüç & Keskin, 2016; Doğan Keskin & Günüç 2017; Jiang et al.; 2017; Kardefelt-Winther et al., 2017; Kirezli & Arslan, 2019; Suresh & Biswas, 2020; Niedermoser et al., 2021; Gori et al., 2022; Leblebicioğlu & Türkyilmaz, 2022; Wang et al., 2022).

The second part of the survey included the Online Shopping Addiction Scale (OSAS). This scale, Zhao et al. (2017) was developed by. Yilmaz et al. (2022) conducted a validity and reliability study in Turkey. The scale consists of 18 items that are expected to measure five sub-dimensions: Tolerance (1, 2 and 3, 4, 5 and 6 items), Mood modification (7, 8 and 9 items), Withdrawal (10, 11 and 12 items), Relapse (13, 14 and 15 items), and Conflict (16, 17 and 18 items). None of the items are reverse-scored. The scale total score can range from 18-90. An increase in the score on the scale indicates that the level of OSAS has increased.

The third part of the questionnaire included the Rosenberg Self-Esteem Scale (RSES), which was used to assess the participants' level of self-esteem. The scale was developed by Rosenberg (2015) in 1963 and validated for use in Turkey by Çuhadaroglu (1986), who also conducted a reliability study. The scale utilized is a 4-point Likert type and comprises 10 propositions. Positive stances are adopted in items 1, 2, 4, 6, and 7, whereas items 3, 5, 8, 9, and 10 harbor negative sentiments. With regards to positive items, participants can choose from "I totally agree 4, I agree 3, I disagree 2, and I strongly disagree 1". On the other hand, negative items are scored inversely. The scores attainable from the scale range from 10 to 40, and an incremental score signifies a corresponding surge in self-esteem levels.

2.2. Sample Size

The group under study comprises students who are 18 years or older and currently studying at Izmir Katip Celebi University. A priori power analysis was conducted utilizing the G*Power 3.1.9.4 program to determine the sample size.

Upon setting the power of the hypothesis to assess whether online dependency level values vary across family types (three categories) at 80%, with a type I error of 0.05 and a medium effect size of $f = 0.25$, One-Way Analysis of Variance was employed to determine that a minimum of 159 students must be included in the study. However, to account for a potential data loss of 27%, the study incorporated 202 participants.

2.3. Permissions

For this study, the approval dated 24.11.2022 and numbered 501 was obtained from Izmir Katip Celebi University Non-Interventional Ethics Committee. At the beginning of the online survey form, information about the study was given and this form was started for those who want to participate.

2.4. Data Analysis

The data were evaluated in IBM SPSS Statistics 26.0 (IBM Corp., Armonk, New York, USA) statistical package program. Descriptive statistics were presented as a number of units (n), percentage (%), and median (25th-75th percentiles). The normality assumption was evaluated with the Shapiro-Wilk test and the homogeneity of their group variances was evaluated by the Levene Test.

The online dependency level total score, scale sub-dimensions, and self-esteem were evaluated by a Mann-Whitney U-test in comparing the mean of total score values with respect to two independent categorical groups. The Kruskal-Wallis test was used to compare more than two independent groups. In the case of significance in the result of the Kruskal Wallis test, the Bonferroni correction for multiple comparison tests was used. The reliability of the online addiction shopping scale and the Rosenberg Self-Esteem Scale were examined with the Cronbach alpha coefficient. The reliability of the Rosenberg Self-Esteem Scale Cronbach alpha was 0.890, and the reliability of the sub-dimensions varies between 0.812 and 0.875. The reliability of the online addiction shopping scale is 0.928. The relationships between the scale sub-dimensions were evaluated by Spearman correlation analyses. The value of $p < 0.05$ was considered statistically significant.

3. RESULTS

In the study, 35.6% of the students were studying in grades above the 4th tier, and a staggering 80.2% were female. The study group had a median age of 21.00 (19.00-22.00) years, with 46.5% of participants belonging to the 18-20 age group. Furthermore, 86.6% of students hailed from nuclear families, and 79.7% perceived their family income as moderate.

Regarding the study group, 36.1% of the students lived apart from their families, while 66.8% of the friend groups comprised predominantly females. The study observed that the three primary reasons for engaging in online shopping were perceived as such: 29.2% (n=59) found it easy to navigate and locate what they were searching for, 8.9% (n=18) cited the experience as enjoyable and promotional, while another 8.9% (n=18) appreciated the opportunity to purchase items at affordable prices.

On being inquired regarding their preferred purchases during online shopping, the study group responded as follows: the majority (61.9%; n=128) indicated clothing and sports equipment, followed by 21.3% (n=41) who preferred purchasing books, magazines, and newspapers. Additionally, 8.4% (n=17) opted for travel tickets as their primary online purchase.

Within the study group, the overwhelming majority of 194 individuals (96.0%) reported engaging in online shopping for personal reasons. Moreover, 67.8% of students claimed to dedicate a quarter of their pocket money towards online shopping, with 47.5% of participants stating they shop weekly. It was also found that 74.3% of students increased the frequency of their online shopping practices during the Covid-19 pandemic.

Table 1 effectively illustrates the distribution of the study group concerning their sociodemographic profile and various variables pertaining to online shopping practices.

Table 1. Distribution of the study group concerning their sociodemographic profile and various variables pertaining to online shopping practices.

Variables	n (%)
Grade	
1st	63 (31.2)
2nd	32 (15.8)
3rd	35 (17.3)
4th and upper	72 (35.6)
Gender	
Female	162 (80.2)
Male	40 (19.8)
Age group (year)	
18-20	94 (46.5)
21-23	85 (42.1)
24 and upper	23 (11.4)
Family type	
Nuclear	175 (86.6)
Extended	15 (7.4)
Fragmented	12 (5.9)
Family income	
Low	7 (3.5)
Middle	161 (79.7)
High	34 (16.8)
Group of friends in the school environment	
Predominantly male	29 (14.4)
Predominantly girls	135 (66.8)
An equal number of male and female friends	38 (18.8)
Whom did he shop for?	
Myself	194 (96.0)
My family	8 (4.0)
Part of pocket money spent on online shopping	
None	17 (8.4)
One quarter	137 (67.8)
More than a quarter	48 (23.8)
Frequency of shopping	
1 per month or less	92 (45.5)
1 per week	96 (47.5)
More often than once a week	14 (6.99)
Increase in shopping frequency during the Covid-19 pandemic	
No, it did not increase	22 (10.9)
Remained the same	30 (14.9)
Yes, increased	150 (74.3)
Total	202 (100,0)

The study discovered that the median score for OSA among the 202 student participants was 38.00 (29.00-47.00).

Additionally, it was observed that the OSA score failed to exhibit any significant correlation with the variables of Family Type, and Family Income ($p>0.05$ for each).

It was found that the scores of 1st-grade students in the Withdrawal and Conflict sub-dimensions were comparatively lower than other grades ($p<0.05$). Moreover, it was

observed that women displayed higher OSAS than men across all dimensions, including general scores and individual sub-dimensions ($p < 0.001$ for each).

The study noted that the overall OSAS did not exhibit any significant link with the age group variable ($p > 0.05$). However, it was observed that in the relapse sub-dimension, the scores of students within the 18-20 age group were lower than those of other age groups ($p < 0.05$). Furthermore, it was discovered that participants who had female friends within the school environment demonstrated higher OSAS across all dimensions, including the general score and individual sub-dimensions ($p < 0.05$ for each).

The study demonstrated that the OSA general score was higher among participants who shopped for themselves compared to those who shopped for their families ($p < 0.05$). Additionally, it was found that the scores for all sub-dimensions, except the Conflict sub-dimension, were higher among those who shopped for themselves ($p < 0.05$ for each).

It was discovered that participants who spent over one-fourth of their pocket money on online shopping exhibited higher scores for OSA across all dimensions, including the general score and individual sub-dimensions ($p < 0.05$ for each).

As the frequency of online shopping increased, OSA overall score and sub-dimension scores were also increasing ($p < 0.001$ for each)

It was observed that among participants who reported an increase in shopping frequency during the Covid-19 pandemic, the scores for OSA were higher across all dimensions, including the general score and individual sub-dimensions, compared to others ($p < 0.05$ for each).

Table 2 presents a comparison of the OSAS based on several variables.

Table 2. Comparison of the Online Shopping Addiction Scale Score based on several variables.

Variables	Online Shopping Addiction Scale Score Median (%25-%75)	Statistical Analysis p-value for Mann Whitney U or Kruskal Wallis
Grade		
1 st	34,00 (25,00-43,00)	0,051 ^a
2 nd	40,00 (35,25-46,75)	
3 rd	36,00 (27,00-45,00)	
4 th and upper	40,00 (33,00-48,75)	
Gender		
Female	39,00 (31,00-48,00)	<0,001 ^b
Male	31,5 (23,25-39,75)	
Age group (year)		
18-20	36,00 (26,75-44,25)	0,149 ^c
21-23	39,00 (33,50-47,50)	
24 and upper	39,00 (20,00-51,00)	
Family type		
Nuclear	37,00 (29,00-45,00)	0,144
Extended	38,00 (31,00-49,00)	
Fragmented	48,00 (27,75-59,25)	
Family income		
Low	41,00 (35,00-48,00)	0,744

Evaluation Of Possible Influencing Factors On The Level Of Online Shopping Addiction And Its Relationship With The Level Of Self-Esteem In A University's Students

Middle	37,00 (29,00-45,00)	
High	40,00 (23,75-52,00)	
Group of friends in the school environment		
Predominantly male	22,50 (18,00-38,00)	0,004 ^d
Predominantly girls	32,00 (22,00-39,00)	
An equal number of male and female friends	23,75 (18,00-31,00)	
Whom did he shop for?		
Myself	38,00 (30,00-47,25)	0,002 ^e
My family	23,00 (18,50-32,00)	
Part of pocket money spent on online shopping		
None	22,00 (18,00-30,00)	<0,001 ^f
One quarter	36,00 (29,00-42,50)	
More than a quarter	49,50 (39,50-54,75)	
Frequency of shopping		
1 per month or less	35,00 (24,00-40,00)	<0,001 ^g
1 per week	42,00 (32,00-51,00)	
More often than once a week	44,50 (38,50-54,75)	
Increase in shopping frequency during the Covid-19 pandemic		
No, it did not increase	29,00 (22,00-40,00)	<0,001 ^h
Remained the same	31,50 (20,50-42,25)	
Yes, increased	39,00 (32,00-49,00)	
Total score	38,00 (29,00-47,00)	

^a $p < 0.05$ (1st-grade score is low) in withdrawal and conflict sub-dimensions.

^b $p < 0.001$ in all sub-dimensions for gender.

^c In the relapse sub-dimension, the 18-20 age group had a lower score ($p < 0.05$).

^d For the group of friends in the school environment, $p < 0.05$ in all sub-dimensions.

^e For who is shopping for $p < 0.05$ in other sub-dimensions except for conflict.

^f $p < 0.05$ in all sub-dimensions for the portion of pocket money spent on online shopping.

^g $p < 0.05$ in all sub-dimensions for the portion spent on shopping frequency.

^h $p < 0.05$ in all sub-dimensions for the portion spent on shopping frequency increase in the Covid-19 pandemic.

The study found that there was no significant correlation between the RSES score and the scores of the general and sub-dimensions of OSAS ($p > 0.05$ for each).

Table 3 displays the correlation results between the scores of the OSAS and its sub-dimensions and the score of the Rosenberg Self-Esteem Scale (RSES).

Table 3. Correlation between Online Shopping Addiction Scale and its Sub-dimensions Scores and Rosenberg Self-Esteem Scale Score.

	Spearman Correlation Coefficient (rho; p value)
With the Rosenberg Self-Esteem Scale	
Online Shopping Addiction Scale	0,050; 0,481
Tolerance	0,026; 0,710
Mood modification	-0,007; 0,922
Withdrawal	0,074; 0,298
Relaps	0,117; 0,097
Conflict	0,107; 0,130

4. DISCUSSION

A study showing that online shopping has been on the rise in recent years was conducted in the United States. One in every four adults has increased the time they spend online shopping in recent years (Jusoh & Ling, 2012). In addition, to travel tickets and hotel

reservations, online shopping is popular for purchasing electronic goods (Lissitsa and Kol, 2016). Factors such as low prices, product comparison, convenience, promotion, and diversity have led to online shopping, especially among young people (Jadhav & Khanna, 2016). In our study, the factors determined for online shopping were similar to the literature. These findings are consistent with larger research on online shopping behavior, which consistently shows that convenience, enjoyment, and cost savings are among the most important factors driving consumer behavior in this context (Wu et al., 2017; Kim & Kim, 2019).

One study reported that the most purchased items in online shopping were clothing, consumer electronics, books, and cosmetics (Kim & Kim, 2019). In our study, travel tickets were among the most purchased, in addition to those reported in the literature.

Based on the literature discussed, we can interpret the results of our study on age and gender as follows. Since our study was conducted with university students, it is worth noting that we focused on a specific age range. Our findings suggest that there is no significant correlation between age and OSA ($p > 0.05$). Our study results indicate that in the sub-dimension of relapse, the 18-20 age group had a lower addiction score. This finding is closely related to the fact that first-year students also had a lower addiction score in the withdrawal and conflict sub-dimensions compared to other students ($p < 0.05$ for each). These results might suggest that younger individuals or students who are relatively new to university life may have a lower tendency to experience relapse and negative consequences related to OSA. Indeed, our findings suggest that the results are more related to being in the first years of university rather than the age factor. However, our study did show that being female and being in a female-dominated environment were significantly associated with OSA in line with previous literature ($p < 0.05$ for each). These results support the idea that gender and social environment can play important roles in OSA.

The socioeconomic status of young individuals can be influenced by their family life. Factors such as having a nuclear family with few children, having a family where parents get along well, having a high family income, or perceiving oneself as having a high socioeconomic status may indicate a higher socioeconomic level. In Turkey, children from middle- or low-income families may benefit from reduced expenditures if they are able to attend university while still living with their families. The study group was examined to evaluate the relationship between their sociodemographic characteristics (family type and family income) and OSA, but no significant associations were identified ($p > 0.05$ for each).

When Table 2 is examined, the OSAS of students with fragmented families seems to be higher than other groups. However, statistical significance was not found ($p > 0.05$). This may be because the number of these students is only 12. Although not evaluated in our study, it can be thought that maturation and individualization occur earlier in individuals with fragmented families. These individuals may be online shopping according to the need factor. Also, they may perceive online shopping as a struggle against stress and anxiety.

In our study, only 7 (3.5%) students reported low family income. Most students reported their family income as medium level (n: 161; 79.7%). In our study, family income was determined not according to economic parameters, but according to the perception of the person. We can accept this as a limitation of our study. The reasons for online shopping by income level were not examined. Low-income households could be considered to shop online for cost savings. In addition, the frequency of internet shopping for psychological reasons of students from high-income families was not evaluated. These reasons may explain why we could not find a relationship between family income and OSA according to the individual's perception.

The majority of the study group reported that they preferred shopping to purchasing a product. We found that these participants were predisposed to OSA ($p < 0.05$). There is limited research specifically exploring the relationship between shopping for oneself and OSA. However, studies have found that various factors such as impulsivity, materialism, and psychological distress can contribute to the development of OSA (Niedermoser et al., 2021). In a study, the fact that the compulsive buying behavior of the participants was positively related to the perceived social status and materialism associated with purchasing can be accepted as a similar result to our result (Yurchisin & Johnson, 2004). In our study group, factors that may affect OSA, such as impulsivity, materialism, and a history of psychological discomfort, could not be evaluated. We can accept this as another limitation of our study.

According to a study conducted on university students in Paris, individuals with OSA tend to spend significantly more money and time on online shopping (Duroy & Lejoyeux, 2014). A study reported that OSA was positively predicted by time spent on online shopping per day and average consumption for online shopping monthly (Jiang et al., 2017). Similarly, in our study, spending most of one's pocket money on online shopping and shopping online more than once a week was found to be associated with an OSA ($p < 0.05$ for each).

The COVID-19 pandemic has also led to changes in shopping habits due to the closure of physical stores. The majority of participants in our study reported an increase in the frequency of online shopping during the pandemic period. Numerous studies have reported on the relationship between the pandemic and online shopping. The study conducted on 451 German consumers during the COVID-19 pandemic examined their shopping behavior. Hedonic motivation in the purchase intention is especially effective on the Z generation and women (Koch et al., 2020). It has been reported that the Covid 19 outbreak also directed Iraqi consumers to online shopping (Ali, 2020). During the epidemic, distance education and remote work have changed their purchasing behavior online. In our study, it was concluded that those who think that online shopping has increased during the Covid-19 pandemic are more prone to online addiction ($p < 0.05$). This finding could be interpreted as indicating that the pandemic has contributed to an increase in OSA, possibly due to the increased availability and convenience of online shopping during quarantine periods or as a coping mechanism for individuals dealing with stress and anxiety related to the pandemic. However, further

research is needed to confirm the relationship between the perception of increased online shopping during the pandemic and OSA.

High self-esteem is associated with positive outcomes such as mental health, social functioning, academic and career success, and overall happiness (Satuf et al., 2018). One of the main aims of this study was to investigate whether there is a negative correlation between self-esteem and online addiction. However, at the end of the study, we saw that no sub-dimension scores of the OSA scale were correlated with self-esteem ($p>0.05$ for each). There are many studies that provide evidence that people with low self-esteem are prone to OSA (Aslan, 2023; Andreassen, 2015). (2014;

In a study from Turkey (Aslan, 2023), 388 young individuals were studied. Based on the relational screening model, it was explained that low self-esteem affects uncontrolled credit card use. In addition, Aslan (2023) could find explain OSA with self-esteem and uncontrolled credit card use. It can be thought that individuals with low self-esteem tend to online buying behavior in order to achieve a better life.

Andreassen et al. (2015) created four items for each of the seven addiction criteria (importance, mood change, conflict, tolerance, withdrawal, relapse, and problems). They studied 23,537 people with an average age of 35.8 years. Bergen Shopping Addiction Scale scores were reported as positive with low self-esteem and inversely proportional to age. Since our study group consists of university students, the ages are quite low. The age factor can explain the relationship between self-esteem and addiction. Therefore, in our study, a relationship between self-esteem and OSA may not have been demonstrated.

5. CONCLUSION

At the end of this study, the OSAS in the study group was found to be moderate (Median score: 38.00). Especially being a woman, having female-dominated friends at school, shopping for oneself, spending most of her pocket money on online shopping, and high frequency of shopping was found to be associated with an OSA. The dominant view of the participants was that there was an increase in shopping frequency during the Covid-19 pandemic. No correlation was between the OSAS score and RSES score ($p>0.05$). It is recommended to organize training on OSA among university students and to conduct new studies above the evidence level of cross-sectional studies.

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