PERSONALITY TRAITS, SELF-ESTEEM AND MENSTRUAL CYCLE AS CORRELATES OF CONSUMER IMPULSIVENESS AND REGRET

Tanja M. VUJOVIĆ¹
University of Priština in Kosovska Mitrovica (Serbia)
Faculty of Economics
Department of Business Economics, Management, Marketing and Entrepreneurship

Dušan J. RANDELOVIĆ²
University of Priština in Kosovska Mitrovica (Serbia)
Faculty of Philosophy
Department of Psychology

Anđelka V. TRIPKOVIC³
University of Priština in Kosovska Mitrovica (Serbia)
Faculty of Economics
Department of Business Economics, Management, Marketing and Entrepreneurship

¹ tanja.vujovic@pr.ac.rs; https://orcid.org/0000-0001-7103-0934
² dusan.randjelovic@pr.ac.rs; https://orcid.org/0000-0001-8925-4231
³ andjelka.tripkovic@pr.ac.rs; https://orcid.org/0000-0002-3972-4933
Abstract. The paper examines consumer impulsiveness and post-purchase dissonance among female students as well as their relationship with personality traits, self-esteem and menstrual cycle. The study involved 253 female students pursuing Bachelor's, Master's and PhD degrees at the Faculty of Economics, Faculty of Medicine, Faculty of Law, Faculty of Philosophy, Faculty of Technical Sciences and Faculty of Arts of the University of Priština in Kosovska Mitrovica. The instruments used in the study were the impulsiveness scale, the consumer regret scale, and the self-esteem scale. The analysis indicated that these are highly reliable instruments whose items can be regarded as homogeneous and representative. The results obtained show that consumer impulsiveness among the female students is at an average level, whereas the post-purchase regret is at a lower level compared to the theoretical average. In addition, a positive correlation was found between consumer impulsiveness and neuroticism, while self-esteem has a negative correlation with consumer impulsiveness and is its significant predictor. On the other hand, there is a negative relationship between post-purchase regret and cooperativeness, conscientiousness, openness to experience, and self-esteem. Conscientiousness and self-esteem can also be identified as predictors of post-purchase regret among female students, with self-esteem having a greater independent contribution.
Introduction

Consumer behavior is a complex process that refers to the study of how individuals, groups, and organizations select, purchase and use goods, services, ideas or experiences to satisfy their needs and desires (Kotler i Keller, 2006). Given that shopping is traditionally perceived as a female activity, it is unsurprising that professional literature pays special attention to research on women's shopping behavior (Underhill, 1999). Women account for almost 80% of all purchase decisions (Schiffman i Kanuk, 2004), they enjoy the shopping process more than men, they are more prone to impulsive purchases, and they are more loyal to brands (Tifferet & Herstein, 2012), and more and more retailers are oriented towards women as the target group.

As a process, consumer behavior possesses its cognitive, affective and conative components and includes a wide range of activities: ranging from seeking alternatives, choosing one of the alternatives available, buying and using products, to post-purchase behavior, more precisely, post-purchase evaluation of products and services (Belch & Belch, 2004). Youn and Faber (2000) argue that consumers characterized by a lack of control react stressfully when they experience negative affective states and consequently engage in impulse buying to improve their mood, and this is particularly true of female consumers since they are hypersensitive to external factors, yet willing to try new products. Irrational shopping styles emerging as a need for satisfaction, lifting one's mood, identity exploration or entertainment represent abrupt, unpremeditated, hedonistic behavior in the shopping process, in the course of which a woman, acting on impulse, buys symbolic products, which would primarily emphasize her appearance and emotional aspects of life.

As regards impulse buying, female consumers are generally attracted to cheaper goods, more aggressive promotional campaigns, and price reductions, especially opting for clothes, cosmetics and beauty products, while male consumers are more attracted to purchasing electronic equipment and technical products. Concerning consumer behavior, individuals often tend to think causally, which consequently leads to feelings of regret due to evaluating the
outcome of a purchase or the purchase process. Female consumers feel regret due to the chosen outcome of purchase in their relation to certain alternatives. Although consumers are more likely to express regret when they are aware of at least one alternative outcome, the research showed that regret occurs even in situations where alternatives are unknown to customers (Lee & Cotte, 2009).

In the context of marketing psychology, the study of the relationship between different aspects of consumers’ personalities and different types of buying behavior is a very common topic, which, as the subject of many surveys, explains consumers’ impulse buying behavior, with a heavy emphasis on impulsiveness, emotionality, but also irritability, as key elements inherent in this process. Psychologists in the field of marketing practice have been making considerable efforts to enrich traditional methods of market segmentation based on demographic variables and data from the domain of personality, with the aim of more realistic identification of different consumer segments and the formation of adequate marketing strategies (Whelan & Davies, 2006). Consumers’ personality traits represent a variable that can predict a greater or lesser propensity to purchase, in the sense that different personality traits determine priorities and importance in relation to different criteria in the course of purchasing (Dobre & Milovan-Ciuta, 2015). Kurt Lewin, one of the representatives of modern social psychology, suggested a pattern of behavior called the “black box”, according to which consumers’ behavior is primarily influenced by observable factors such as demographic, economic, situational and marketing mix factors. Nevertheless, there is also the famous “black box” within which there is a division into endogenous influences (personality, learning, perception, motivation and attitudes) and exogenous influences (family, culture, subculture, social class and reference groups), which also visibly determine consumer behavior (Munthiu, 2009). Certain personality traits are directly related to self-esteem as a set of conscious beliefs, opinions, attitudes, values, and feelings about oneself (Robins et al., 2001). In relation to the above-mentioned, self-esteem has the highest correlations with extraversion and conscientiousness, while it has moderate correlations with openness to experience and cooperativeness (Costa et al., 1991; Goldberg & Rosolack, 1994; Jackson & Gerard, 1996; Keller, 1999; Kwan et al., 1997; Robins et al., 2001), so it can be safely assumed that personality traits can exert a mediating influence in connection with self-esteem, impulsiveness and regret.

Female consumers’ decisions about what they will buy and how they will dress in general depend to a significant extent on the specific cultural frameworks in which they were born and in which they live. On the other hand, numerous studies undertaken at the end of the 20th and the beginning of the 21st century (Bowen & Grunberg, 1990; Pine & Fletcher, 2011; Pipitone & Galup, 2008; Van Goozen et al., 1997) focused on the oscillation of female hormones during the menstrual cycle, highlighting their heavy impact on frequent changes in women’s behavior as well as their daily decisions, including those to do with purchasing.
Despite the fact that the menstrual cycle is a completely normal phenomenon in the female reproductive cycle and an indicator of general health, for certain reasons it is accompanied by taboos, stigma and misunderstanding. Mood changes, differences in efficiency and effectiveness in terms of undertaking daily activities, as well as psychosomatic symptoms, are the corollaries of hormonal changes occurring during the menstrual cycle, resulting in cyclical phenomena that affect how a woman feels at a given moment. According to some authors, women’s buying habits during different phases of the menstrual cycle indicate that this process has always generated great interest, leaving at the same time enough room for constant debates and dilemmas; therefore, Jas (1994) points out that women, in the week prior to menstruation, as a solution to being in a bad mood, often consume a large amount of chocolate; moreover, consumption among women oscillates depending on the menstrual phase, so women in the luteal phase are more impulsive compared to the beginning of the cycle, but they are also more rational and controlled during the ovulation phase (Pine & Fletcher, 2011).

Methodology

A certain number of studies examined the partial effects of various factors (personality, socio-demographic characteristics, and menstrual cycle) on consumers’ impulsiveness and regret, but few papers employed an integrative approach to the study of the problem in question, determining the best predictor of these variables. This paper aimed to determine the level of consumer impulsiveness and post-purchase regret among female students and to examine their relationship with personality traits, self-esteem and menstrual cycle phases. The research was conducted in May and June 2022. From a total of 300 distributed questionnaires, after eliminating respondents who did not meet the desired criteria (due to the irregular menstrual cycle or pregnancy) and questionnaires that were not properly filled out, the final sample consisted of 253 female students. The sample was non-random and quota-based; that is, 50 female students from all levels of study were initially selected from each faculty.

Questionnaires were filled out individually, which lasted for around 25 minutes, on the premises of the Faculty of Economics, Faculty of Philosophy, Faculty of Medicine, Faculty of Science, Faculty of Arts and Faculty of Law of the University of Priština in Kosovska Mitrovica. Participation in the research was voluntary and anonymous. Namely, before filling out the questionnaire, the respondents were informed not only about the purpose and scope of the research but also that the collected data would be used exclusively for scientific purposes.
The authors of the paper received permission and confirmation from the Ethics Committee of the Faculty of Economics of the University of Priština in Kosovska Mitrovica to conduct the research.

Research tasks:
1. Examine the level of consumer impulsiveness and post-purchase dissonance among female students and compare the obtained values with the average values.
2. Examine whether there is a correlation between consumer impulsiveness and post-purchase dissonance with personality traits, self-esteem and the menstrual cycle.
3. Examine the possibility of predicting consumer impulsiveness based on knowledge of the value of personality traits, self-esteem and the menstrual cycle.
4. Examine the possibilities of predicting post-purchase dissonance based on knowledge of the value of personality traits, self-esteem and the menstrual cycle.

Measures and Instruments

In the course of the research, consumer impulsiveness and post-purchase dissonance were seen as dependent, i.e., criterion variables.

*Consumer impulsiveness*: Impulsiveness denotes a person’s behavior associated with the propensity for impulse buying. This tendency includes two characteristics: an immediate impulse or desire to buy, and a limited and narrow consideration and evaluation of the consequences of the purchase. This tendency includes two characteristics: an immediate impulse or desire to buy, and a limited and narrow consideration and evaluation of the consequences of the purchase. More precisely, a more impulsive consumer tends to make impulse purchases (Chen & Lee, 2015; Youn & Faber, 2000). Impulse buying, in different periods of life and at different stages of the menstrual cycle, can serve as a “vehicle” for women to relieve anxiety, stress and negative feelings. In the paper, consumer impulsiveness was measured using the Impulsiveness Measurement Scale (Rook & Fisher, 1995). Consent was obtained from the authors for the use of the above-mentioned instrument in research on the territory of the Republic of Serbia. After double translation and checking of psychometric characteristics, the scale proved to be satisfactorily reliable (Cronbach’s alpha value was $\alpha = 0.717$). This scale contains 9 items, and a characteristic example of the items is as follows: “I am extremely reckless regarding my purchases.” Female students needed less than three minutes to fill it in, and the answers to the nine items within this scale were provided as follows: 1 – I completely disagree; 2 – I do not agree; 3 – I neither agree nor disagree; 4 – I agree; 5 – I completely agree.

*Post-purchase dissonance*: The intensity of regret/dissonance is influenced by the level of individual responsibility; that is, when individuals have more control
over their decisions, regret is greater compared to the situation when they have less control (Lee & Cotte, 2009). Economic approaches to regret/dissonance increasingly emphasize that when making a purchase decision, a person can sacrifice some gain if he/she thinks that he/she will not regret it later, i.e., that the anticipation of future regret affects the current choice (Lacković-Grgin, 2012). In the course of the research, the regret scale was employed – Regret Scale (Creyer & Ross, 1999), for which the authors of the paper received permission to use it. The scale contains 8 items, and an example of a characteristic item is as follows: “I think I made a mistake by making that choice.” In the phase of designing the questionnaire, before its distribution, the process of double translation of the regret scale was carried out, and Cronbach’s alpha value was $\alpha = 0.78$.

On the other hand, personality traits, self-esteem and menstrual cycle were treated as independent variables in the research.

**Personality traits**: The personality dimensions defined by the five-factor model (Costa et al., 1999) were taken into consideration: extraversion, neuroticism, conscientiousness, openness to experience and cooperativeness. The BF Inventory (Big Five Inventory) (John & Srivastava, 1999) or its Serbian version comprising 44 items (Opsenica-Kostić, 2012) was used for the research. In the above-mentioned part of the questionnaire, short phrases are used to describe personality and the respondents respond to what extent they agree with statements on a five-point Likert-type scale. The study conducted by Čolović (2012) outlines the satisfactory metric characteristics of the questionnaire on different samples (Cronbach’s alpha reliability coefficients for individual subscales are $\alpha = 0.72–0.80$). In our study, Cronbach’s alpha for neuroticism is $\alpha = 0.72$, for extraversion $\alpha = 0.80$, for openness $\alpha = 0.88$, for cooperativeness $\alpha = 0.81$ and for conscientiousness $\alpha = 0.81$, which is satisfactory considering the small number of items in the subscales, but it is also a good indicator of reliability. Cronbach’s alpha is $\alpha = 0.88$ for the entire personality scale, while the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.84. Irrespective of the fact that it does not provide a sufficiently detailed insight into personality traits, the instrument is suitable due to its relative brevity and clearly formulated questions.

**Self-esteem**: Self-esteem refers to the perception of self-image, and Rosenberg (1965) defined self-esteem as the comprehensiveness of thoughts and feelings about oneself as an object. The Rosenberg Self-Esteem Scale (SES) (Rosenberg, 1965; 1979), as one of the most commonly used scales, was used to assess general self-esteem. It consists of ten simple items and only takes a few minutes for respondents to complete. Five items of the scale are in the positive direction (for example, “I feel that I have many good qualities”), while the other five are in the negative direction (for example, “I feel that there is not much that I can be proud of”) with reverse scoring. Respondents express their degree of agreement from 5 – I completely agree, to 1 – I completely disagree. The total score ranges from 0 to 30, with the results indicating higher self-esteem if the
score obtained is higher. According to the author of the scale, the results of the general self-esteem scale are divided into three groups: low (the score is below 15), average/moderate (the score is from 15 to 20) and high (the score is over 25). Reliability expressed by Cronbach’s coefficient of internal consistency is extremely reliable and amounts to $\alpha = 0.86$.

**Menstrual cycle:** The menstrual cycle represents a series of changes taking place within a woman’s body, and the length and dynamics of the cycle itself vary from woman to woman. During the menstrual cycle, which lasts 28 days, there are changes in the level of follicle-stimulating hormone (FSH) and luteinizing hormone (LH), which regulate the level of estrogen and progesterone in the body (Šimić i Sesar, 2011). The level of estrogen and progesterone in the body affects the division of the menstrual cycle into five phases, namely: the premenstrual phase, the follicular phase, the luteal phase, the ovulation phase and the menstrual phase. In this study, the menstrual cycle is defined as a numerical variable, and its value is represented by the number of days that have elapsed since the entered date of the first day of the last menstrual cycle of the respondents.

After data had been collected, preliminary analyses were performed, and the data were processed through the statistical program IBM SPSS-26, in which descriptive statistics, correlation, and multiple regression analysis were used. The paper entitled “Pre-menstrual period: Do women really consume more?” by Cristina Maria de Aguiar Pastore, Eliane Cristine Francisco Maffezzolli, Wesley Vieira da Silva and Paulo de Paula Baptista, and published in the *Journal of Consumer Behaviour* (2016), was the point of reference for this research.

**Results**

As regards age, the respondents who participated in this research were aged from 18 to 50 years (AS = 22.8, SD = 3.96). Of the total number of respondents, 88.1% are undergraduate students, 9.1% are master’s students, and only 2.8% are PhD students. Other socio-demographic characteristics of the respondents are provided in Table 1.

**Table 1. Socio-demographic characteristics of the respondents**

<table>
<thead>
<tr>
<th>FACULTY</th>
<th>Number</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty of Economics</td>
<td>42</td>
<td>16.6</td>
</tr>
<tr>
<td>Faculty of Arts</td>
<td>36</td>
<td>14.2</td>
</tr>
<tr>
<td>Faculty of Philosophy</td>
<td>46</td>
<td>18.2</td>
</tr>
<tr>
<td>Faculty of Medicine</td>
<td>50</td>
<td>19.7</td>
</tr>
<tr>
<td>Faculty of Natural and Mathematical Sciences</td>
<td>41</td>
<td>16.2</td>
</tr>
<tr>
<td>Faculty of Law</td>
<td>38</td>
<td>15.1</td>
</tr>
</tbody>
</table>
AVERAGE MONTHLY INCOME*  

<table>
<thead>
<tr>
<th>Range of Income</th>
<th>Number</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>to 170 dollars</td>
<td>9</td>
<td>18.8</td>
</tr>
<tr>
<td>170–340 dollars</td>
<td>12</td>
<td>25.0</td>
</tr>
<tr>
<td>340–510 dollars</td>
<td>10</td>
<td>20.8</td>
</tr>
<tr>
<td>510–680 dollars</td>
<td>9</td>
<td>18.8</td>
</tr>
<tr>
<td>680 and more dollars</td>
<td>8</td>
<td>16.6</td>
</tr>
</tbody>
</table>

FAMILY  

<table>
<thead>
<tr>
<th>Family Type</th>
<th>Number</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I live alone</td>
<td>11</td>
<td>4.3</td>
</tr>
<tr>
<td>1–3 members</td>
<td>60</td>
<td>28.7</td>
</tr>
<tr>
<td>3–5 members</td>
<td>128</td>
<td>50.6</td>
</tr>
<tr>
<td>5–7 members</td>
<td>44</td>
<td>21.3</td>
</tr>
</tbody>
</table>

*referring to employed students

The process of buying itself in the 21st century does not only refer to the idea of providing basic necessities but implies a much more complex dimension that nowadays, with psychological insights, contributes to the study of the personality traits of customers, their way of thinking in the course of the purchasing process, as well as their needs and desires which they satisfy by purchasing. When asked, “How often do you frequent different stores, supermarkets, department stores and shopping malls?”, the largest number of respondents, 33.4% of them, stated that they go to some of the mentioned facilities several times a week intending to buy the necessary products. 9.9% of respondents go shopping at least once a day, and almost a third of them (28.1%) do it several times a month. Shopping aimed at an exaggerated sense of pleasure, inner satisfaction and a sense of usefulness in women can become so intense that it enhances repetitiveness. The respondents were asked the following question: “In case you get extra money outside of your monthly budget, to what extent does spending it on some of the listed items give you a sense of usefulness and satisfaction?”; the largest percentage (50.1%) believes that buying food with extra money fully provides a sense of usefulness, while 47.8% of female students point out that they would use extra money to buy new clothes, which would increase their satisfaction.

Table 2. Sense of usefulness and satisfaction felt by female students through spending extra money

<table>
<thead>
<tr>
<th>Item</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>253</td>
<td>1</td>
<td>5</td>
<td>4.16</td>
<td>1.043</td>
<td>253</td>
<td>1</td>
<td>5</td>
<td>4.10</td>
<td>.997</td>
</tr>
<tr>
<td>New clothes</td>
<td>253</td>
<td>1</td>
<td>5</td>
<td>3.98</td>
<td>1.004</td>
<td>253</td>
<td>1</td>
<td>5</td>
<td>4.05</td>
<td>1.106</td>
</tr>
<tr>
<td>Gifts</td>
<td>253</td>
<td>1</td>
<td>5</td>
<td>3.66</td>
<td>1.153</td>
<td>253</td>
<td>1</td>
<td>5</td>
<td>4.10</td>
<td>1.083</td>
</tr>
<tr>
<td>Debt repayment</td>
<td>253</td>
<td>1</td>
<td>5</td>
<td>3.66</td>
<td>1.361</td>
<td>253</td>
<td>1</td>
<td>5</td>
<td>3.42</td>
<td>1.388</td>
</tr>
<tr>
<td>Household items</td>
<td>253</td>
<td>1</td>
<td>5</td>
<td>3.58</td>
<td>1.277</td>
<td>253</td>
<td>1</td>
<td>5</td>
<td>3.69</td>
<td>1.216</td>
</tr>
</tbody>
</table>
Women who are more prone to impulse buying more frequently develop negative feelings, feel under stress more often, and their social relationships, as well as functioning in the social environment, are significantly more impaired compared to women less prone to impulse buying. However, impulse buying in many situations leads to women feeling regret about the purchase made.

Table 3. Markedness of impulse buying and post-purchase dissonance among female students

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>impulse buying</td>
<td>253</td>
<td>1.44</td>
<td>4.89</td>
<td>2.989</td>
<td>.73137</td>
</tr>
<tr>
<td>post-purchase dissonance</td>
<td>253</td>
<td>1.00</td>
<td>4.38</td>
<td>2.4931</td>
<td>.77149</td>
</tr>
</tbody>
</table>

Taking into consideration the theoretical range of scores on the buying impulsiveness scale (at the item level: 1 to 5), we can conclude that the markedness of impulsiveness in our sample is at an average level and does not differ significantly from the theoretical average (AS = 2.99, t(253) = -.239, p > .005). Regarding regret, it is lower than the theoretical average (AS = 2.4, t(253) = -10.457, p < .001). In order to check whether there is a significant difference in the markedness of buying impulsiveness when shopping among the respondents in our research and the results of earlier research on a similar sample (specifically, women from Brazil in the study conducted by Pastore et al. (2016)), we applied the t-test, bearing in mind that we only had information on the arithmetic mean from the aforementioned research. Namely, in the aforementioned research, the same instrument (impulsiveness scale and regret scale) was used as in our research, which made it possible to compare the obtained findings. It was shown that the level of marked impulsiveness in our sample (AS = 2.99) is lower than the level of marked impulsiveness in the sample of female respondents in the study conducted by Pastore et al. in 2016. Regarding post-purchase dissonance, the findings indicate a higher level of regret among our respondents (AS = 2.49) compared to respondents from Brazil (AS = 2.06, t(253) = 8.929, p < .001). According to Bratko et al. (2007), impulse buying is related to the model of the big five personality factors (extraversion, cooperativeness, conscientiousness, neuroticism and openness), and neurotic and extraverted female consumers are more prone to impulse buying compared to female consumers characterized by a certain degree of conscientiousness. Furthermore, according to the same authors, emotionally stable people less frequently resort to impulsive purchases. On the other hand, as Mihić and Kursan (2010) argue, a tendency to impulse buying depends on the type of product being purchased, and younger women with lower self-esteem have a greater tendency to impulse buying, but this tendency decreases with age. Table 4 shows the findings obtained by correlation analysis, which compared the relationship...
between consumer impulsiveness and post-purchase regret with personality traits, self-esteem and menstrual cycle.

Table 4. Relationship between consumer impulsiveness and post-purchase regret with personality traits, self-esteem and menstrual cycle

<table>
<thead>
<tr>
<th></th>
<th>extraversion</th>
<th>cooperation</th>
<th>conscientiousness</th>
<th>neuroticism</th>
<th>openness</th>
<th>self-respect</th>
<th>menstrual cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>impulsiveness</td>
<td>.003</td>
<td>-.202**</td>
<td>-.191**</td>
<td>.212**</td>
<td>-.033</td>
<td>-.234**</td>
<td>.023</td>
</tr>
<tr>
<td>Sig.</td>
<td>.967</td>
<td>.001</td>
<td>.002</td>
<td>.001</td>
<td>.601</td>
<td>.000</td>
<td>.718</td>
</tr>
<tr>
<td>post-purchase regret</td>
<td>-.101</td>
<td>-.208**</td>
<td>-.335**</td>
<td>.159*</td>
<td>-.200**</td>
<td>-.440**</td>
<td>.083</td>
</tr>
<tr>
<td>Sig.</td>
<td>.108</td>
<td>.001</td>
<td>.000</td>
<td>.011</td>
<td>.001</td>
<td>.000</td>
<td>.186</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Although there is a statistically significant relationship (p = 0.001), the Pearson correlation coefficient is quite low between the variables consumer impulsiveness and cooperativeness (r = -0.202), and there is a negative relationship between them, whereas consumer impulsiveness is in a weak but positive correlation with neuroticism (r = 0.212). On this basis, and in accordance with the assumption that cooperativeness is associated with people who are basically altruistic, it can be concluded that the more impulsive the respondents in our study are, the less often they base their purchase decisions on other people’s advice, and they do not subordinate personal needs to the needs and desires of groups. If the relationship between consumer impulsiveness and neuroticism is analyzed, based on the findings obtained, it is clear that the respondents are more impulsive in the purchasing process when they are in a dysphoric mood, when they feel helpless or pessimistic with low self-esteem. A statistically significant correlation (p = 0.000) between consumer impulsiveness and self-esteem with the value of the Pearson correlation coefficient (r = -0.234) indicates a weak negative relationship, i.e., the affective component of impulse buying is associated with low self-esteem. Accordingly, impulse buying is most often seen as a way of coping with life’s challenges and is a corollary of low self-esteem and/or internal psychological tension (Eraković et al., 2020). The Pearson correlation coefficient (r = -0.191) between consumer impulsiveness and conscientiousness indicates a rather low negative relationship with high statistical significance (p = 0.002), which means that female students who are the subject of this study are not overly scrupulous and reliable in situations when they impulse buy.

There is a significant correlation between the variables post-purchase regret and cooperativeness (p = 0.001) and the Pearson correlation coefficient
amounts to \( r = -0.208 \). According to Lee and Cotte (2009), the intensity of regret is influenced by the level of individual responsibility; that is, when individuals have more control over their decisions, regret is greater compared to situations where they have less control. Post-purchase regret is negatively correlated with the variable openness \( (p = 0.001, r = -0.200) \). The weak correlation between the observed variables suggests that a higher degree of post-purchase regret leads to less openness, which is typical of conventional and conservative female consumers having narrow interests. Although there is a highly statistically significant correlation \( (p = 0.000) \) between the variables post-purchase regret and conscientiousness with the Pearson correlation coefficient \( r = -0.335 \), as well as between the variables post-purchase regret and self-esteem \( (r = -0.440) \), there is a weak negative correlation between them. The greater the post-purchase regret felt by the respondents, the lower the level of conscientiousness and self-esteem due to wrongly evaluated alternatives. The only positive correlation, albeit very weak, was found between post-purchase regret and neuroticism \( (r = 0.159) \), with statistical significance \( (p = 0.011) \). Namely, if the respondents conclude that their decisions led to making a bad choice, they will feel regret as a result, which entails negative emotions such as fear, guilt, anger, and depression. One of the study objectives was to examine the possibility of consumer impulsiveness and post-purchase based on predictors involving personality traits (extraversion, cooperativeness, conscientiousness, neuroticism and openness), self-esteem and the menstrual cycle through multiple regression analysis. Preliminary analyses proved that the assumptions of normality, linearity, multicollinearity and homogeneity of variance were not violated. Table 5 indicates that the coefficient of multiple correlation is \( R = .310 \) and explains the linear correlation of consumer impulsiveness as a criterion variable with predictors (personality traits, self-esteem and menstrual cycle) \( (F_{7,243}) = 3.698, p < 0.01 \). The model accounts for 9.6% of the variance in consumer impulsiveness. From the analyzed predictors, based on the level of significance of the standardized \( \beta \) coefficients, it can be seen that only self-esteem \( (\beta = -.164) \) is a statistically significant predictor of consumer impulsiveness. Based on the results obtained from the conducted analysis, it can be inferred that self-esteem as a predictor represents a negative correlation with consumer impulsiveness, which was also confirmed by the correlation analysis (Table 4). Similar results were obtained by Harmancioglu et al. (2009), whose research found that self-esteem as a predictor is negatively correlated to the tendency to engage in impulsive behavior and the intention to buy.
Concerning post-purchase regret as a criterion variable, the findings show that the multiple correlation coefficient amounts to $R = .497$, $F_{7, 243} = 11.359$, $p < 0.01$. The coefficient of multiple determination is $R^2 = .247$, which means that the percentage of variance, which is common to the criterion and the set of predictor variables entered into the procedure, is 24.7%. From the analyzed factors, conscientiousness ($\beta = -.233$) and self-esteem ($\beta = -.410$) can be singled out as predictors of regret among female students, with self-esteem having a greater independent contribution to predicting the criteria. Both predictors represent negative correlations with consumers’ post-purchase regret. The assumption is that female students possessing a higher level of self-esteem and conscientiousness feel a lower degree of regret after making a purchase.

Table 6. Multiple regression analysis: Personality traits, self-esteem and menstrual cycle as predictors of consumers’ regret

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Criterion: post-purchase regret</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Beta (β)</td>
</tr>
<tr>
<td>extraversion</td>
<td>.109</td>
</tr>
<tr>
<td>cooperativeness</td>
<td>-.003</td>
</tr>
<tr>
<td>conscientiousness</td>
<td>-.233</td>
</tr>
<tr>
<td>neuroticism</td>
<td>-.105</td>
</tr>
<tr>
<td>openness</td>
<td>-.068</td>
</tr>
<tr>
<td>self-esteem</td>
<td>-.410</td>
</tr>
<tr>
<td>menstrual cycle</td>
<td>.042</td>
</tr>
</tbody>
</table>

**. significant at the 0.01 level (2-tailed).
*. significant at the 0.05 level (2-tailed).
Since the paper examines the impact of personality traits, self-esteem and the menstrual cycle on consumers’ impulsiveness and post-purchase regret, the questions raised in the remainder of the paper are as follows: Can changes in women’s buying behavior be influenced by hormonal oscillations in the course of the menstrual cycle? If a woman is aware of the phase of her menstrual cycle, would she change her behavior and preferences? If a woman is aware of the phase of her menstrual cycle, would she alter her behavior and preferences? As already explained in the methodology, the menstrual cycle is treated here as a numerical variable. For the sake of comparison with other research on this topic, we shall provide below illustrative data on the percentage of respondents from our sample in different phases of the menstrual cycle. 21.3% of the respondents were in the menstrual phase, and the same percentage of respondents were in the follicular phase while filling out the questionnaire; almost a third of the respondents (30.0%) were in the luteal phase and a significantly smaller number of respondents were in the ovulatory phase (13.8%) and premenstrual phase (13.4%). The research demonstrated that the menstrual cycle is neither correlated with consumers’ impulsiveness ($r = 0.023$, $p = 0.718$) nor with post-purchase regret ($r = 0.083$, $p = 0.286$). Also, this independent variable is not a predictor of consumers’ impulsiveness ($p = 0.798$, $\beta = .016$) or post-purchase regret ($p = 0.453$, $\beta = .042$).

**Discussion**

The authors of the paper commenced their study by determining the level of consumer impulsiveness and post-purchase regret among female students of the University of Priština in Kosovska Mitrovica and their relationship with personality traits, self-esteem and menstrual cycle phases. Essentially, the driving force behind the paper is the authors’ initiative to launch a research project that will incite researchers to seek a more realistic representation of making purchase decisions and the regrets that often accompany them. Numerous studies into consumer behavior, particularly into consumers’ impulsive behavior, have shown and proved that it is a very interesting research area in which both marketers and psychologists strive to gain a revealing insight into consumers’ buying habits (Muruganantham & Bhakat, 2013). Research on the topic in question, regardless of topicality, is scarce, especially in our region. Furthermore, this study expands knowledge about the psychological characteristics of female consumers, with special reference to female students, in the context of thinking about whether or not their purchasing decisions are related to their emotional status or the phase of the menstrual cycle they are in.

First of all, the paper, using descriptive statistics, demonstrates that consumer impulsiveness is at an average level compared to the theoretical average, whereas
post-purchase regret is at a lower level compared to the theoretical average. If we compare the results of our sample with the sample of women in Brazil, it is evident that there are differences. Namely, buying-related impulsiveness among female students of the University of Priština in Kosovska Mitrovica is lower compared to female respondents from Brazil. The income level, cultural differences and standard of living of the country where the respondents live are just some of the reasons that can be conducive to differences in regard to buying-related impulsiveness. Through the comparison of these two groups of respondents, it can be concluded that women in Brazil are more emotional, do not have enough conscious control and are driven by their own motives without logical anticipation of consequences. The above-mentioned can be explained by the fact that respondents living in a South American country are employed, live in a married or cohabiting union, are devoted to their family and therefore are more susceptible to more and more frequent mood swings due to the various stresses they experience. Unlike them, female students who participated in our research are more emotionally stable, relieved, and optimistic, which can be attributed to their age and carelessness, as well as the fact that their main priorities are finishing their studies and finding a job.

Also, this research showed that post-purchase regret among female students is at a higher level compared to regret felt by women who participated in the study conducted in Brazil in 2016. The authors of this paper assume that, when making a purchase decision, female students sacrifice their pocket money or money earned from part-time jobs (since most of them are not employed and are not looking for work), after which regret emerges as a consequence of frequent thinking about the opportunity cost, which is measured by the benefits derived from choosing the next best alternative. As the findings obtained through this study show that due to less control over decisions, greater regret emerges after the purchase is made, in which emotions are also overemphasized, it is necessary to increase the justification of the decision, where the consistency of intentional behavior is especially important, bearing in mind that changeability and rashness generally lead to feeling regret more frequently.

It is common knowledge that women are emotionally unstable to a certain extent, that they tend to conform and very often show impulsiveness and addiction to shopping. The findings of the correlation analysis show that there is a negative correlation between consumer impulsiveness of female students and cooperation, conscientiousness and self-esteem, but consumer impulsiveness is positively associated with neuroticism. On the other hand, no statistically significant correlation was found between consumer impulsiveness and openness to experience, extraversion and the menstrual cycle. By analyzing the profile of female students of the University of Priština in Kosovska Mitrovica, it can be concluded that these are young people who make decisions independently in
the purchasing process, especially in situations where they are in a dysphoric mood and have less self-esteem.

In previous studies into personality profiles, the five-factor model was used, but contradictory findings were often obtained. For instance, Mowen (as cited in Mikolajczak-Degrauwe et al., 2012) demonstrated in their study that neuroticism positively correlates with impulsive behavior. A high level of neuroticism, i.e., emotional instability, is associated with undesirable counterproductive behavior at work (Ferreira & Nascimento, 2016), lower academic success (Chamorro-Premuzic & Furnham, 2003) and less life satisfaction (Schimmack et al., 2004), as well as aspects such as health, income, work and accommodation (Lachmann et al., 2018). Balabanis (2002) proved that consumer impulsiveness positively correlates with extraversion, which contradicts the findings obtained in our study. Regarding the relationship between basic personality traits and self-esteem, a smaller number of studies have been conducted, and today relatively little is known about differences in personality traits, lower and higher levels of self-esteem and their influence on impulse buying (Brdovčak et al., 2018). The research undertaken so far, which was mainly focused on students, corroborates the fact that self-esteem, openness to experience, neuroticism and extraversion are positively correlated with consumer impulsiveness, while conscientiousness and cooperation are negatively correlated with consumer impulsiveness (Brdovčak et al., 2018). According to these authors, self-esteem correlates most strongly with cooperation, moderately with extraversion and conscientiousness, and weakly with openness and neuroticism. Furthermore, the correlation analysis also determined that regret, as an unpleasant cognitive and emotional state emerging after purchase, is weakly and negatively related to cooperation, conscientiousness, openness and self-esteem, whereas it is positively and very weakly related only to neuroticism. As Lacković-Grgin (2012) states, the research conducted in America among people of all ages showed that individuals mostly regret their education, lack of assertiveness, and insufficient time spent with their family. Based on a meta-analysis of 11 papers on the greatest regrets, Summerville and Roese (2008) determined in their research that these relate to the areas of education, career, love relationships, and purchases. In addition, regret is more intense when there are more missed opportunities.

The findings confirmed the possibility of predicting consumer impulsiveness based on knowledge of the value of self-esteem. Female students with a higher level of self-esteem are less impulsive consumers and make their purchase decisions thoroughly and sensibly. This was confirmed by Verplanken et al. (2005), who claim that the emotional aspect of impulse buying is connected with low self-esteem, while Abassi (2017) confirms that higher self-esteem affects impulsive buying by reducing it. Also, self-esteem, as well as conscientiousness, are predictors of post-purchase regret among consumers in this research. As the average level of self-esteem can be relatively stable, it is assumed that the
sense of self-worth can depend on everyday events and situations. The greater the difference between the actual and ideal self-image, the lower the self-esteem will be. Describing conscientiousness as one of the predictors of post-purchase regret, we concluded that female students with a low level of conscientiousness are very impulsive, carefree and hedonistic.

As already expounded in the methodology section, the background to this research is the paper entitled “Pre-menstrual period: Do women really consume more?” in which the authors started from the assumption that women buy differently in different phases of the menstrual cycle. Hormonal changes that occur during the menstrual cycle lead to cyclical phenomena that can cause minor or major difficulties in certain phases of the cycle, whereas frequent mood swings are also described as a normal state. Buffenstein et al. (1995) monitored the amount of progesterone, estrogen, follicle-stimulating hormone and luteinizing hormone in the diet of women during the menstrual cycle and found that there is a great sensitivity to the type of food they consume in the follicular phase. In their research, Saad and Stenstrom (2012) monitored women’s needs for food and the need to buy cosmetic products for 35 days, and they concluded that women feel the strongest desire for food and that they allocate the most budget for food and consume most food during the luteal phase of the cycle. On the other hand, our study has shown that the need to buy cosmetic products and the willingness to allocate money for beautification are more prominent in the follicular phase. Hormonal oscillations occurring among female students do not affect consumer impulsiveness (F = .543, p = .704) or post-purchase regret (F = 1.969, p = .100), which means that their buying habits are almost identical in all phases of the menstrual cycle. The findings of the research undertaken by Pastore et al. (2016) also indicate that there is no impact of the menstrual cycle on consumer impulsiveness (F = .222, p = .881) and post-purchase regret (F = .631, p = .596) nor among women in Brazil.

**Conclusion**

The lack of a synergistic relationship in the professional literature between women’s buying behavior, personality traits, self-esteem and the menstrual cycle was the background to this research. In the case of female respondents, their consumer impulsiveness and post-purchase regret were primarily analyzed as dependent variables. The main limitation of this paper is that the research was conducted on a sample comprising female students, most of whom are neither employed nor married. The selection of an adequate sample is not representative of the student population in the Republic of Serbia; thus, the conclusions cannot be 100% generalized to all female consumers. It is worth noting that the findings of the research would probably be different (perhaps more similar
to the results obtained by Pastore et al. (2016) in their research) if the process itself was carried out on a sample that would include employed women who are married. Namely, this can be the point of reference for some future research, whereby a comparative analysis between employed and unemployed women, between women who are employed and those who are looking for a job, would be performed. In addition to the variables used in the paper, variables such as anxiety, stress, depression, health, and consumer decision-making styles, which can be of great importance for consumer impulsiveness and post-purchase regret, can be considered in future research.

As regards the implications of the paper, it is important to emphasize that the findings obtained by this research can serve, that is, they can be used for the purpose of a more detailed market analysis but also for the empirical study of various factors influencing consumer impulsiveness and regret. The findings obtained provide relevant information about certain aspects of the behavior of female consumers in the context of their personality traits, self-esteem and menstrual cycle, which determine their consumer impulsiveness and post-purchase regret.

References


Тања М. ВУЈОВИЋ
Универзитет у Приштини са привременим седиштем у Косовској Митровици (Србија)
Економски факултет
Катедра за пословну економију, менацмент, маркетинг и предузетништво

Душан Ј. РАНЂЕЛОВИЋ
Универзитет у Приштини са привременим седиштем у Косовској Митровици (Србија)
Филозофски факултет
Катедра за психологију

Анђелка В. ТРИПКОВИЋ
Универзитет у Приштини са привременим седиштем у Косовској Митровици (Србија)
Економски факултет
Катедра за пословну економију, менацмент, маркетинг и предузетништво

Особине личности, самопоштовање и менструални циклус као корелати импулсивности потрошача и жаљења

Резиме

Истраживање настоји да испита импулсивност потрошача и осећај жаљења на кон куповине међу студенткињама, као и њихов однос са особинама личности, самопоштовањем и менструалним циклусом. У истраживању је учествовало 253 студенткиња основних, мастер и докторских студија на Економском факултету, Медицинском факултету, Правном факултету, Филозофском факултету, Факултету техничких наука и Факултету уметности Универзитета у Приштини са привременим седиштем у Косовској Митровици. Инструменти коришћени у истраживању су скала импулсивности, скала потрошачког жаљења и скала самопоштовања. Анализа је показала да се ради о високо поузданим инструментима чије се ставке могу сматрати хомогеним и репрезентативним. Добијени резултати указују на то да је импулсивност потрошача код студенаткиња на просечном нивоу, док је жаљење након куповине на нијем нивоу у односу на теоријски просек. Осим тога, утврђена је позитивна корелација између импулсивности потрошача и неуротицизма, док самопоштовање има негативну корелацију са импулсивношћу потрошача. Од утврђене корелације између импулсивности потрошача и негативну корелацију са импулсивношћу потрошача и њен је значајан предиктор. С друге стране, постоји негативна веза између жаљења након куповине и кооперативности, савесности, отворености за искуство и самопоштовања. Савесност и самопоштовање такође се могу издвојити као предиктори жаљења након куповине у студенткињама, при чему самопоштовање има већи независни допринос.

Кључне речи: импулсивна куповина; жаљење; особине личности; самопоштовање; менструални циклус.

Овај чланак је објављен и дистрибуиран се под лиценцом Creative Commons ауторство-некомерцијално 4.0 међународна (CC BY-NC 4.0 | https://creativecommons.org/licenses/by-nc/4.0/). This paper is published and distributed under the terms and conditions of the Creative Commons Attribution-NonCommercial 4.0 International license (CC BY-NC 4.0 | https://creativecommons.org/licenses/by-nc/4.0/).