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SIMULATED APPELLATE PROTECTION WITHIN SERBIAN LOCAL GOVERNMENTS

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Abstract

The authors conducted this empirical research to examine whether municipal/city administrations, as the first-instance authorities in administrative proceedings, are required to prepare decisions on administrative appeals against their own decisions in the place of actually competent second-instance authorities – municipal/city councils. The aim of the research was to verify the (in)existence of this issue, and its frequency, causes and potential solutions in case its existence is proven. The main findings of the research are that the problem exists, that it is widespread, and that it derives from the lack of capacities of municipal/city councils, as predominantly political bodies, to cope with this competence. The lack of capacities encompasses predominantly the lack of professional expertise and, to a lesser extent, it is a result of work overload. The authors propose the establishment of appellate commissions for one or more local government units as possible solution to the problem.

Key words: Administrative Appeal, Administrative Procedure, Municipal / City Councils, Serbia.

СИМУЛИРАНА ЖАЛБЕНА ЗАШТИТА У ОКВИРУ СРПСКЕ ЛОКАЛНЕ САМОУПРАВЕ

Апстракт

Аутори су спровели емпиријско истраживање како би испитали да ли се од градских/општинских управа, као првостепених органа у управном поступку, захтева да уместо заиста надлежних, другостепених органа – градских/општинских већа, припреме одлуке о жалбама у управном поступку против сопствених решења. Циљ истраживања био је потврђивање (не)постојања овог проблема, те његова учесталост, узроци и потенцијална решења за случај да се његово постојање докаже. Кључ-

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ни налази истраживања су да проблем постоји, да је широко распрострањен и да проистиче из недостатка капацитета градских/општинских већа, као претежно политичких органа, да се носе са овом надлежношћу. Недостатак капацитета претежно обухвата недостатак професионалног знања, а у мањој мери је резултат преоптерећења, тј. обима посла. Као потенцијално решење проблема аутори предлажу оснивање жалбених комисија за територију једне или више јединица локалне самоуправе.

Кључне речи: жалба, управни поступак, општинска / градска већа, Србија.

INTRODUCTION

The tasks of local government units (LGU) in Serbia, as is also the case comparatively (Milosavljević, 2015, pp. 574-575, Jerinić, Milosavljević, 2019, pp. 401-406), are split into two parts. The first one concerns its proper (own), or what is in the Serbian legal doctrine also referred to as the independent competency or sphere of work. The second is its delegated or transferred competency (Dimitrijević, Lončar, Vučetić, 2020, pp. 69, 199). In the latter case, when performing delegated tasks, the local government authorities have the same legal position as dispatched units of central administration. Central state administrative authorities retain comprehensive control over their work (Tytykalo, 2022). When performing their proper tasks, i.e., exercising their proper competency, local government authorities are predominantly under no legal control of the central state administration. One of the most notable distinctions in that respect is a different second-instance, appellate authority in the administrative procedure (for details on administrative appeal see Tomić, Milovanović, Cucić, 2017, pp. 167-187; Cucić, 2011; Cucić, 2018, pp. 152-155). If an individual case in the administrative proceedings derives from the delegated tasks, the second-instance authority in the administrative proceedings shall be a state administrative authority (e.g., a ministry). For instance, when local government authorities decide in the first instance in administrative proceedings in the field of construction permits, administrative appeals against their decisions are filed with the ministry competent for construction matters. Oppositely, when local government authorities, in particular municipal or city administrations (Serbia has three different types of LGU – municipalities, cities and the City of Belgrade, as a special unit), decide a case from the scope of its proper competency in first instance administrative proceedings, administrative appeals are submitted to municipal or city councils. As an example, one could mention the cases from the field of local taxes or the local social aid scheme.

A paramount distinction between the municipal or city administration and the municipal or city council lies in the fact that the prior represents an authority employing professional civil servants, while the latter is comprised of local politicians elected by municipal or city assemblies.

Members of the municipal or city councils need not (and, as a rule, do not) possess any legal education or any other type of professional specialisation in any of the fields within which they decide upon administrative appeals.

For years, the authors of this paper took part in various professional training programs, within which they provided courses, trainings and workshops in the field of Administrative Law to local government civil servants and officials. During one of these workshops, the authors were informed that in practice, when deciding in first-instance administrative proceedings in matters from the proper competency of the LGU, local government civil servants, which are engaged by municipal or city administrations, are later required by their municipal or city council to prepare draft decisions on administrative appeals against their own decisions. They would effectively perform the work of municipal or city councils, which would only sign the decisions. Hence, they would simulate the appellate control of their own work. As the main reason for this, mentioned local civil servants cited lack of capacities of municipal or city councils to engage with such a task. The lack of capacities chiefly concerned the lack of legal education of their members. Despite the fact that this issue has not been recognised in academic literature, and despite the fact that it has only recently been identified and briefly tackled in one strategic document, it seems that it was common knowledge within the community of these professionals.

For this reason, the authors decided to further explore this issue, and to scientifically check its existence, magnitude and frequency. For that purpose, they conducted research by way of anonymous questionnaires sent to heads of municipal and city administrations. The results of said research are presented in this article.

On the basis of the information supplied by the local government civil servants, the authors formulated the following three hypotheses to be examined in the paper:

- Local government civil servants working in municipal or city administrations are sometimes requested to prepare draft decisions on administrative appeals against their own decisions in the place of municipal and city councils, as their hierarchal superiors in these administrative legal matters.
- The main reason for this is the lack of capacities of municipal or city councils to successfully perform this work.
- The frequency of this issue depends on the size of the population of the LGU and is, on average, more frequent in smaller than in larger LGUs.

LITERATURE OVERVIEW

As was previously mentioned, the awareness of this challenge came from a direct contact with the local government civil servants.

There is only one academic paper making reference to the issue and providing certain possible solutions to it on the assumption of its existence (Milovanovic, 2020, p. 220). Nevertheless, given that it tackles the issue only laterally, in a single passage, and that it is based on the assumption not empirically confirmed, it leaves sufficient space for this research.

Only recently has a strategic document of the Government identified the problem, in the Program for the Reform of the Local Government System in the Republic of Serbia for the period from 2021 to 2025 (Official Gazette of the Republic of Serbia, no. 73/2021). This document states the following:

(...) considering that the council is a political authority made up of people from different professions, it is necessary to reconsider the concept of the council as an authority that decides on the rights and duties of citizens and other subjects in the second instance. This issue is particularly significant if one takes into account that the council's decision proposals in the second instance are prepared by the municipal/city administration that decided in the first instance.

RESEARCH

Methodology

In order to test the set hypotheses, the authors created a questionnaire. The questionnaire contains the following six questions:

- Are you employed in a municipal or city administration unit?
- Available answers: a) municipal administration; b) city administration.
- If you are employed in a municipal administration, what is the population of the municipality?
- Available answers: a) 10,000; b) 30,000; c) 50,000; d) 70,000; e) more than 70,000.
- Was the municipal/city administration asked to prepare decisions by which the municipal/city council decides on the administrative appeals against first-instance decisions of the municipal/city administration?
- Available answers: a) Yes; b) No.
- If you answered “Yes” to the previous question, how often does this occur in practice?
- Available answers are set on a scale from 10% to 100%, increasing by 10% for each answer.

- What do you think could be the potential reasons for such behaviour of the municipal/city council?
- Available answers (multiple choice available): a) overload; b) lack of professional knowledge; c) its political nature; d) other reasons (open answer available).
- Do you have a proposal for the resolution of this problem (provided you consider that it exists), or any other comment?

Open answer available.

Questions 3 and 4 are the principal questions, and they were designed to test the (non)correctness of the first hypothesis, i.e. whether such practice exists and whether it is of sufficient magnitude to be considered a serious issue.

The purpose of Question 5 is to test the second hypothesis, i.e., to test whether the main reason for this occurrence is the lack of capacities of the municipal or city council to successfully perform this work. The capacities could appear in the form of a lack of necessary expertise. This option is covered by two potential answers – the lack of professional knowledge and the political nature of municipal and city councils. This option was deliberately split into two answers, having in mind that, despite knowing that the questionnaire answer would be provided completely anonymously, certain civil servants could be wary of straightforwardly pinpointing the lack of knowledge as the reason for the occurrence of this problem. That is why the other answer was provided, to euphemistically indicate that a lack of necessary expertise exists. The other form of the lack of capacities is the overload of cases that cannot be handled by municipal/city (M/C) councils.

The aim of Questions 1 and 2 was to enable us to test the third hypothesis, i.e., to test whether the frequency of this issue depends on the size of the LGU and whether it is, on average, more frequent in smaller than in larger LGUs.

Finally, Question 6 was introduced with the aim of providing us with potential solutions to this problem.

Ensuring Anonymity

In order to obtain adequate persons to complete the questionnaire, as well as to assure their anonymity, the authors asked the Standing Conference of Towns and Municipalities for assistance. The Standing Conference of Towns and Municipalities was founded in 1953 as an association of towns and municipalities in Serbia. It encompasses all LGUs in Serbia, and it is the largest and most significant association of its kind.

The questionnaire was not distributed to the addressees by the authors, but by the Standing Conference of Towns and Municipalities. Even the Standing Conference of Towns and Municipalities was not able to

identify those who provided answers to the questionnaire due to the fact that they only sent a group mail to all the heads of M/C administrations and some of their deputies, containing a link to an online questionnaire on a website that did not gather any of the addressees' metadata. The addressees were informed of this fact, so as to ascertain that their answers would be frank and given freely.

Sample

Serbia has a single layer of LGUs. They are not subordinated amongst each other. As was stated, it has three types of LGUs. It has 145 municipalities, 28 cities and the City of Belgrade, which is the states' capital and whose status is regulated by a special piece of legislation (Law on the Capital City, Official Gazette of the Republic of Serbia, no. 29/2007, 83/2014, 101/2016, 37/2019 and 111/2021). In total there are 174 LGUs.

It is also important to mention that cities have the option to create city municipalities on their territories. City municipalities are not LGUs, but only a city's internal territorial units to which the city, as a LGU, can confer some of its competencies (Pešović, 2019, p. 103). Only four cities opted to create city municipalities. Belgrade has 17, Niš (the third largest city in the country) has 5, Požarevac, Vranje and Užice (three rather small cities, all three with less than 100,000 residents) each have two city municipalities. Awareness of the existence and the number of city municipalities is significant for understanding the representativeness of the gathered research sample.

The research questionnaire was sent to the mailing list of the Standing Conference of Towns and Municipalities, which encompasses 170 heads of city, municipal or city municipality administrations, as well as 50 of their deputies. In total, 96 of them responded to the questionnaire. If compared to the number of LGUs, which 174, this accounts for 55.17% thereof. This could certainly be regarded as a representative sample.

Nevertheless, a disclaimer has to be made. There are two factors that might have influenced the sample in that it may reduce its representativeness.

The first one is the fact that the group to which the questionnaire was sent encompassed not only heads of M/C administration but also their deputies. It could have happened that both a head and a deputy from the same LGU provided answers to the questionnaire. Notwithstanding this circumstance, it is unlikely that this occurred often. The authors were informed by the person employed in the Standing Conference of Towns and Municipalities who coordinated the information gathering process that when they used this channel of communication on other occasions, they received one answer per LGU, either from the head of its administration or his or her deputy. Moreover, heads of M/C administrations are not obliged to have deputies. If they actually decided to have one, they are

probably coordinating their work and are accustomed to communicating in this manner with the Standing Conference of Towns and Municipalities, so as to assure that only one of these persons answers their query. Hence, most probably the heads and their deputies agreed upon who would answer the questionnaire. If the alternative did occur, it probably occurred only incidentally.

The second factor concerns the fact that the mailing list encompasses not only heads of municipal or city administrations but also heads (and potentially deputies) of administrations of city municipalities. Therefore, it could have occurred that heads and/or deputies of city municipalities that belong to the same city responded to the questionnaire. In that case, given that all of them would have had the same appellate authority on the city level, an overlap decreasing the representativeness of the sample could have appeared. It was displayed that there are 28 city municipalities in five cities in Serbia. Nonetheless, we again believe that if this had actually happened, it was only incidentally. Namely, we received only four questionnaires for which we can suspect that they were filled-in by the heads and/or deputies of the city municipality administrations. In these four questionnaires, the addressees stated that they work within the city administration (Question 1), but additionally marked the answer to Question 2 concerning the size of their municipality. We might suppose that these are actually the instances in which we received answers from persons employed in city municipality administrations. Given that we received four such answers and that there are five cities in which city municipalities are established, we can assume that this too had no significant influence on the representativeness of the sample we gathered.

Lastly, one might rightfully ask whether these potential discrepancies could have been avoided by simply posing a question in the questionnaire of whether someone is employed in a city municipality administration. It could have. The same goes for the fact that we could have asked the addressees to state the exact LGU in which they are employed, but we believe that the more information about them we required, the higher the chances that they would not respond at all or would have made their answers less sincere. For that reason, in this trade-off, we opted to have less certainty about the number of LGU encompassed by the research than to have less certainty about their answers. Given the volume of the gathered sample, it seems that this was the right choice.

RESULTS

The addressees that completed the questionnaire came from city administrations in 21 case (21.87%), and from municipal administrations in 75 instances (78.13%) (Chart 1).

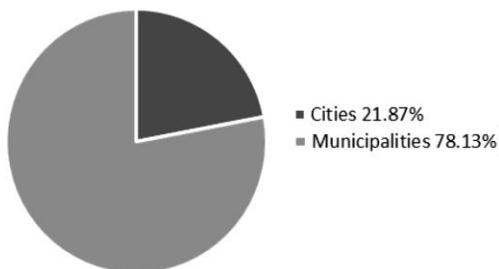


Chart 1. Type of LGU

The distribution of addressees coming from municipalities with regard to their population is as presented in Table 1.

Table 1. Size of Municipalities

Municipality size	Number	Percentage
10,000	19	25.33%
30,000	40	53.33%
50,000	12	16.00%
70,000	0	0.00%
>70,000	4	5.33%

The research also provided results to the central question of the paper, i.e., whether M/C administrations are requested to prepare decisions by which the M/C council decides on the administrative appeals against their first-instance decisions. In order to check whether the first and third hypotheses are correct, we calculated the gathered responses in several ways – for all LGUs, for cities, for all municipalities, and for each category of municipalities, classifying them by size. The results are presented in Table 2.

Table 2. Occurrence

Type of LGU	Occurrence
All LGU	64%
Cities	57%
All Municipalities	65%
M up to 10,000	68%
M up to 30,000	65%
M up to 50,000	50%
M >70,000	100%

Municipalities with approximately 50,000 residents, and those with more than 70,000 residents display somewhat different results, probably due to the fact that the sample was very modest. However, if these two were taken together, as the category of municipalities around and above 50,000

residents, the percentage would be similar to those of the other two categories of municipalities (10,000 and 30,000 residents). Namely, the result would be 62.5% (10 out of 16) of municipalities in which the problem arose.

The responses to the questionnaire also provide insight into the frequency of this issue. According to the data, in the majority of instances, this occurs always, i.e., in 100% of cases. This answer was chosen by 29 addressees. This comprises almost half of all the provided answers (47.53%). All others were chosen significantly fewer times. They are as follows: (1) 10% - 1 answer (1.64%); (2) 20% - 6 answers (9.84%); (3) 30% - 3 answers (4.92%); (4) 40% - 3 answers (4.92%); (5) 50% - 5 answers (8.20%); (6) 60% - 2 answers (3.28%); (7) 70% - 4 answers (6.55%); (8) 80% - 4 answers (6.56%); and (9) 90% - 4 answers (6.56%). When we aggregate the results of all LGUs, the average frequency is 74.92%. The average frequency for cities is 88.33%, while the average frequency for all municipalities is 71.63%.

Chart 2 presents the answers related to the frequency of the issue for all LGUs.

Chart 3 compares the average frequency of the problem in all LGUs, cities and all municipalities.

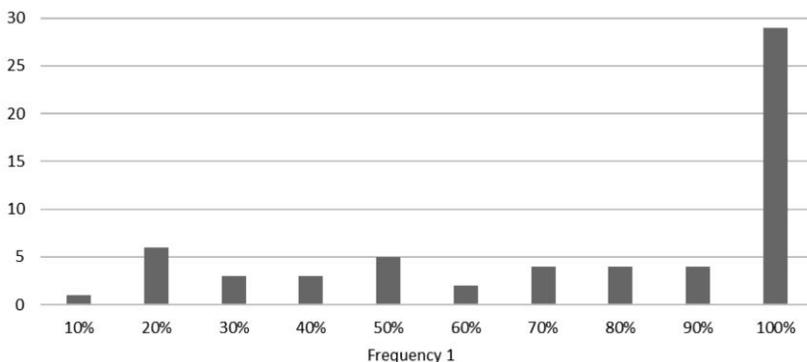


Chart 2. Frequency 1

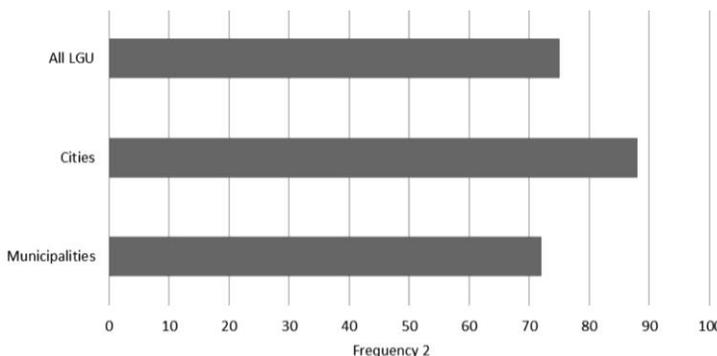


Chart 3. Frequency 2

When asked what could be the potential reasons for such behaviour of M/C councils (requesting first-instance authorities to do their job), the addressees were given four options to choose from: (a) overload; (b) lack of professional knowledge; (c) its political nature; and (d) other reasons (open answer available). The addressees were allowed to make multiple choices. Additionally, almost half of the addressees that previously indicated that the problem did not occur in their LGU (17 out of 35) answered this question anyway. This suggests that, despite not being affected by it, even those addressees are aware of the existence of this issue. Hence, amongst local government civil servants, the problem seems to be a well-known, notorious fact. For this reason, their answers were taken into account. For the two mentioned reasons (multiple choice, answers of those not affected by the problem), the overall number of answers significantly exceeds the number of those who reported the appearance of the problem in their LGU. The total number of provided answers to this question was 94. Out of those 94, overload was selected 11 times (11.7%), lack of professional knowledge was selected 53 times (56.38%), political nature was selected 18 times (19.15%) and other reason was selected 12 times (12.77%).

Chart 4 displays the ratio of reasons for the existence of the problem.

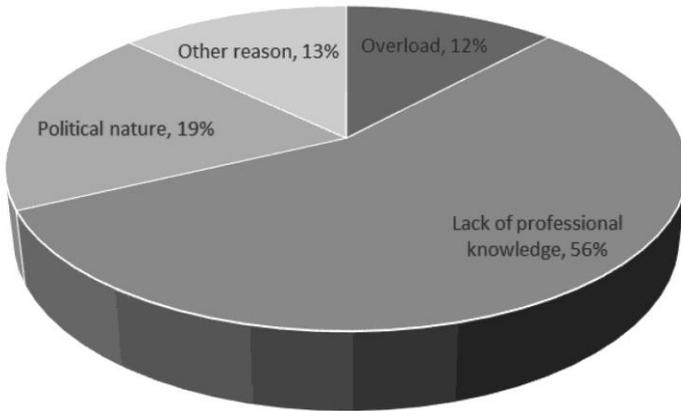


Chart 4. Reasons 1

In total, 77 addressees answered this question. If we look at it from that perspective, the distribution of reasons for the existence of the problem looks somewhat different. We can see that 14.29% chose overload as the reason, 68.83% chose lack of professional knowledge, 23.38% chose political nature, and 15.58% chose another reason (Chart 5).

What were the other reasons listed by the addressees as the potential causes of this issue? The other reason option was chosen by 12 addressees. Five of them actually elaborated on the lack of professional knowledge and/or political nature of M/C councils, indicating in general

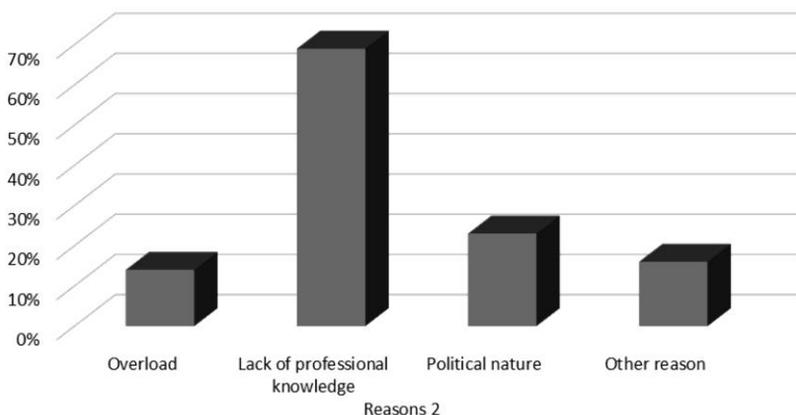


Chart 5. Reasons 2

that they lack lawyers and other qualified staff to assist them in the preparation of appellate decisions. More curious were the answers provided by another five addressees. They consider that M/C administrations are obliged to assist the M/C council in drafting regulations and other acts from their competence, including appellate decisions. In two of these responses, Art. 52, para. 1, item 1 of the Law on Local Government is cited as the legal basis for this stance. Although we consider this interpretation of the law incorrect (see *below*), it is a valuable insight enabling us to understand that some of the local government civil servants employed in M/C administrations consider that it is their job to prepare, or essentially decide upon administrative appeals against their own decisions. The first of the two remaining answers indicates that this occurs due to the fact that the civil servants that rendered the decision in the first-instance administrative proceedings are better acquainted with the facts of the case and that, accordingly, they should prepare appellate decision as well. The other remaining response suggests that members of M/C councils are of the opinion that other authorities of the local government should prepare everything for them and warn them of any potential illegality in their decisions.

Finally, the addressees showed noteworthy interest in providing suggestions that might resolve, or at least ameliorate the problem. Almost half of them (41 out 96) gave an answer to this question. The given responses could be classified into several groups.

The first group of answers (21 addressees) indicates that the capacities of M/C councils should be elevated either through the legal prescription that the secretary of the M/C council has to be a lawyer or via the engagement of additional legal staff that would aid them in their work.

The other, more peculiar group of responses (8 addressees) proposes that lawyers or persons otherwise competent for various fields within the competence of M/C councils should be elected to be members

of M/C councils. These responses vary from those only recommending this as a good practice, and those suggesting that it should be legally prescribed that a certain number of members of M/C councils must be lawyers, to those advocating for the solution that only lawyers could be eligible to become members thereof.

The third group of answers (9 addressees) proposes the establishment of appellate commissions or other expert bodies that would act as second-instance authorities instead of M/C councils, either under their auspices or as separate authorities. As a role model, they see the appellate commission of the (state) Government (Milovanovic, 2020, p. 220). It is emphasised that the members of these appellate commissions of expert bodies should be paid for their service, given that such bodies exist or did exist in some LGUs, but did not function adequately because their members were not paid.

The remaining three answers suggest an increase in the quality and quantity of professional training, designating the heads of the M/C administrations as the second-instance authority (their subordinate civil servants would probably decide in the first-instance proceedings), and one of the addressees is of the opinion that this practice is actually good.

DISCUSSION

Findings

After presenting the results of the research, we can verify the validity of the posed hypotheses.

The first hypothesis was that local government civil servants working in municipal or city administrations are sometimes requested to prepare draft decisions on administrative appeals against their own decisions in the place of municipal and city councils, as their hierarchal superiors in these administrative legal matters. This hypothesis was confirmed. In all the LGUs taken together, this occurs in 63.54% of the cases. Moreover, the intensity of the problem is high. In almost three out of every four cases (74.92%), M/C administrations encounter this setback. As an additional confirmation, one can see that this issue appears in every group of LGUs we examined separately.

It is important here to tackle one thing we encountered in the questionnaire. This is the stance that this type of behaviour of M/C councils is in accordance with the law. Namely, some of the addressees of the questionnaire indicated that this is obligatory for the M/C administrations pursuant to Art. 52, para. 1, item 1 of the Law on Local Government. This provision states the following: “Municipal administration [it applies also to city administrations]: 1) prepares drafts of the regulations and other acts rendered by the municipal assembly, president of the municipality

and municipal council; (...).” The wording of the provision, indeed, can lead to the wrong impression that the duty of M/C administrations is to prepare draft appellate decisions for M/C councils. However, a systemic interpretation of the law reveals that one would be wrong in coming to such a conclusion. The Law on General Administrative Procedure (Official Gazette of the Republic of Serbia, no. 18/2017, 95/2018 and 2/2023) is the law governing decision-making processes in administrative proceedings. In Art. 40, para. 1, item 5, it explicitly prescribes that the authorised official (persons conducting and/or deciding in an administrative case) has to be exempted if they took part in the first-instance proceedings. This valid even in situations in which a person advanced to the second-instance authority after making an appealed first-instance decision. In other words, even if someone rendered a first-instance in administrative proceedings while s/he was employed in the M/C administration and was afterwards elected to the M/C council, such a person would have to be exempted from deciding on the administrative appeal against his/her own decision, even more so if that person is not even a member of the M/C council, which is the case we are analysing in this paper.

The second hypothesis was also confirmed. Namely, the main reason for the occurrence of this problem is the lack of capacities of the municipal or city council to successfully perform this work. More than two thirds of the addressees stated that the problem was caused by the lack of professional knowledge. To this number, we should add those who listed the political nature of the M/C councils (as was explained, this reason was intentionally inserted as euphemism for the lack of professional knowledge) and their overload as the causes of the issue. These reasons also demonstrate the lack of capacities to perform their appellate jurisdiction. Also, five out of 12 of the addressees who listed other reasons for the occurrence of the problem actually referred to the lack of professional knowledge and/or political nature of the M/C councils. Taken all together, this would mean that 92.55% of the addressees are of the opinion that the root of the problem lies with the fact that M/C councils lack capacities (in particular, human resources) to cope with their role of appellate administrative authorities.

This hypothesis was further confirmed by the proposals of addressees for remedying the problem. Almost all of the suggestions (38 out of 41) recommend an increase of the professional capacities of M/C councils via the engagement of lawyers and/or other professionals to assist them in their work. This recommendation has various forms – that M/C councils’ secretaries should be lawyers, that special legal services should be attached to them, that appellate commissions or other expert bodies should be formed or even that all or some of the members of the M/C councils should be lawyers. Nevertheless, their common thread is the increase of professional capacities through the engagement of lawyers and/or other experts in the work of M/C councils.

The third hypothesis was almost completely rejected. Smaller municipalities (around 10,000 residents) had approximately the same percentage of instances in which the problem occurred (68.42%) as those with around 30,000 residents (65%), and those with around and above 50,000 residents (62.5%). Minor discrepancies are in the range of statistical error ($\pm 3\%$).

A somewhat more sensible difference in the occurrence of the issue exists if cities and municipalities (as a whole) are compared. In the cities, the issue was reported in 57.14% of instances, while this percentage was 65.33% in the municipalities. That still cannot be regarded as confirmation of the hypothesis, given the previously provided data for different categories of municipalities. Availing the reason behind this discrepancy between the cities and the municipalities could be one of the recommendations for future research. A potential explanation for this, which would have to be verified, is that cities, as regional economic, political and cultural centres, have better chances in drawing lawyers and other qualified professionals to their administrations and councils.

There is another recommendation for the further research of this topic. It could be the case that a difference with regard to the frequency of occurrence of the problem exists between economically developed and underdeveloped LGU (Serbia has five categories of LGU depending on their level of economic development, from developed to devastated, Milovanovic, 2020, p. 207). Specifically, this differentiation might be more important than differentiation on the basis of the size of the population. This is due to the fact that small LGU that are near larger city centres could more easily find necessary professionals to employ. The less economically developed LGU would, *prima facie*, have less chances to attract experts and, thus, a greater likelihood of encountering the problem.

Potential Solutions

The analysis of potential solutions to the problem should start from the suggestions of the addressees. The first one was to attach secretaries or other staff to M/C councils that would have the necessary knowledge to deal with the administrative appeals. The second was to have members of M/C councils which are lawyers or otherwise have the needed expertise to handle the administrative appeals themselves. The third proposition was to create appellate commissions or other expert bodies, either for all or only certain fields, which would decide on the administrative appeals.

The second proposal should be dismissed due to the fact that that it would not only be extremely difficult to achieve in practice but it would also affect the democratic legitimacy of local representatives. M/C councils are elected by M/C assemblies, which are elected by the citizens. Their role is mainly political and they need not be experts, but they need to (or least should) be supported by the local population. Their counter-

part on the central state level is the (state) Government and, like the Government, they should be the bearers of the executive power on the basis of their democratic legitimacy derived from universal suffrage.

While being sound, the first and the third proposal fall short of being more than empty desires. As one of the addressees commented in the end of his questionnaire, even if there were sufficient financial resources for this, finding adequate personnel in every LGU seems unachievable (municipalities especially suffer from the lack of capacities, Djordjević, 2019, p. 720). The heads of M/C administrations are usually the only employees that must be lawyers (graduated jurists). Due to uneven regional development in Serbia (Stanković, Radenković-Jocić, 2017, p. 458), finding more lawyers and other experts could be unattainable for many of those LGU already suffering from this problem.

Nevertheless, the third proposal – the creation of appellate commissions or similar professional bodies that would take over the role of the second-instance administrative authorities in LGU could be a solution with one addition. Those LGU facing the problem of finding lawyers and other adequate staff, and especially small, underdeveloped municipalities, could jointly form appellate commissions (Milovanovic, 2020, p. 220). This would increase their chances of overcoming this obstacle, and it would also contribute to the harmonisation of the case law (*Ibid*). Moreover, the Law on Local Government (Arts. 88-88d) provides the legal basis for the creation of such joint appellate commissions, or the transfer of these authorisations (deciding on administrative appeals) from one LGU to another.

Ultimately, a potential solution would be to abandon administrative appeals to M/C councils altogether. They could be replaced by re-monstrative legal remedy, i.e., the M/C administration could decide on the matter once again upon the parties' requests (whatever they would be called – objections, internal appeals, etc.). This happens in practice anyway, so it would not change the outcome. It could only reduce the workload of the M/C councils and expose the true decision-maker. Another option would be to abandon a remedy of any kind if it is not efficient. This would, at least, save the involved parties' time. They would be able to challenge the decisions of M/C administrations directly before the Administrative Court. Both of these options would, however, require empirical research and confirmation that legal remedies within LGU are not efficient in the sense of ending the dispute between the parties and the local government authorities. This is another area for future research. It would require examining how many administrative appeals are submitted to M/C councils, how many of them are accepted and how many appellants later do not initiate a judicial review procedure. Otherwise, without such empirical confirmation, one would risk an increase of the already large backlog of the Administrative Court, and the further prolongation of the dispute settlement resolution process.

CONCLUSION

The authors conducted this empirical research to examine whether M/C administrations, as the first-instance authorities in administrative proceedings, are requested to prepare decisions on administrative appeals against their own decisions in the stead of actually competent second-instance authorities – M/C councils.

Three hypotheses were formulated – (a) that this problem occurs in practice, (b) that its cause is the lack of capacities of the M/C councils necessary for acting as second-instance, appellate administrative authorities, and (c) that the smaller the LGU is, the more often it encounters this problem.

In order to test the hypotheses, the authors prepared a questionnaire and distributed it to the heads of M/C administrations. The sample was representative. The results confirmed the first two hypotheses. The problem does exist and its root is the lack of capacities of M/C councils to decide upon administrative appeals. The lack of capacities encompassed predominantly the lack of professional expertise and, to a lesser extent, it was a result of work overload. The third hypothesis was rejected. The problem appeared almost equally in all municipalities, no matter the size of their population. A certain, more sensible difference has been noticed when cities, as the larger LGU, were compared to municipalities, as the smaller LGU. This, still, did not amount to the confirmation of the third hypothesis.

A potential solution to the problem would be the establishment of appellate commissions, which would be professional, not political authorities, and which would take over decision making in the second-instance administrative proceedings. This proposal was found in a number of questionnaires. The authors added that, in those LGUs, especially the smaller and less economically developed municipalities, where it is difficult to attract and retain qualified lawyers and other professionals, appellate commissions could be formed on a level of several LGUs. Existing legislation provides a legal basis for this.

Space for further research exists. It would be interesting to analyse why cities are less exposed to this issue. In addition, one could examine whether the frequency of the occurrence of the problem depends on the level of the economic development of an LGU. Lastly, the (non-)efficiency of the administrative appeal submitted to an M/C council could be studied. It would be considered efficient if it prevents a sufficient number of appellants from proceeding with the judicial review procedure.

ACKNOWLEDGMENT: The authors would like to express their gratitude to the Standing Conference of Towns and Municipalities, and especially to Maja Stojanović Kerić, for helping them distribute the questionnaire to the relevant local government civil servants, thus making this research possible.

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СИМУЛИРАНА ЖАЛБЕНА ЗАШТИТА У ОКВИРУ СРПСКЕ ЛОКАЛНЕ САМОУПРАВЕ

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Резиме

Аутори су спровели емпиријско истраживање како би испитали да ли се од градских/општинских управа, као првостепених органа у управном поступку, захтева да уместо заиста надлежних, другостепених органа – градских/општинских већа, припреме одлуке о жалбама у управном поступку против сопствених решења. Поред организационих, наведена појава ствара и правне проблеме, јер

се симулира постојање истинске правне заштите од стране вишег, непристрасног органа управе. Циљ истраживања био је потврђивање (не)постојања овог проблема, те његова учесталост, узроци и потенцијална решења, за случај да се његово постојање докаже. Истраживање је спроведено слањем упитника начелницима и заменицима начелника општинских, градских и управа градских општина. Упитник се састојао од пет затворених и једног отвореног питања. Упитник је попуњаван на интернету, а учесницима анкете је обезбеђена потпуна анонимност. Узорак је највероватније (анонимност учесника не омогућава потпуно прецизно утврђивање величине узорка) обухватио више од половине свих јединица локалне самоуправе у Србији, што га чини репрезентативним. Скоро две трећине учесника (64%) је потврдило постојање проблема. Као главни разлози за појаву проблема наводе се недостатак професионалног знања (56%), политичка природа (19%) и преоптерећеност (11%) општинских/градских већа. Дакле, кључни налази истраживања су да проблем постоји, да је широко распрострањен и да проистиче из недостатка капацитета градских/општинских већа, као претежно политичких органа, да се носе са овом надлежношћу. Недостатак капацитета претежно обухвата недостатак професионалног знања, а у мањој мери је резултат преоптерећења, то јест, обима посла. Аутори су у раду поставили три хипотезе. Прва хипотеза је да проблем постоји, то јест, да се од општинских/градских управа захтева да припреме нацрт одлука о жалбама на сопствена ожалбена решења, уместо заправо надлежних органа – општинских/градских већа. Ова хипотеза је потврђена од стране скоро две трећине учесника анкете. Друга хипотеза, да је главни разлог за појаву проблема недостатак капацитета општинских/градских већа, такође је потврђена. Трећа хипотеза била је да учесталост појаве проблема зависи од величине јединице локалне самоуправе. Наведена хипотеза није потврђена. Као потенцијално решење проблема, аутори предлажу оснивање жалбених комисија за територију једне или више јединица локалне самоуправе.

DNA DATABASES AND POSSIBLE VIOLATIONS OF HUMAN RIGHTS: THE STATE OF AFFAIRS IN SERBIA REGARDING EUROPEAN STANDARDS

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Abstract

DNA profiling and the storage of DNA samples and profiles in DNA databases can be widely used for forensic purposes. However, even though DNA profiling enables faster and simpler crime solving or the elimination of suspicion, its application is also associated with significant risks of limiting human rights through the violation of confidentiality of personal data. Hence, a balance should be made between the use of DNA profiling to achieve social interest, on the one side, and the protection of individual rights, on the other. The article is devoted to the analysis of the compliance of the Serbian positive legal framework with European and international standards in the context of DNA profiling for forensic purposes. The goal of the paper is to give certain recommendations of general importance, and especially recommendations regarding possible amendments to Serbian law. Also, standards deriving from the practice of The European Court of Human Rights have been singled out, which boil down to the fact that DNA profiling and data storage should be defined by a precise and sufficiently detailed legal framework that must be based on legitimate goals and must be consistent with the preservation of democratic values in modern society.

Key words: DNA database, crime, right to privacy, Serbia, European Court of Human Rights.

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ДНК РЕГИСТРИ И ЗАШТИТА ЉУДСКИХ ПРАВА: ПРИЛИКЕ У СРБИЈИ И УСКЛАЂЕНОСТ СА ЕВРОПСКИМ СТАНДАРДИМА

Апстракт

Издавање и чување ДНК профила може бити веома значајно у контексту вођења кривичног поступка и сузбијања криминалитета. Међутим, и поред тога што ова технологија омогућава брже и једноставније доказивање, односно елиминисање сумње, њена примена је повезана и са значајним ризицима од угрожавања људских права путем повреде тајности личних података. Отуда треба пронаћи баланс између употребе ДНК профилисања у општем интересу и заштите личних права. Чланак је посвећен анализи усклађености српског позитивноправног оквира са европским и интернационалним стандардима у контексту законите употребе ДНК у форензичке сврхе. Циљ рада јесте да се дају одређене препоруке у погледу измена и допуна српског законодавства. Такође, издвојени су стандарди конципирани у пракси Европског суда за људска права, који се у најкраћем свде на то да ДНК профилисање и чување података у бази треба да буду дефинисани прецизним законским оквиром, засновани на легитимном циљу и усаглашени са очувањем демократских вредности у савременом друштву.

Кључне речи: ДНК регистар, кривично дело, право на приватност, Србија, Европски суд за људска права.

INTRODUCTION

DNA analysis has a wide range of applications in genetic research, historical studies and medical science, as well as in the prevention and detection of crime. In addition to the fact that DNA profiling enables the detection of crime suspects, it also facilitates the prompt and safe elimination of suspicion, thus reducing the risk of unjustified convictions of innocent persons (Parven, 2013, p. 42). Therefore, it is not surprising that during the last decades the question of establishing national and international DNA databases has been raised in order to achieve great goals.

The first case that was solved using DNA profiling was recorded in 1986 in the United Kingdom of Great Britain and Northern Ireland (hereinafter: UK; Panneerchelvam & Norazmi, 2003, p. 22). The first national DNA database was created in 1995, also in the UK, under the acronym NDNAD (Martin, Schmitter & Schneider, 2001). The United States soon followed the example of the UK, so that, by the end of the 20th century, there were DNA databases for sex and violent offenders. Thereafter, the list of crimes for which DNA profiling is mandatory has been constantly expanding (Kaye, 2001, p. 180; Rothstein & Carnahan, 2001, p. 129). However, just as the application of DNA profiling can bring numerous benefits, problems arise in connection with the violation of various human rights, primarily in the domain of protecting privacy and family life. Also, one should be aware that the public's enthusiasm for forensic DNA

testing is highly influenced by the messages from the media emphasising the “infallible capacity” of DNA testing to catch criminals (Machado & Silva, 2019).

The issue toward which this research is directed is the existence of a collision between two conflicting interests connected to collecting and keeping DNA profiles. On the one hand, there is a need for the comprehensive and extensive use of DNA profiling. On the other hand, there is the danger of violating human rights. The focus of the study is the need to reconcile the two main considerations of the mentioned issue. In this context, the author was interested in the compatibility of the Serbian positive legal framework related to the forensic use of DNA techniques with European standards. The author dealt with the case law of the European Court of Human Rights by applying an analytical-synthetic approach through the systematic analysis of individual court cases, so that the results thus obtained were then synthesised into general conclusions and recommendations.

DNA PROFILING – THE PROS AND CONS

In the available literature, one often finds attitudes that focus on the positive aspects of DNA profiling, emphasising that those who obey the law have no reason to be concerned about their DNA profiles being stored in an official database. Moreover, a considerable number of scientists advocate for the creation of universal DNA databases that would store the DNA profile of every citizen immediately after birth. By doing so, the fear of discrimination against any group of people would be eliminated and forced confessions would become practically impossible, considering that no one could be misled if the police had his or her DNA profile (Tuazon, 2021, p. 16). It is interesting that the stated opinions had a significant impact on the development of the existing DNA databases, in view of the fact that at first only the DNA profiles of murderers, rapists and perpetrators of the most serious crimes were stored in these databases, and that the DNA profiles of persons convicted of crimes that cannot be characterised as heinous were also included in these registers only later on (Parven, 2013, p. 45).

However, the voices of those who realise that there are also arguments that do not speak in favour of establishing immense DNA databases can be heard. The basic contra argument concerns the fact that, at the current moment, the future possibilities of using and abusing DNA profiles, and especially DNA samples, cannot be foreseen. As the laws of many countries create significant opportunities for obtaining DNA samples, citizens are not sufficiently aware of the fact that their most personal data no longer has to belong only to them (Buha, 2018; Joh, 2011, p. 670). Moreover, the retention of DNA profiles and samples does not have

to concern only the protection of the privacy of the person whose DNA profile is in question, but the protection of the privacy of their relatives too. Certain theorists have also suggested that genetic-based crime control strategies might include, in the future, mandatory genetic screening in order to identify individuals predisposed to certain behaviours (Maschke, 2008, p. 49).

Another type of problem concerns the complexity of DNA profiling because it can only be performed by trained experts, so it is questionable whether judges, and especially jurors, are capable of critically evaluating evidence derived from forensic-genetic analysis, or if they simply have to trust the testimony of experts (Andrejević, 2012, p. 300). This problem becomes especially relevant in situations where forensic experts themselves cannot agree on whether the DNA evidence speaks of guilt or innocence (Lynch et al., 2008, p. 21). It should also be borne in mind that DNA was originally aimed at identifying and excluding suspects by comparing their DNA to biological traces found at the crime scene, and that, on the contrary, in recent years it has become increasingly important as a tool used to generate suspects by searching for a link between the biological material collected from a crime scene to a DNA profile stored in a DNA database (Machado & Silva, 2019; M'Charek, Hagendijk & Vries, 2013, p. 543). In addition, different types of exploitation of DNA open up the problem of potential political abuses and the constant expansion of possibilities for covert surveillance (Nelkin & Andrews, 1999, p. 690). Even police experts point out that there is a significant risk that the public will stop supporting DNA profiling, as the possibilities for keeping DNA profiles increase (Wallace, 2006).

It is stated in the available literature that DNA profiling can be problematic from the point of getting to know the origin and ancestors of a given person, which also implies the possibility of discovering predispositions for the development of hereditary diseases (Parven, 2013, p. 46). Especially controversial is forensic DNA phenotyping, which refers to the prediction of a person's externally visible characteristics regarding appearance, biogeographic ancestry and age by DNA analysis. Apart from the mentioned problems, there is also a risk of a certain violation of bodily integrity through forced DNA sampling. The issue of large financial costs that would be produced in order to create and maintain universal DNA databases is also significant (Rothstein & Talbott, 2006, p. 154).

The problems of future abuses cannot be solved by giving informed consent for future DNA sample processing due to the fact that citizens would have to have extensive knowledge to be able to understand the risks that the future holds. Finally, the available literature points out that the possibilities of using DNA samples and profiles largely depend on the level of technological progress in a given country, so that it is al-

most impossible to design universal solutions (Mitrović, 2016, p. 1458; Sarkar & Adshead, 2010, p. 249).

It should also be emphasised that researchers have noticed an important difference between the use of a DNA profile and DNA sample in solving a particular crime at a given moment, on the one hand, and the permanent storage of a DNA sample and DNA profile, on the other (Parven, 2013, p. 62). The key problems arose precisely because DNA technology was introduced into forensic science for the purpose of solving specific crimes, and then various other possibilities for the use of DNA began to be discovered.

THE SERBIAN LEGAL FRAMEWORK AND DNA PROFILING IN THE CONTEXT OF CRIMINAL PROCEDURE

With the entry into force of the Criminal Procedure Code, Official Gazette of the Republic of Serbia, no. 72/11, 101/11, 121/12, 32/13, 45/13, 55/14, 35/19, 27/21 and 62/21, the rules regarding the possible uses of DNA profiling in the context of criminal proceedings were defined in more detail, although the Criminal Procedure Code from 2001 had also contained certain solutions regarding forensic analysis (Nikač, 2019, p. 126). The current Criminal Procedure Code, Art 140, specifies that the collection of a buccal swab can be performed without the consent of the suspect, given that it previously only covered the “taking of a blood sample and ‘other medical procedures.’” Furthermore, to eliminate suspicion, a buccal swab may also be taken from the victim, or other persons found at the scene of the crime without their consent, acknowledging the fact that the act of taking a sample must be done by a professional, and only with an order of the public prosecutor or the court.

In addition to taking DNA samples to identify suspects and solve crimes, the Criminal Procedure Code provides for the conditions under which the forensic registration of certain categories of convicted persons is carried out. Thus, as a part of the decision to impose a prison term, the court may order that a sample for forensic-genetic analysis be taken from: offenders who have been sentenced to a prison term of more than one year for a premeditated crime; and sex offenders and persons who have been ordered to undergo mandatory psychiatric treatment, under Art. 142. It should be emphasised that when it comes to sex offenders convicted of crimes against minors, a DNA sample must be taken and their DNA profile is to be permanently stored, in accordance with the Law on Special Measures for the Prevention of Criminal Offenses against Sexual Freedoms against Minors, Official Gazette of the Republic of Serbia, No. 32/13, also known as Marija’s Law.

The Criminal Procedure Code does not deal with issues related to the storage and the periods during which DNA samples and DNA profiles

are to be kept, and only states that these issues will be dealt with by other regulations.

The Law on the National DNA Database, Official Gazette of the Republic of Serbia, no. 24/18, entered into force in 2018 as the first legal document in Serbia to define the storage of DNA profiles.¹ The law deals with the process of introducing a national DNA database whose data is to be used for criminal proceedings and for determining the identity of missing or unknown persons and corpses, pursuant to Art. 1. This law regulates issues related to the processing of data obtained through forensic-genetic analysis, and states that DNA analysis is a forensic-genetic analysis of biological material, carried out for criminal proceedings or identity determination procedures. A DNA profile is data that represents the result of DNA analysis, while a biological sample is any biological material of human origin that can be linked to an offense, or a sample taken for identity determination.

Pursuant to Art. 4 of the Law on the National DNA database, the DNA register is established and managed by the Ministry of Internal Affairs and by the competent forensic service. The data can only be processed in order to achieve the purpose for which it was initially collected. The above implies that the processing of data in order to establish the physical, biochemical, physiological or psychological characteristics and specific hereditary characteristics of a person is not allowed. Data from the DNA database can be exchanged and shared with international organisations and foreign states, in accordance with relevant laws and international agreements.

Article 5 of the Law on the National DNA Database defines all types of data stored in the registry. Thus, the registry contains: a database of DNA profiles determined from indisputable biological samples; a database of DNA profiles determined from contested biological samples and a database of DNA profiles determined in criminal proceedings submitted from all DNA laboratories in the Republic of Serbia. The database of DNA profiles determined from indisputable biological samples contains: the DNA profiles of persons on whom forensic registration was performed; the DNA profiles of persons convicted of sexual offenses against minors; the DNA profiles submitted by relevant authorities within the

¹ The Proposal of the Law on amendments to The Law on national DNA database is currently in the procedure before the National Assembly of the Republic of Serbia. Among other issues, the amendments should enable the classification of DNA data according to categories of persons participating in criminal proceedings (suspects, accused, convicted persons and victims), as well as provide more detailed rules on DNA data storage periods. One of the amendments foresees that the DNA profile taken in order to eliminate suspicion will be retained for 30 years after the collection of the DNA sample.

framework of international cooperation; and the DNA profiles established for the purpose of suspicion elimination. Therefore, when it comes to the categories of persons whose DNA profiles are stored, the database is not limited only to suspects and convicted persons, but houses the data of a wider range of subjects.

When it comes to the processing of data in the national database, public prosecutors and courts may request a search of the National DNA Database in order to compare the DNA profile obtained by DNA analysis with the data already stored in the database. This request is submitted in written form, and exceptionally orally with the obligation to submit a written request later, and the request must be acted upon without delay, in the sense of Art. 7 of the Law on the National DNA Database.

When it comes to data storage in the DNA database, the Law on the National DNA Database does not regulate the details of this issue. Thus, the Law on Records and Data Processing in the Field of Internal Affairs, Official Gazette of the Republic of Serbia, no. 24/18, defines: the processing of personal data, the rights and protection of the rights of the person whose data is processed, the types and content of records, data exchange, storage, protection and supervision of data protection, as well as other issues (Art. 1). This law stipulates that everyone is entitled to be informed whether their personal data is being processed and what processing operations are being performed.

When it comes to the terms in which personal data is stored, the Law on Records and Data Processing in the Field of Internal Affairs, in Art. 45, stipulates that the data related to the persons to whom the forensic identity determination was applied are kept for three years, except when the forensic identity determination was carried out for the purposes of forensic registration. However, data related to forensic registration is kept for 60 years. Also, samples of biological origin and samples for forensic-genetic analysis are kept until the absolute statute of limitations of criminal prosecution for the specific crime expires. On the other hand, for criminal offenses that cannot become statute-barred due to their special character or international conventions which refer to it, data generated by DNA analysis, as well as DNA samples, are stored permanently.

The Law on Records and Data Processing in the Field of Internal Affairs did not provide for special rules or procedures on protecting and deleting personal data. Namely, the provisions of the law governing the protection of personal data in general are to be applied, pursuant to Art. 6 of the Law on Records and Data Processing in the Field of Internal Affairs. The Law on the Protection of Personal Data, Official Gazette of the Republic of Serbia, no. 87/18, provides legal means that citizens can use in cases when their rights have been violated. Thus, everyone has the right to file a complaint with the Commissioner for Information of Public Importance and Protection of Personal Data, while the provisions of the

law regulating inspection supervision are applied accordingly in the complaint procedure. Citizens also have the right to judicial protection.

Therefore, in Serbia, at the moment, there is no special procedure for the deletion of DNA profiles and there is no possibility of an administrative or other similar review of the necessity of the DNA data retention.

THE CASE LAW OF THE EUROPEAN COURT OF HUMAN RIGHTS IN THE FIELD OF DNA PROFILING AND DNA STORAGE

DNA profiling is directly related to the intrusion into citizens' privacy. In this context, Art. 8 of the European Convention for the Protection of Human Rights and Fundamental Freedoms (Rome, 1950, hereinafter: ECHR) prohibits the violation of the personal sphere, by stating that public authorities will not interfere in the exercise of the right to privacy unless the limitation of the right is in accordance with the law and necessary in a democratic society: in the interest of national security, public safety or economic well-being; to prevent disorder or crime and protect health or morals, and also in order to protect the rights and freedoms of others. Article 18 of ECHR is also relevant since it stipulates that, although certain limitations of human rights are permissible, the limitations may not be applied for any other purposes than those for which they have been prescribed. The stated norms are of the highest importance considering that, in contrast to the tendency to constantly expand the scope of basic human rights, there is also a tendency to derogate them (Dimovski, 2021, p. 1059).

In its decades-long practice, the European Court of Human Rights has dealt with a considerable number of petitions related to the alleged violation of the right to privacy in the context of DNA profiling. Apart from the fact that the applicants referred to the violation of Art. 8 of ECHR, several petitions also concerned the discriminatory treatment of citizens whose DNA profiles are stored in various national databases (Art. 14), as well as the violation of the right to respect the presumption of innocence (Art. 6).

In *S. and Marper v. UK*, (app. no. 30562/04 and 30566/04, judgment 4 December 2008), one of the applicants was eleven-year-old S, who was arrested and charged with attempted robbery, and afterward acquitted. Regardless of the outcome of the criminal proceedings, the state permanently stored his DNA profile. The second applicant, Marper, was arrested and charged with the harassment of his partner, but proceedings were suspended, while Marper's DNA profile was also stored and permanently recorded. The European Court of Human Rights decided that the right to the protection of personal data was violated. The court stated that DNA profiles, by all means, represent data of a private and sensitive nature and that DNA analysis carries a great potential for encroaching into

the most intimate sphere (*S. and Marper v UK*, §69, 70). Special attention should be paid to the speed of scientific progress, which inevitably speaks in favour of the fact that technologies will be further enriched, which leads to both significant societal benefits and various risks for privacy protection. The European Court of Human Rights emphasised that the storage of DNA profiles and samples does not only affect the person from whom the biological sample was taken, but potentially also their family and a wider circle of his relatives. Also, there is a significant difference between the storage of biological samples for DNA analysis and the storage of a DNA profile, given that the DNA sample undoubtedly contains a significantly larger number of personal data, but at the same time, it does not imply that the storage of the DNA profile in itself does not entail significant risks for privacy protection (*S. and Marper v UK*, §§72-77). The court pointed out that there must be a legal basis for keeping a DNA profile, and that the law must be directed toward a relevant and legitimate goal, but that, at the same time, restrictions on the right to privacy must be in accordance with the values of a democratic society. It was not disputed that in the UK there was a law that defined the taking and storage of DNA samples and profiles, and that it was based on a legitimate goal, which is the detection and solving of crime. However, the issue was whether restrictions on the right to privacy were necessary in a democratic society. Hence, the court concludes that it is indisputable that DNA profiles can be extremely important in detecting and solving crimes, but that this does not mean that their extensive use is acceptable in any given case. When it comes to this particular petition, the possibility of indefinitely storing the DNA profile of a suspect who has never been convicted should be considered especially carefully (*S. and Marper v UK*, §106). Furthermore, the court emphasised that a significant number of European countries allow the storage of DNA profiles of suspects for a limited time, primarily tying the storage period to the time required to complete the criminal proceedings. In this sense, the possibility of the permanent storage of DNA profiles of suspects for all recordable offenses is not acceptable (*S. and Marper v UK*, §110). Also, it is unacceptable to indiscriminately and indefinitely store the DNA profiles of both suspects and convicts, both minors and adults, regardless of whether it is a question of detecting and processing a more serious or a minor offense, and regardless of any personal characteristics and previous convictions (*S. and Marper v UK*, §119). In addition, the court was of the opinion that the state did not enable the application of an adequate mechanism to control the justification of storing and keeping DNA profiles in the database. Namely, there was only the possibility that high-ranking police officers, making a discretionary decision, would approve the deletion of a certain DNA profile from the database, although such cases were very rare in practice. Moreover, the deletion of the DNA profile occurred mainly in

cases when the authorities made a mistake during the entry itself (*S. and Marper v UK*, §35).

In *S and Marper v. UK*, the European Court of Human Rights disagreed with the government's position that the mere fact that the DNA profile is stored in the database does not affect human rights. The government pointed out that if there is never an overlap between the DNA profile stored in the database and the DNA profile originating from a certain crime, there will never be an intrusion into the privacy of a person who has been forensically registered. On the contrary, the European Court of Human Rights pointed out that regardless of the absence of data processing in the future, the mere storage of one's personal data already represents an invasion of inviolable human rights (*S. and Marper v UK*, §121).

A recent case before the European Court of Human Rights, *Gaughran v UK* (app. no. 45245/15, judgment 13 February 2020), involved a male from Northern Ireland who was convicted of driving under the influence of alcohol. The applicant admitted the offense, and was fined and banned from driving for twelve months. Two months after the end of the proceedings, his lawyer requested that the DNA profile of his client be removed from the DNA database, considering the trivial nature of the crime. The state's response to this request was negative considering that the law prescribes the mandatory forensic registration of all persons who have been convicted of a recordable crime, which serves a very important purpose of detecting and suppressing crime. Furthermore, the government emphasised that DNA profiling has a deterring effect on offenders, and that it has been known that convicted persons often reoffend within one or two years, which also justifies the mandatory registration and permanent storage of a DNA profile (*Gaughran v UK*, §62). The European Court of Human Rights took the opinion that the permanent storage of the DNA data of a person who was driving under the influence of alcohol represents an inappropriate and too extensive limitation of the right to privacy. Even though the Government emphasised that every state has a certain freedom in defining the need for the detention of personal data, in accordance with the specific needs of the given state, the court was of the opinion that the limitations went too far. Despite the fact that the DNA profile is kept only in the cases of conviction for non-trivial crimes, the legislator still did not enable the evaluation of the distinction between very different types of crime. Thus, the court concludes that the state cannot automatically store the DNA profiles of all persons convicted of a certain broadly defined category of offense. It is also necessary to precisely prevent the storage of the DNA profile after the death of the person who was profiled. As for the state's claims that DNA profiling enables a more effective fight against crime, such a position cannot be evaluated as a justification for the extended storage of DNA profiles. If one would take into account only the fact that DNA profiling can be useful,

then this would justify taking a DNA sample and the DNA profiling of all citizens, which cannot be accepted as an adequate solution (Gaughran v UK, §89). Furthermore, the European Court of Human Rights did not accept the state's explanation that a more substantial DNA base is needed to shed light on cold cases, specific to Northern Ireland and its political and historical context, considering that such an argument by itself cannot nullify the obligation to respect the right to privacy. Even when solving complex cases, the state must use means that will not call into question the respect for human rights (Gaughran v UK, §93).

In *Aycaguer v. France* (app. no. 8806/12, judgment 22 June 2017), the applicant refused to give a sample in order to store a DNA profile in the national DNA database, also known as FNAEG. Aycaguer was previously convicted of intentional violence against a person exercising public authority. The applicant took part in the protest of agricultural workers, during which he hit a policeman with an umbrella, without causing him any injuries, and was sentenced conditionally to two months of imprisonment, and, since he subsequently refused to consent to a buccal swab, he was fined 500.00 EUR. Aycaguer appealed to the French court, but the court ruled that there were no grounds to refuse DNA sampling. The applicant pointed out that the database was first created to store the DNA profiles of sex and violent offenders, and that it later on expanded so that it could store DNA profiles of other offenders, including persons convicted of trivial offenses. He also stated that, given the nature of the offense of which he had been convicted, it was disproportionate to store his DNA profile for 40 years. The government pointed out that the law precisely stipulates when DNA profiling is mandatory, and stressed that the database is used only to detect and solve crimes, as well as that there is no possibility of unauthorised access (*Aycaguer v. France*, §§29-32). Nevertheless, the European Court of Human Rights found that there came to an excessive limitation on the right to privacy. Namely, although the state has the right to decide when DNA profiling should be carried out, it cannot be performed regardless of the gravity of the offense. Also, it is unacceptable that all DNA profiles are stored for the same period. Even though there was a legal basis for the mandatory DNA profiling of perpetrators of certain categories of offenses, in practice there should be a clear distinction between the collection of personal data of persons convicted for sexual crimes and terrorism, on one side, and crimes such as striking an unnamed police officer with an umbrella, on the other (*Aycaguer v. France*, §43). Also, it is necessary to have an appropriate mechanism for the supervision of DNA profile storage, which did not exist in France at the time (*Aycaguer v. France*, §45).

In the case of *Peruzzo and Martens v. Germany* (app. no. 7841/08 and 57900/12, judgment 4 June 2013), two applicants, both multiple offenders, complained about the storage of their DNA profiles. At the time

when the DNA analysis was requested, no criminal proceedings were pending against them, so the reason for the DNA profiling was the detection and solving of possible future crimes. Peruzzo was convicted of multiple drug-trafficking offenses and Martens was convicted for several violent crimes. Despite the applicants opposing the DNA analysis, the German court found that there is a significant risk that they could reoffend in the future, as a result of which DNA profiling is justified and necessary. The Criminal Procedure Code (Strafprozessordnung), at that time, stipulated that DNA profiling could be carried out both as part of ongoing criminal proceedings and for future criminal proceedings. The forced collection of DNA samples is only possible in the case of the commission of serious crimes, when there is a risk of reoffending, and only on the basis of a court decision (Peruzzo and Martens v. Germany, §20). According to German law, DNA profiles are stored only as long as there is a legally justified reason, and afterward, they are to be destroyed. The European Court of Human Rights established that there was a legal basis for DNA profiling, given the sufficiently clear and precise provisions of the Criminal Procedure Code. What could be disputed is whether the limitation of the right to privacy is justified given the values of the modern democratic society. The court estimates that there was no extensive limitation of the right to privacy because DNA profiling is allowed: in the case of a conviction for a serious crime, in the case of a repeated conviction for a crime of a certain gravity, and in the case where personal circumstances and circumstances related to the crime indicate a high risk of reoffending (Peruzzo and Martens v. Germany, §44). In addition, in Germany, the court is obliged to review, at periods not longer than ten years, whether stored DNA data is to be corrected or deleted. The applicants also complained that storing a DNA profile for the purpose of conducting future criminal proceedings represents a denial of the presumption of innocence pursuant to Art. 6 of the ECHR. However, the European Court of Human Rights stated that there can be no question of a violation of this presumption, because, at the time of DNA profile storage, there were no criminal proceedings against the applicants (Peruzzo and Martens v. Germany, §54).

CONCLUSION AND RECOMMENDATIONS

The European Court of Human Rights has designed certain standards related to DNA profiling in the context of criminal proceedings. Those standards imply that DNA analysis and the storage of DNA profiles can only be performed with a relevant legal basis, whereby the language of the national law must be unambiguous and precise. Apart from the fact that DNA profiling, and especially the storage of DNA profiles, should have some basis in domestic law, at the same time, it must serve a legitimate aim and be necessary in a democratic society. Therefore, a cer-

tain restriction of human rights can be tolerated only in the presence of important reasons that can be qualified as more significant than the individual interests of citizens. Without any doubt, the fight against crime represents an interest of great social importance and a pressing social need. However, despite the existence of a legal basis for DNA profiling and a legitimate aim, the collection and storage of DNA data must not take on an extensive character.

When it comes to DNA profiling and DNA storage in a national DNA database in Serbia, we could say that this matter is aligned with international and European standards, but that there is room for additional improvement. Thus, in Serbia, there is an adequate legal basis for DNA profiling which concerns the need for efficient criminal proceedings. Also, the Law on the National DNA Database provides a legal basis for the storage of DNA profiles. Nevertheless, what can be problematic in Serbia are the terms by which DNA profiles are stored, as well as the absence of review mechanisms of the legality and the justification of prolonged storage of the DNA data.

Also, in Serbia, extensive periods have been set for the storage of DNA profiles. Although high-ranking police officers are responsible for ensuring the legality of storing and manipulating DNA data, the procedures according to which they act have not been elaborated on. It should also be borne in mind that when it comes to those convicted of sex crimes against minors, their DNA profiles are permanently stored, and no mechanism of re-examination is foreseen. The possibility of long-term storage of not only DNA profiles of convicted persons but also other persons connected with certain crimes is also problematic.

In order to harmonise the Serbian positive legal framework with European standards, all issues related to the National DNA database and DNA profiling should be resolved within a single legal document. Furthermore, specific time limits should be determined in relation to the storage of DNA profiles of different categories of persons. It is necessary to define a mechanism for controlling the actions of high-ranking police officers in the domain of keeping DNA profiles and samples, considering that it is a very sensitive and complex matter. Also, procedures for correcting errors in the DNA database should be defined, as well as procedures governing the deletion of data that is no longer needed.

With all of the above, measures should be taken in Serbia to familiarise the wider public with the importance and functions of DNA profiling, as well as the dangers that could arise from the uncontrolled management of DNA databases, given that it is a topic that, despite its enormous social importance, has been completely neglected.

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ДНК РЕГИСТРИ И ЗАШТИТА ЉУДСКИХ ПРАВА, ПРИЛИКЕ У СРБИЈИ И УСКЛАЂЕНОСТ СА ЕВРОПСКИМ СТАНДАРДИМА

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Резиме

Прогрес науке омогућио је широку примену ДНК профилисања у области откривања и процесуирања кривичних дела. Међутим, осим значајних преимућстава, апликовање ове технологије доноси незанемарљиве ризике по поштовање људских права и слобода. Отуда општа и научна јавност све чешће говори о томе да ДНК технологија омогућава инвазију у приватност грађана, с обзиром да се путем анализе ДНК узорка може прибавити обиље најличнијих података, попут оних о пореклу и родбинским везама, до оних о генетски преносивим болестима. ДНК профилисање креира могућност за вршење надзора над активношћима грађана, који несвесно и свакодневно на различитим местима остављају биолошки материјал подобан за ДНК анализе. Иако се неретко истиче да онај ко не крши закон нема разлога да се прибојава увида у сопствене одлике и поступке, ипак треба поставити питање зашто је потребно да јавне власти располажу обиљем врло личних података. Такође, када се, с правом, истиче да ДНК технологија омогућава поуздано детектовање осумњичених за најопаснија кривична дела, не треба губити из вида ни то да она није непогрешива.

Како Европски суд за људска права већ неколико деценија пресуђује о питањима у вези са оправданошћу и законитошћу чувања ДНК профила и узорака у националним ДНК регистрима, аутор је настојао да издвоји кључне стандарде који су се издвојили у пракси ове институције. Тако издвајање и чување ДНК профила мора бити базирано на релевантном и довољно прецизном пропису који је усмерен ка остваривању циљева од општег друштвеног значаја. Уз наведено, ограничавање приватности грађана не сме попримити екстензивне размере, док дуготрајније чување личних података не може да се односи на широко дефинисане групе лица, већ само на осумњичене и осуђене за тешка кривична де-

ла. Такође, неприхватљиво је неселективно вишедеценијско или чак временски неограничено складиштење ДНК профила и узорака, при чему су државе дужне да дефинишу ефикасне механизме за периодично реevalуирање оправданости даљег чувања личних података.

Анализирајући позитивноправни оквир у Србији, аутор закључује да је он, у одређеној мери, усклађен са релевантним европским стандардима. Додатно усаглашавање са европским тековинама изискивало би прописивање јасних дистинкција при чувању ДНК профила и узорака различитих група грађана, као и прецизније одређивање надлежности и процедура за периодично и редовно преиспитивање законитости и оправданости пролонгираног чувања најличнијих података.

SOME ASPECTS OF RISKS IN EXTREME SPORTS INSURANCE

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Abstract

The authors' intention in this paper was to analyse the terms 'sport' and 'extreme sport,' and their essential differences, the types of extreme sports insurance, as well as aspects of risk assessment before insurance contract formation. When conducting the research, conclusions were drawn from the available literature on the nature and specifics of certain extreme sports. The opinions and attitudes cited served to highlight the importance of some, but not all, aspects or features of extreme sports. This led to the following division of the paper into sections concerned with: the concept of sport and the origin and concept of extreme sports; types of risks in extreme sports insurance; aspects of risk assessment in the insurance of persons engaged in extreme sports and preventive measures in extreme sports. Sources of legal, psychological and general theory were used to explore the motives for extreme sports engagement, national regulations were used only when contextually necessary, and insurance conditions were used to examine the content and differences of various insurances in the Serbian and British markets.

Key words: extreme sport, risk, accident, liability.

НЕКИ АСПЕКТИ РИЗИКА У ОСИГУРАЊУ ЕКСТРЕМНИХ СПОРТОВА

Апстракт

Намера аутора у овом раду била је анализа појмова „спорт” и „екстремни спорт” и њихових битних разлика, врста осигурања учесника у екстремним спортовима, као и различитих аспеката процене ризика пре закључења уговора о осигурању. Приликом спровођења истраживања закључци су извлачени на основу природе екстремних спортова и специфичностима појединих на основу проучене литературе.

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Мишљења и ставови који су навођени послужили су за истицање значаја неких, али не свих постојећих аспеката или карактеристика екстремног спорта. Зато је рад подељен у делове посвећене: појму спорта, те пореклу и појму екстремних спортова; врстама осигурања ризика екстремних спортова; апектима процене ризика у осигурању лица која се баве екстремним спортом и превентивним мерама приликом бављења екстремним спортовима. У раду су коришћени извори правне, психолошке и опште теорије ради објашњења мотива за бављење екстремним спортовима, национални прописи само у мери у којој је то било неопходно у контексту излагања, и услови осигурања да би се указало на садржину и разлике у појединим врстама осигурања на српском и британском тржишту.

Кључне речи: екстремни спорт, ризик, незгода, одговорност.

THE TERM 'SPORTS,' THE ORIGIN AND THE TERM 'EXTREME SPORTS'

Before delving into the topic of the characteristics, specifics and selected questions and research into risks in extreme sports insurance, we first need to define the very term 'sport.' Its definition will be the first step towards understanding the meaning of 'extreme sport'. Accordingly, we will also ascertain at least an approximate classification of extreme sports.

The noun 'sport' originates in the first half of the 14th century, from the Anglo-French word *dysport*, meaning "activity that offers amusement, pleasure, or recreation" (Etymonline, 2025). The sports organisation *SportAccord* from Lausanne, Switzerland (the organisation representing the Olympic and non-Olympic international sports federations) has defined the cumulative criteria qualifying an activity as a sport. Thus, a sport whose international recognition is required should: (1) contain some competition, (2) not be harmful to living creatures, (3) not use equipment produced by only one manufacturer and (4) not have any type of 'luck' element designed into the sport (SportAccord, 2010).

The European Sports Charter (adopted in 1975, amended in 1992, 2001 and 2021, hereinafter: ESC) contains a framework for sports policy that every European country is obliged to implement, and defines 'sport' as all forms of physical activity which, through casual or organised participation, are aimed at maintaining or improving physical fitness and mental well-being, forming social relationships or obtaining results in competition at all levels (Recommendation CM/Rec(2021)5, art. 2, para. 1). At least two shortcomings arise from this definition. Firstly, it does not include sports without physical activity, such as the mind games of chess and bridge. The Serbian Sports Act 2016 clearly defines sports activities as all forms of physical and mental activity (art. 3(1)(1)), so it does not suffer from the perceived deficiency present in the ESC's definition of sport. The second shortcoming relates to the incompleteness of the ESC's definition, as it can only be partially applied to extreme sports. This is because extreme sports can serve for leisure and entertainment,

and not necessarily for establishing social relationships, maintaining or improving physical fitness, or achieving any results. We note the ESC's definition is in line with the list of sports of the International Olympic Committee and the criterion of physical activity, because of which mind sports are left out from their program (IOC, 2025). On the other hand, the definition of the ESC is abstract enough to embrace certain extreme sports from the Olympic Games' program. These are, for example, BMX freestyle cycling, mountain biking and skateboarding (IOC, 2025). Beside the mentioned physical and mind sports, there are also special sports subtypes in which motor vehicles or animals are used. In this sense, we distinguish motor sports like karting, motorcycling, formula 1 and equestrian sports (harness racing, show jumping and polo).

According to the encyclopaedia Britannica, 'extreme sports' are sporting events or pursuits characterised by high speed and risk, and are outside the traditional classification of sports (Britannica, 2025). It is difficult to determine exactly when this term was used first, but many believe it has been noticeably used since the early 1970s, when rock climbing and marathon running, then considered extreme, gained popularity (Winsborough, 2009, p. 1). In Winsborough's opinion, extreme sports may have become so popular due to the increased demand for dangers and excitement not found in the safety of modern life. One of the plausible explanations of the dominant motive why some individuals knowingly put themselves at risk of injury or death in extreme sports is the emotional variety experienced during the activity, such as nervous anticipation, excitement, peace, relief, confidence, and a sense of accomplishment (Stringer, 2023, p. 4).

With the practice of extreme sports, soon began the development of the so-called recreational tourism. In recent years, in Serbia, there has been more talk about the development of new products attractive to the international tourist markets, especially with regard to recreational tourism (Gligorijević, Kostadinović, 2023, p. 57). However, recreational tourism differs from extreme sports mainly in the intensity of commitment and professionalism. This is why extreme sports are equated with "adventure sports" within the health insurance legal theory to indicate a certain category of outdoor activities (Buckley, 2018, p. 3).

The identification of extreme with adventure sports, apparently, seems unconvincing, with the decisive difference being that adventure sports can be practiced by amateurs only under the supervision of a trained guide and if clear safety protocols are followed (for example, skydiving, bungee jumping, recreational – tourist diving). However, adventure is a subjective view of an activity, because what looks as dangerous and physically demanding for an individual is a daily routine for a trained and experienced guide (Buckley, 2018, p. 8). The difficulty in drawing the line between adventure and extreme sports is also supported by the fact that skateboarding is classified into both categories depending on the way it is practiced (Hawk, 2023).

TYPES OF RISKS IN EXTREME SPORTS INSURANCE

Like any activity, engaging in extreme sports due to its dangerous nature implies numerous risks to which the insured is exposed. The insured can be an individual practicing extreme sports, a sport, or other organisation, such as an organiser and/or provider of extreme sports services.

However, British insurers are coming up with sports insurance products that contain different covers in one place. In this way, informing interested persons and sports organisations about insurance is much easier and faster, because the general and special insurance conditions are found in a single document. Potential policyholders can consider cover combinations, depending on their needs and legal obligations, insurance culture and sense of certain risks exposure: from the consequences of an accident to legal liability and various types of damage that can be suffered while participating in extreme sports.

Accident Insurance

This insurance falls into non-life personal insurance by the nature of compensation having an indemnifying character. On the Serbian and British insurance market, its cover includes: death due to an accident, permanent loss of general working capacity (disability), temporary work incapacity (daily benefit), and health impairment requiring medical assistance (treatment costs and hospital days) (Big Cat Insurance, 2021, p. 16; DDOR Novi Sad, 2019, art. 2(2)); Ripe Insurance Services Limited, 2021a, p. 13; Wiener Städtische osiguranje, 2020, art. 3(1)). Unlike the Serbian one, the British insurance market does not provide benefits due to temporary work incapacity (daily benefit).

The insured can be registered as a sport competitor, a member of a sport organisation, or an amateur athlete. It is worth saying the Serbian extreme sports insurance market is underdeveloped, and institutionally recognised sports insurance products provide cover for a very limited number of extreme sports, namely: (1) management and flying airplanes and other aircraft of all types, except when the insured is a passenger in public air transport; (2) sport parachute jumps; and (3) trainings and participation of the insured in public sports competitions as a registered member of a sports organisation in the following sports: football, ice hockey, jiu-jitsu, judo, karate, boxing, skiing, rugby, wrestling, ski jumping, mountaineering, speleological activities, underwater fishing, car and motorcycle speed races, motocross, and go-kart (Wiener Städtische osiguranje, 2020, art. 10). Simultaneously, the insurers do not exclude liability even when cover for the other sport was not specifically agreed and the corresponding premium remained unpaid. If the above situation and accident occurred, the agreed sums would be reduced by the ratio between the premium that should have been paid and the premium actually

paid. In contrast to the British market, the terms of accident insurance for athletes on the Serbian market do not contain special, specific obligations of the insured for the prevention of the insured event when practicing extreme sports. There are two coverage conditions for operating aircraft, watercraft, motor vehicles and other vehicles: firstly, the insured must have a prescribed official document authorising the driver to manage and fly the given kind and type of aircraft (UNIQA neživotno osiguranje, 2015, art. 11(5)(5); Wiener Städtische osiguranje, 2020, art. 11(1(5))); and secondly, there is no proven causal connection between the narcotics effects or the insured's intoxicated state and the accident (Wiener Städtische osiguranje, 2020, art. 11(1)(9)).

For select extreme sports, the law can provide for the conditions for arranging, maintaining, and equipping the sports field, rules for providing services, field marking and installing signposting, use of transport means, safety and order, and teaching. Everyone using the sports field must comply with the rules of conduct. Besides, the law can prescribe types of compulsory insurance. In this sense, the Serbian Public Ski Resorts Act specifically regulates issues important for accident insurance. A legal entity or an entrepreneur providing ski school services, with the consent of the ski centre, must, among other things, be registered for sports teaching, have the necessary licenses and an insurance policy against accident for trainees (Zakon o javnim skijalištima, 2006, art. 62).

Loss of Earnings Insurance

Bodily injury of the insured caused by extreme sport, resulting in temporary work incapacity, prevents the insured from normal work or occupation. In such cases, in the British market, compensation of earnings is given for a maximum of fifty-two weeks after the accident date up to the sum insured, or amounting to seventy-five percent of the earnings, whichever is lesser (Ripe Insurance Services Limited, 2021a, p. 14). In such cases, the Serbian insurance market allows the insured to agree a specific amount of daily allowance until the work incapacity ceases, but for a maximum of two hundred days (UNIQA neživotno osiguranje, 2015, art. 17(9); Wiener Städtische osiguranje, 2020, art. 19(9)).

Sports Equipment Insurance

It is common that things for insurance are defined in the insurance policy, thus making clear what the insurer's obligation refers to. The British insurance market defines sports equipment as equipment used directly in connection with the sport in question, including audio and visual devices (with batteries), clothing and accessories, luggage, personal effects, and trophies (Ripe Insurance Services Limited, 2021a, p. 9). Stolen, lost or accidentally damaged, including damage by third parties, equipment

used for extreme sports must be kept locked in lockers and must not be left outdoors unattended. If those conditions are met, lost or damaged sports equipment is covered for the cost of repairs or replacement, up to the sum insured (Ripe Insurance Services Limited, 2021a, p. 15).

Liability Insurance

Liability insurance can be implemented as damage insurance in third party and property interest as a result of practicing extreme sports, and as liability insurance for persons being organisers or service providers of extreme sports. Damages to third parties include bodily injury, death, illness and mental injury (Ripe Insurance Services Limited, 2021a, p. 10). If an amateur-individual is insured, it is voluntary liability insurance, but if an organiser or service provider of extreme sports are engaged, liability insurance may be required by law. Liability insurance can also overlap with mandatory personal accident insurance on certain sports or other grounds (national parks). For example, a ski centre can conduct activities, i.e. acts related to the use of the ski resort, among other things, only if it takes out an insurance policy on skiers and other direct users of the ski resort against accidents at the ski resort (Zakon o javnim skijalištima, 2006, art. 33(1)(7)). In France, which has a long tradition of compulsory insurance of numerous risks, the obligation of civil liability insurance is prescribed for persons participating in recreational underwater fishing and private organisers of sports events involving land-based motor vehicles (Code du sport, 2006, articles 321-3, 331-10).

Professional Indemnity Insurance

The insurance of extreme sports risks covers participants, instructors and coaches. The insured event arises from breach of professional duty under contract or, in another legal way, in connection with civil liability arising from negligent acts, errors or omissions in the sport that is the profession of the instructor or coach (Ripe Insurance Services Limited, 2021a, p. 12). Those can be express or tacit wrong or inadequate advice, actions, movements, etc. of the instructor or coach inducing the participant in extreme sports, who trusts in their expertise and experience, to do something to their own detriment or, simply, sustain damage without their active contribution. Professional indemnity insurance covers the claim and defence costs an instructor or coach may incur if a claim, justified or not, is made by an extreme sports participant. It is generally accepted in the business practice of the Serbian and British markets that the insured event arises when a claim is made during the insurance period (Wiener Städtische osiguranje, 2020b, art. 7(1); Ripe Insurance Services Limited, 2021a, p. 12). In the Serbian insurance market, the claim deadline for this type of liability insurance is five years, which is the absolute

statute of limitations from the day the damage occurred (Zakon o obligacionim odnosima, 1978, art. 376(2)).

ASPECTS OF RISK ASSESSMENT IN THE INSURANCE OF PERSONS ENGAGED IN EXTREME SPORTS

It is harder for professional athletes and amateurs in extreme sports in Serbia to take out insurance policies due to higher premiums against the increased loss frequency (Piljan, Piljan, Lukić, 2019, p. 81; Stanić, 2017, p. 497). Therefore, the assessment of the general and specific risks of a particular extreme sport or activity is of considerable importance for the insurer.

The process of extreme sports risks acceptance into insurance begins with adequately composed insurance conditions. One should fix the insurer's obligation incidence, i.e. define the insured accident. By the generally accepted standard, a personal accident is caused by a violation of physical integrity and health (Kalinić, Vojinović, Žarković, 2012, p. 113). Namely, the Serbian and British insurance markets accept as an accident any sudden event independent of the insured will, acting externally and abruptly on the insured body and causing their death, complete or partial disability, temporary work inability or health impairment requiring medical assistance (Big Cat Insurance, 2021, pp. 7, 16; DDOR Novi Sad, 2019, art. 5(1); Ripe Insurance Services Limited, 2021a, p. 8). Circumstances and events of the insurer's obligation in accident insurance are defined in the insurance conditions. For example, these are: trampling, collision, impact with any object or against any object, electric current or lightning strike, fall, slip, run over, wounding with a weapon, various other objects or explosive substances, stabbing with any object, impact or animal bite and stabbing insect, unless such a sting caused some kind of infectious disease (DDOR Novi Sad, 2019, art. 5(2)).

The insurance company must identify the risks and assess their severity. This means it must measure the potential loss size and the occurrence probability (Jovanović, 2016, p. 88). It is usual for insurers to categorise sports into danger classes of the insured event occurrence. The danger classes have a smaller or larger range depending on the insurer judgment, with the first class being sports with the lowest frequency, and each subsequent class indicating sports with an increasing damage frequency for which policyholders pay a higher premium. According to this methodology, extreme sports, as a rule, are classified in the peak danger class (Ripe Insurance Services Limited, 2021b, p. 1-2). For example, in one study of 533 mountaineers on British expeditions above 7,000m between 1968 and 1987, 23 mountaineers died, which represents 43,000 microdeaths (a microprobability of 1 in 1,000,000 of death per climb), mak-

ing hiking riskier than an average bombing mission in World War Two (Spiegelhalter, 2014).

Risk assessment problems can also arise because policyholders often participate in several extreme sports, increasing the risk of injury or death. Sports involving high speed, great heights or depths, tremendous physical effort or strength, or specialised equipment require careful underwriting.

A precondition for the insurer obligation is the materialisation of risks embraced by the insurance policy terms, because they lead to the occurrence of the insured loss (Jovanović, 2016, p. 80). Regarding extreme sports, the risk severity must reflect the subject sport type to establish specific dangers and possible consequences. The British insurance market insures the risks of many extreme sports as part of travel insurance, sportsmen insurance or health insurance. It also applies some cover restrictions or complete exclusions of particular extreme sports. For example, persons engaged in parachuting, skydiving and BASE jumping (jumps from fixed buildings and other objects lower than the recommended parachute opening height impose a high risk of the participant hitting the object he jumped from (Booth, Thorpe, 2007, p. 20; Brymer, 2010, p. 3; Winsborough, 2009, p. 1)) cannot be insured against critical illness and loss of earnings (AVIVA, 2022, p. 31). In travel insurance policies, personal accident risks of mountaineering and rock climbing are also covered to some extent. Additional covers are valid if specifically agreed upon, with an additional premium paid and on the condition activities take place up to a maximum of 4,000 meters above sea level and necessarily outside the winter period (AVIVA, 2022, p. 31). In other cases, this condition provides for activities taking place up to 6,000 meters above sea levels (Big Cat Insurance, 2021, p. 13). However, here too it should be noted the insurance of mountaineering above a certain altitude, but lower than the aforementioned maximum, is conditional on the prior written cover consent of the insurer (Ripe Insurance Services Limited, 2021a, p. 20).

The risk assessment process must also consider the applicant's age, experience, previous accidents and the total sum insured. With regard to a third insured person, age, legal restrictions regarding death and business capacity should be looked at. Insurance of a third party younger than fourteen or completely deprived of business capacity is void in the event death, while the insurance validity of a third party over the age of fourteen against death requires the written consent of their legal representative and each of the insured persons (Zakon o obligacionim odnosima, 1978, art. 947). Persons between the ages of fourteen and seventy-five can be insured on the Serbian insurance market (DDOR Novi Sad, 2019, art. 4(1)).

PREVENTIVE MEASURES IN EXTREME SPORTS

In some insurance policies, preventive measures are specified in a general way for all extreme sports. Thus, the insurer's obligation is excluded if or sport the insured did not wear the recommended or recognised protective equipment (helmets, protective eyewear, mouth guards, face protection, jock straps, life jackets, safety mats, pads and guards, protective footwear and padded flame resistant pressure suits for motorcyclists and motor cross participants /Medic8), or did not follow the safety procedures, regulations or rules of the organiser or service provider during an extreme activity (Big Cat Insurance, 2021, p. 13). Regarding climbing (alpinism), besides the mentioned equipment, a participant should have everything essential for a three-day climb, like food, water, and warm clothes (Booth, Thorpe, 2007, p. 68). Membership in a specialised club or association is a greater risk prevention guarantee for the insurer than insuring an amateur-individual alone, especially a beginner. A special aspect of the insured event prevention in extreme sports insurance is indeed the insured's previous experience and skill. If the insured can prevent panic, remain composed and focused and maintain clear and good judgment in the given environment, then this would also help protect them from injury or death (Brody, 2016; Brymer, 2010, pp. 4-5; Buckley, 2018, p. 8).

Specific protective measures are common to all extreme sports. These are procedures, actions and means of protection by which an effort is made to prevent the occurrence of a harmful event, or at least to reduce such a possibility (Žarković, 2013, p. 156). In that sense, the risks of mountaineering and rock climbing are covered with several additional activities' conditions. The insurer covers damage caused only during mountaineering and climbing in organised groups, using safety ropes and qualified guides (Big Cat Insurance, 2021, p. 13). Additionally, safety ropes and protective equipment must be of professional quality and manufactured by a specialist manufacturer (Ripe Insurance Services Limited, 2021a, p. 21). However, good training and protective equipment are no guarantee of the extreme athletes' safety against unexpected events beyond their control and influence, such as equipment failure, weather calamity (storm, avalanche) or disruption of their plans (Cliff's Notes, n/a).

Typically, national parks also prescribe rules for the management of recreational activities, some falling under extreme sports, and reserve the right of prohibition in the protected area (National Park Service, 2006, p. 101). Recreational diving creates extraordinary circumstances regarding excluded risks, too. For example, the British insurance market considers diving deeper than forty meters, diving in underwater wrecks or caves, attempting deep diving records or untrained divers to be severe risks requiring special assessment (Royal London, 2023, p. 22). This is quite understandable due to the physics of fluids exposing the diver's lungs to

enormous strain the deeper they dive. The water pressure increases by one atmosphere for every ten meters of depth, and lung volume at ten meters of depth decreases to half its norm due to pressure, resulting in a greater oxygen consumption and the loss of consciousness risk when surfacing (Booth, Thorpe, 2007, p. 99).

With insurance in sports with contact between the insured and the opponent with so-called cold weapons, the insurer obligation occurs only if the insured risk was caused by a blunted or padded weapon and the participants in the fight wore protective equipment (Ripe Insurance Services Limited, 2021b, p. 2). The assessment of the risk severity of non-motorised and motorised hang gliding, including gliding in a chair or behind a bar (paragliding), tied to a vessel (paradescending, parasailing), and including the operation of other aircrafts, necessarily attracts special attention and requires caution. The assessment of these risks, inter alia, uses the number of flying hours of the insured, and information on intentions to achieve a record, participate in a competition, exhibition or aerobatic (Friends Provident International Limited, 2018, p. 4).

CONCLUSION

Extreme sports are activities that expose people to injury or death, as well as diverse material damage. Due to the extremely high probability of an event occurrence, the risks of extreme sports require special attention when underwriting. Each extreme sport is characterised by specific mechanisms of manifestation, making the nature of the danger different in each of them. However, protective measures in extreme sports are not an absolute guarantee the insured event will not happen. The insurance market of the Republic of Serbia is not adapted to the specifics of extreme sports. The terms of accident insurance of the British and Serbian markets coincide by definition with the Serbian market providing examples of accident events. Although the Serbian insurance market can offer a combined product for individuals, clubs and associations engaged in extreme sports, the conditions of the athletes' insurance provide personal accident coverage only. The British market is more flexible because multiple covers are offered in one product, enabling the policyholder to acquaint themselves with options for their insurance.

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НЕКИ АСПЕКТИ РИЗИКА У ОСИГУРАЊУ ЕКСТРЕМНИХ СПОРТОВА

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Резиме

Дефиниција екстремних спортова излази ван оквира признатих спортова иако се неки екстремни спортови налазе у програму Олимпијских игара. Признати спортови служе одржавању или унапређивању физичке спремности, формирању друштвених односа или постизању резултата на такмичењима свих нивоа. Екстремни спортови се практикују ради разоноде и забаве, али често и ради личне афирмације вештине и утиска публике. Потенцијалним осигураницима су на располагању за разматрање различитих комбинација покрића, у зависности

од њихових потреба и законске обавезе, културе осигурања и осећаја изложености одређеним врстама ризика: од последица несрећног случаја до законске одговорности и разних штета током учествовања у екстремном спорту. Осигурање ризика у екстремним спортовима може да се спроводи као индивидуално или колективно. Осигураник може да буде лице које се бави екстремним спортом, инструктор или тренер, као и организација која је у обавези да одржава и опреми терен за такмичење и испуњава све услове безбедности боравка на терену. Процес преузимања у осигурање ризика екстремних спортова на првом месту почиње од адекватно састављених услова осигурања. Неопходно је одредити када настаје обавеза осигураваача, односно шта се сматра осигураним несрећним случајем. Затим, осигуравајуће друштво треба да идентификује ризике и процени њихову тежину. Уобичајено је да осигураваачи врше категоризацију спортова према разредима опасности од настанка осигураног случаја. У први разред спадају спортови са најмањом учестаношћу, а сваки следећи разред означава спортове са све већом учестаношћу штете због које осигураници морају да плате већу премију. Наведеном методологијом екстремни спортови се, по правилу, сврставају у највиши разред опасности. Осигураници су дужни да спроводе заштитне мере општег и специјалног карактера. Опште заштитне мере налажу осигуранику коришћење препоручене или признате безбедносне опреме и поштовање безбедносне процедуре, прописа или правила организатора или пружаоца услуге. Минимална стандардна опрема у већини екстремних спортова су кациге, штитници и рукавице. Са друге стране, специјалне заштитне мере се примењују само у конкретним екстремним спортовима. То може бити употреба сигурносног конопца и трака у алпинизму, затупљене оштрице хладног оружја у борилачким спортовима и слично.

THE TRANSLATION, RELIABILITY, AND CONSTRUCT VALIDITY OF THE SOCIAL ROLE PARTICIPATION QUESTIONNAIRE FOR PEOPLE WITH RHEUMATOID ARTHRITIS

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Abstract

The social participation of people with rheumatoid arthritis is assessed using the Social Role Participation Questionnaire. The aim of this study was to translate the Social Role Participation Questionnaire into the Serbian language, and to investigate its reliability and validity for Serbian people with rheumatoid arthritis. Questionnaires were satisfactorily completed by 126 participants with rheumatoid arthritis, during 2021. Test-retest reliability, internal consistency reliability, and construct validity of the Serbian version of the Social Role Participation Questionnaire were evaluated using the intraclass correlation coefficient, Cronbach’s alpha, and Spearman’s correlation coefficient, respectively. Some single item scores showed floor and/or ceiling effects. This was particularly evident in the physi-

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cal difficulty items, which showed a floor effect in 20-80% of participants. The high intra-class correlation coefficient score (0.913–0.959) suggested a very high test-retest reliability. The Cronbach's alpha coefficient, ranging from 0.706 to 0.926, was reliable for the majority of internal consistency. With the exception of the Social Role Participation Questionnaire subscale role importance at the first measurement, the construct validity of this instrument was confirmed. In assessing the social participation of Serbian people with rheumatoid arthritis, the Serbian translation of the Social Role Participation Questionnaire is a trustworthy and valid instrument.

Key words: reliability, rheumatoid arthritis, Serbian version, SRPQ, validity.

ПРЕВОД, ПОУЗДАНОСТ И КОНСТРУКТИВНА ВАЛИДНОСТ УПИТНИКА О УЧЕШЋУ У ДРУШТВЕНИМ УЛОГАМА ЗА ОСОБЕ СА РЕУМАТОИДНИМ АРТРИТИСОМ

Апстракт

Социјална партиципација особа са реуматоидним артритисом може се проценити помоћу Упитника о учешћу у друштвеним улогама. Циљ овог истраживања је био да се Упитник о учешћу у друштвеним улогама преведе на српски језик и да се испита његова поузданост и валидност код особа са реуматоидним артритисом. Упитнике је на задовољавајући начин попунило 126 особа са реуматоидним артритисом, током 2021. године. Тест-ретест поузданост, интерна конзистентност и конструктивна валидност српске верзије Упитника о учешћу у друштвеним улогама процењени су применом коефицијента интракласне корелације, Кронбахове алфе и Спирмановог коефицијента корелације. Неки резултати појединачних ставки су показали ефекте пода и/или плафона. Ово је посебно било видљиво у ајтемима који су се односили на физичке потешкоће где је дошло до ефекта пода код 20-80% испитаника. Висока вредност коефицијента интракласне корелације (0.913–0.959) указује на одличну тест-ретест поузданост. Када се ради о унутрашњој конзистентности поузданости, већина Кронбаховог алфа коефицијента била је јака (0.706–0.926). Конструктивна валидност упитника је потврђена, са изузетком субскеале Значај улоге при првом мерењу. Српска верзија Упитника о учешћу у друштвеним улогама се показала као поуздан и валидан упитник који врши процену социјалне партиципације особа са реуматоидним артритисом.

Кључне речи: поузданост, реуматоидни артритис, српска верзија, SRPQ, валидност.

INTRODUCTION

The most typical type of inflammatory rheumatism is rheumatoid arthritis (RA), a systemic, chronic, autoimmune illness with unknown causes. RA affects multiple body systems, the joints of hands, wrists, feet, ankles, knees, shoulders and elbows (Long et al., 2022). In the world, between 0.5 and 1% of the adult population suffers from this disease (e.g. Frazzei, van Vollenhoven, de Jong, Siegelaar, & van Schaardenburg, 2022; Wilburn et al., 2015), while the annual prevalence is 1.3% in the

population of people younger than 25 (Lawrence et al., 1998). In the Republic of Serbia, in relation to gender and age, the standardized prevalence of RA is 0.34% for the entire population (in a ratio of 3:1 for women) (Zlatković-Švenda, Stojanović, Šipetić-Grujičić, & Guillemin, 2014).

Early detection and diagnosis are crucial to alleviate RA symptoms, in order to increase the remission rate, slow down and reduce the appearance of permanent damage. In most patients, however, RA is a serious disease in which joint damage progresses, and the ability to work and care for oneself is weakened or lost, leading to disability. Social participation, which can be defined by the individual's social roles, is closely related to the occurrence of disability. In this sense, the degree to which a person can play a certain function in society is considered when defining their level of social participation, as well as how important the participation in the role is for the individual themselves, and not whether the activity required by that role is carried out (Davis, Wong, Badley, & Gignac, 2009; Gignac et al., 2008). Having the above explanation in mind, Gignac et associates (2008) suggest that when assessing social participation, one should take into account personal preferences as well as the importance an individual attaches to a certain role. Also, the way and time the person wants to spend in the role are equally important. Participation and presence in the family, school or work is different for each individual. With increasing age, social support is demonstrably an important factor that contributes to social participation and quality of life (e.g. Drljan, Vuković, Dragaš Latas, & Mihajlović, 2021). Measuring social participation is important for improving a person's health, well-being, and quality of life (Devrimsel & Serdaroğlu Beyazal, 2021). In the available literature, various instruments are found for the assessment of social participation, that is, for the assessment of different aspects of social participation – e.g. The ICF-Measure of Participation and Activities Screener (IMPACT-S; Post, de Witte, Reichrath, Verdonschot, Wijnhuizen, & Perenboom, 2008), the Keele Assessment of Participation (KAP; Wilkie, Peat, Thomas, Hooper, & Croft, 2005), and Participation survey/mobility (PARTS/M; Gray, Hollingsworth, Stark, & Morgan, 2006)). In essence, these instruments should shed light on the degree of social participation so that it can be used for further rehabilitation and health promotion. The Social Role Participation Questionnaire (SRPQ) is an instrument for evaluating a variety of responsibilities (more precisely, 12 roles) through different dimensions (Davis, Palaganas, Badley, Gladman, Inman, & Gignac, 2011). The goal of applying SRPQ is to assess the individual's perception of: (1) the importance of participation in various social roles; (2) the limitations of participation in social roles; and (3) satisfaction with participation in social roles. The questions are designed in a way that prompts individuals to think about their health in general, or about specific conditions (e.g. knee pain related to arthritis) through their responses. Among other things, par-

ticipants are also asked whether they are currently employed, whether they attend school, whether they are in an intimate relationship or have children or grandchildren (Gignac et al., 2008). According to the available literature, for people with Ankylosing Spondylitis (AS) and osteoarthritis in Canada (Gignac, Backman, Davis, Lacaille, Cao, & Badley, 2013), as well as Dutch and Chinese AS people (Davis et al., 2011), the English version of the SRPQ has been proved to be a valid and reliable tool (van Genderen, 2018). However, this instrument has not been validated for participants with RA. Also, its translation and adaptation into the Serbian language has not been carried out.

In this study, the aim was to translate the SRPQ into Serbian, cross-culturally adapt it, and assess its psychometric properties, with a focus on the version's validity and reliability.

METHODS

Translation and Cross-cultural Adaptation

The original SRPQ was translated and cross-culturally adapted in accordance with global standard (Beaton, Bombardier, Guillemin, & Ferraz, 2000). Two bilingual translators who were native speakers of Serbian first translated the original SRPQ into the first Serbian version. One of the translators had a background in medicine, whereas the other was untrained in medicine and was unaware of the aim of the study. Second, the authors combined the translation, and the differences between the initial Serbian versions were fixed by coming to an agreement between the two translators. Third, two additional bilingual experts who were native English speakers back translated the Serbian version SRPQ into English in order to correct errors. The translation and reverse translation were both completed twice. In order to attain a pre-final version of the Serbian version of SRPQ, we organised an expert committee that compared the back translation with the initial Serbian version and the original English version item by item. This committee also fixed any contradictions or other issues. To ensure that every item in the pre-final version was understandable, this consensus version was completed by 28 Serbian outpatients with RA. Following corrections made in response to the input, the final Serbian version of SRPQ was created. The final version, which the expert group unanimously approved, was subsequently put through additional psychometric testing.

Sample

The minimal sample size for this study's calculations was determined to be 121 for 0.95 and p 0.05 (Faul, Erdfelder, Lang, & Buchner, 2007). In total, 126 individuals with RA were recruited from the Institute of Rheumatology in Belgrade during 2021. The research was conditioned

by the epidemiological situation caused by the COVID-19 pandemic. People with malignancy, heart failure classified as NYHA Classes III or IV, severe cases receiving insufficient care, and those with diagnoses of glandular illness or other inflammatory rheumatic disorders were excluded from the sample. It should be noted that certain data, such as disease activity, was taken from the respondents' medical records. Disease activity was assessed using the Disease Activity Score 28 (DAS28) and the Clinical Disease Activity Index (CDAI). These tools are composite scores derived from a clinical examination of the number of painful and swollen joints. DAS28 and CDAI showed moderate to strong correlation (Singh, Kumar, Handa, Talapatra, Ray, & Gupta, 2011; according to Šimpraga, 2023). Informed written consent was given by each person. In addition to providing demographic data, the participants independently completed the Serbian version of the SRPQ and the Rheumatoid Arthritis Quality of Life (RAQoL) questionnaire. Table 1 contains information about the participants' characteristics.

Instrument and Procedures

The SRPQ, which has been developed to evaluate participation in people with disabilities, is closely tied to the International Classification of Functioning, Disability and Health's definition of participation (World Health Organization, 2001). To put it another way, the SRPQ was created for rheumatic disorders to evaluate social role participation in relation to the activities a person engages in within a larger social context. SRPQ's initial iteration comprised three dimension scores that evaluate: (1) role importance, (2) satisfaction with time spent in roles, and (3) satisfaction with role performance (Davis et al., 2009; Gignac et al., 2008). In the modified version, the satisfaction with role performance dimension has been changed to physical difficulty (Gignac et al., 2013; Gignac, Lacaille, Beaton, Backman, Cao, & Badley, 2014). Participants are asked to rank the following 11 social roles in terms of importance, satisfaction, and difficulty: (1) intimate relationships; (2) relationships with (step/grand) children; (3) employment; (4) social events; (5) physical leisure; (6) travel or vacation; (7) hobbies; (8) relationships with other families; (9) community, religious, cultural involvement; (10) casual or informal contact with others; and (11) education. One generic role that is scored across the three dimensions is also included in the SRPQ (Davis et al., 2009). There are a total of 36 items. The SRPQ scores range from 1 (not at all important/not at all satisfied/very difficult) to 5 (extremely important/extremely satisfied/not at all difficult) on a five-point Likert scale (Björk, Bergström, Sverker, & Brodin, 2020). The mean value is calculated separately for each of the three dimensions of the social role: importance of the role, physical difficulties in each role ie. role limitation, and role satisfaction. Those individuals who report that the role does not apply to them are as-

Table 1. Participants' RA characteristics

Characteristics	N (%) or M±SD (min–max)	
Gender		
Male	20	(15.9%)
Female	106	(84.1%)
Age	54.26±13.65 (20 - 77)	
A place of residence		
City	107	(84.9%)
Countryside	19	(15.1%)
Education level		
Primary school	3	(2.4%)
High School	74	(58.7%)
College	12	(9.5%)
Faculty	29	(23%)
Other	8	(6.3%)
Employment		
Employed	56	(44.4%)
Unemployed	21	(16.7%)
Housewife	1	(0.8%)
Retiree	48	(38.1%)
Marriage		
Married	71	(56.3%)
Unmarried union	8	(6.3%)
Single	23	(18.3%)
Divorced	7	(5.6%)
A widower/widow	17	(13.5%)
Severity of RA		
Mild	48	(38.1%)
Moderate	75	(59.5%)
Quite heavy	3	(2.4%)
Method of treatment		
Only other medicines	4	(3.2%)
Standard therapy only	86	(68.3%)
Standard and biological therapy	36	(28.6%)
Use of medicines		
Glucocorticoids	33	(26.2%)
NSAIL	2	(1.6%)
Disease modifying drugs - BML	114	(90.5%)
Biological drugs	38	(30.2%)
DAS28		
Low activity (DAS-28 = 2.6–3.2)	22	(17.5%)
Moderate activity (DAS-28 = 3.2–5.1)	27	(21.4%)
High activity (DAS-28 > 5.1)	2	(1.6%)
Remission (DAS-28 < 2.6)	75	(59.5%)
Clinical Disease Activity Index (CDAI)		
Low activity (CDAI = 2.8–10)	39	(31%)
Moderate activity (CDAI = 10–22)	13	(10.3%)
High activity (CDAI > 22)	1	(0.8%)
Remission (CDAI < 2.8)	73	(57.9%)

sumed not to be limited by the role on the role limitations subscale and are given a score of 1 (no difficulty). This reduces the amount of missing data and results in a conservative estimate of the role constraints. Because individuals may not participate in all roles, mean role satisfaction scores are calculated if participants respond to at least nine of the 12 role domains. It takes about ten minutes to fill out the questionnaire. The author's written consent was obtained for the use of this instrument. Normative data from 510 population controls is available for this self-completed questionnaire (van Genderen et al., 2018). In addition to a translated and culturally modified version in Dutch (van Genderen et al., 2018) and Chinese (Zhang et al., 2018), there is also an English version.

Rheumatoid arthritis quality of life (RAQoL; De Jong, Van der Heijde, McKenna, & Whalley, 1997; Whalley, McKenna, De Jong, & Van der Heijde, 1997) is a specific instrument for assessing the quality of life of people with rheumatoid arthritis in relation to certain activities of daily living, through social integration and an emotional component. The RAQoL contains 30 questions on certain activities of daily living and quality of life, which the respondent answers with yes or no. The theoretical range is between 0 and 30, with a higher score indicating a poorer quality of life for people with RA. The questionnaire takes up to 10 minutes to complete, as does its administration, and requires no special training for the examiner. In addition to numerous world languages, the instrument has also been translated, adapted and validated in Serbian (Zlatkovic Svenda et al., 2017), has a high internal consistency, measured by the Cronbach's coefficient α , which is 0.94, and the test-retest reliability value is 0.92 (Šimpraga, 2023). In this research, it was used as a comparative instrument to test the psychometric characteristics of the SRPQ.

All procedures performed in the study are in accordance with the ethical standards of the national research committee, and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The study was approved by the Clinical research ethics committee of the Institution for Rheumatology in Belgrade (approval No. 29/5 of February 13, 2020). Informed consent was obtained from all individual participants included in the study.

Statistical Analyses

IBM SPSS v.23 was used for all analyses, and a p value of 0.05 or less was regarded as statistically significant. Analyses were conducted for each SRPQ subscale. The mean, standard deviation, and median for continuous variables were determined, along with the interquartile range. Frequencies and percentages were determined for discrete variables. Additionally, test-retest reliability, internal consistency reliability, and construct validity of the Serbian version of the SRPQ were assessed using the intraclass correlation coefficient (ICC), Cronbach's alpha (α) and Spearman correlation coefficient (r).

RESULTS

Score Distribution and Acceptability

The following criteria were used to determine whether the data was acceptable: normal distribution, and absence of substantial floor or ceiling effects (less than 15% of participants scoring at the highest or lowest levels). In the subscale scores at the initial assessments, no discernible floor or ceiling effects were discovered. The SRPQ subscales' restricted content validity is disregarded because there are no floor or ceiling effects. However, some single item scores showed floor and/or ceiling effects (Table 2). This was particularly evident in the physical difficulty items that showed a floor effect in 20-80% of the respondents.

Table 2. Effects of a floor or ceiling on the subscales' scores

SRPQ	M	SD	Min	Max	% scoring Min	% scoring Max
Role importance	3.7	0.5	2.3	4.8	0.79	1.59
Physical difficulty	1.6	0.5	1.0	3.0	7.14	0.79
Satisfaction with the role performance	3.6	0.5	2.3	4.9	0.79	0.79

Kolmogorov–Smirnov tests were conducted to investigate normality. With the exception of the SRPQ subscale physical difficulty at the first measurement, a normal distribution of the SRPQ subscale scores was confirmed (Table 3).

Table 3. Descriptors of distribution and normality of distribution of results

Variables	M	Mdn	Var.	SD	Sk	Ku	K-S	p
RAQoL	5.21	3.00	32.02	5.66	1.40	1.40	0.180	<0.001
First SRPQ role importance	3.68	3.67	0.26	0.51	-0.12	-0.12	0.063	0.200
First SRPQ physical difficulty	1.57	1.50	0.21	0.46	0.93	0.39	0.130	<0.001
First SRPQ satisfaction with the role performance	3.57	3.58	0.28	0.53	-0.02	-0.24	0.052	0.200
Second RAQoL	7.31	6.00	43.19	6.57	1.04	0.37	0.137	0.086
Second SRPQ role importance	3.96	4.04	0.29	0.53	-0.40	-0.53	0.091	0.200
Second SRPQ physical difficulty	1.47	1.40	0.13	0.37	0.74	0.45	0.114	0.200
Second SRPQ satisfaction with the role performance	3.79	3.85	0.38	0.62	-0.03	-0.45	0.102	0.200

Note: Var. – Variance; Sk – skewness; Ku – Kurtosis; KS – Kolmogorov–Smirnov statistic.

Reliability

Test-retest reliability and internal consistency were evaluated as part of the reliability tests. The SRPQ's test-retest reliability was evaluated by 36 people chosen at random from a group of 126. In two weeks, they were asked to retake the questionnaire. These individuals did not obtain any medical care that could have affected their health conditions during this time. The test conditions, such as the setting and method of administration, were the same for both times of assessment, and these participants remained steady over the course of these two weeks. Test-retest reliability was measured using the intraclass correlation coefficient (ICC), with a value >0.7 indicating acceptable reliability and a value >0.8 indicating outstanding reliability (Terwee et al., 2007). A two-way analysis of variance in a random effects model with a consistency model and an average measurement model yielded the ICC values for subscales scores. The 95% confidence intervals (CI) for the ICC values were given. The ICC ranged from 0.913 for physical difficulty to 0.959 for satisfaction with role performance, making it practically outstanding for all three subscales (Table 4). Correlating the SRPQ subscales results from the first and second assessments allowed for the evaluation of test-retest reliability. In order to show low levels of random measurement error, a minimum value of 0.85 is needed (Weiner, & Stewart, 1984). According to the results, the test-retest reliability was high for the SRPQ subscales role importance ($r=0.891$, $p<0.001$) and satisfaction with the role performance ($r=0.928$, $p<0.001$), demonstrating low levels of random measurement error, while the subscale physical difficulty had a lower test-retest correlation ($r=0.839$, $p<0.001$).

Table 4. SRPQ test-retest analysis

SRPQ Subscales	First assessment				Second assessment	ICC (95% CI)
	M		SD			
	M	SD	M	SD		
Role importance	3.85	0.53	3.96	0.53	0.942	(0.887–0.970)
Physical difficulty	1.52	0.38	1.47	0.37	0.913	(0.828–0.955)
Satisfaction with the role performance	3.71	0.55	3.79	0.62	0.959	(0.920–0.979)

Cronbach's alpha coefficients (adequate: ≥ 0.70) were used to assess internal consistency (Terwee et al., 2007). Item deletion analysis was carried out to identify any outstanding items influencing Cronbach's coefficient. Cronbach's alpha was appropriate for all subscales during the initial assessments, but lower for role importance ($\alpha=0.729$) compared to satisfaction with role performance ($\alpha=0.902$) and physical difficulties ($\alpha=0.884$). Cronbach's alpha at the second assessment was also satisfactory for all subscales; however, it was lower for role importance ($\alpha=0.706$) in comparison to the other two subscales, satisfaction with role perfor-

mance ($\alpha=0.926$), and physical difficulty ($\alpha=0.804$) (Table 5). No outstanding items that would have affected Cronbach's alpha were indicated by item deletion.

Table 5. Internal consistency

Measures	First assessment	Second assessment
SRPQ - Role importance	0.729	0.706
SRPQ - Physical difficulty	0.902	0.804
SRPQ - Satisfaction with the role performance	0.884	0.926
Rheumatoid Arthritis Quality of Life (RAQoL)	0.911	0.853

Validity

Construct validity was examined by using Spearman correlations with the RAQoL score at the first and second assessments. Spearman correlations between subscales are calculated and classified as small (0.10–0.29), moderate (0.30–0.49) or strong (0.50–1.00) correlations (Cohen, 1988). The correlation between the subscales role importance and physical difficulty was not significant ($\rho=-0.022$, $p=0.806$). The subscales role importance and satisfaction with the role performance had a strong correlation ($\rho=0.575$, $p<0.001$), whereas physical difficulty and satisfaction with role performance had a moderate correlation ($\rho=-0.470$, $p<0.001$). Physical difficulty ($\rho=0.476$, $p<0.001$) and satisfaction with the role performance ($\rho=-0.437$, $p<0.001$) of the SRPQ subscales showed a moderate correlation with the RAQoL score. However, no statistically significant relationship between the RAQoL score and the SRPQ subscale role importance was discovered ($\rho=-0.088$, $p=0.326$). At the retest, the RAQoL score correlated strongly with the SRPQ subscales physical difficulty ($\rho=0.784$, $p<0.001$) and satisfaction with the role performance ($\rho=-0.694$, $p<0.001$), and moderately with the SRPQ subscale role importance ($\rho=-0.395$, $p=0.017$) (Table 6). The SRPQ instrument's constructive validity was validated, with the exception of the subscale role importance in the first measurement.

Table 6. Correlation between the SRPQ subscales

SRPQ	Role importance	Physical difficulty	Satisfaction with the role performance
Role importance	/		
Physical difficulty	-0.022	/	
Satisfaction with the role performance	0.575**	-0.470**	/
RAQoL	-0.088	0.476**	-0.437**

Note: Spearman rank correlation values are shown. ** $p < 0.001$ (2-tailed).

DISCUSSION

The aim of this study was to translate the SRPQ into Serbian, cross-culturally adapt it, and assess its psychometric properties, with a focus on the version's validity and reliability. In addition to having strong psychometric properties overall, the translated questionnaire was determined to be pertinent and understandable by Serbian RA participants. It is well recognised in rheumatology that translation is the method most frequently used in questionnaire translation and cultural validation, with back translation coming next and patient cognitive testing coming last (Hunt, Alonso, Bucquet, Niero, Wiklund, & McKenna, 1991).

Given that the translation and validation of this questionnaire has not yet been performed on people with RA, the obtained data can be compared with a validated questionnaire on another target group of people with rheumatic diseases. Our findings revealed that there were no significant floor or ceiling impacts in the subscales scores during the first assessments, but some single item scores showed floor and/or ceiling effects. This was particularly evident in the physical difficulty items that showed a floor effect in 20-80% of participants. In the study conducted by Zhang et al. (2018), on a sample of Chinese people with AS, ceiling and floor effects were absent, as is the case in the research conducted by Van Genderen et al. (2016) on a sample of Dutch people with AS. The original SRPQ was shown to be valid and reliable in Canadian people with AS and revealed that patients greatly valued participation in a variety of social roles, but were dissatisfied with their performance or time spent in the roles (Davis et al., 2011).

Thirty-six Serbian participants who were randomly chosen among 126 participants evaluated the test-retest reliability of the SRPQ. The ICC was almost excellent for all three subscales, ranging from 0.913 to 0.959. Correlating SRPQ subscale scores at the first and second assessments was used to examine test-retest reliability. Test-retest reliability was high for the SRPQ subscales role importance and satisfaction with role performance, but low for the subscale physical difficulty. At the first assessments, Cronbach's alpha was appropriate for all subscales, but lower for role importance ($\alpha=0.729$) compared to satisfaction with role performance ($\alpha=0.902$) and physical difficulties ($\alpha=0.884$). Cronbach's alpha was appropriate for all subscales at the second assessment, but lower for role importance ($\alpha=0.706$) compared to the other two subscales, satisfaction with the role performance ($\alpha=0.926$), and physical difficulty ($\alpha=0.804$). The findings are congruent with those found in the available literature. With respect to internal consistency reliability, the majority of Cronbach's alpha coefficients for each role were strong ($\alpha \geq 0.7$) and moderate for the overall role. The following information was gathered from the Chinese version (Zhang et al., 2018), and the Canadian (English) and Dutch versions of the SRPQ: salience, 0.74; satisfaction with time spent in role, 0.83; and satisfaction with role performance, 0.85 (Gignac et al.,

2008) and 0.74, 0.83, and 0.89, respectively; and physical disability dimension: 0.86 (van Genderen et al., 2016). Cronbach's alpha (internal consistency) was satisfactory for all dimensions. In the Dutch version, reliability was as follows: role importance $\kappa=0.79$ (considerable); satisfaction with time spent in role $\kappa=0.84$ (very high); satisfaction with the role performance $\kappa=0.85$ (very high); and physical difficulty $\kappa=0.95$ (very high) (van Genderen et al., 2016). For the dimensions of role importance (0.846), satisfaction with time spent in role (0.831), satisfaction with the role performance (0.895), physical difficulty (0.865), and general participation item for each dimension (0.857, 0.857, 0.885, and 0.885, respectively); in the Chinese version (Zhang et al., 2018), test-retest reliability by ICC was nearly perfect.

The results of Devrimsel & Serdaroğlu Beyazal (2021) show that RAQoL scores were positively correlated with SRPQ physical difficulty scores and negatively correlated with SRPQ role satisfaction and SRPQ role importance scores. These results are partially consistent with our results.

In their study, Hunt and colleagues (1991) discovered that the dimension of 'role importance' had reduced internal consistency, weak correlations with other SRPQ dimensions, and weak correlations with other participation-measuring instruments. It is obvious that 'role importance' assessment supplied different information from the other dimensions, and as a result, it may be helpful in understanding the applicability of the findings of the other dimensions. Later included in the SRPQ, the 'physical difficulty' dimension was discovered to have favourable correlations with both HRQoL and outside measures of participation (van Genderen et al., 2016). Also, The Dutch (van Genderen et al., 2016) and the Chinese (Zhang et al., 2018) version of the SRPQ have appropriate construct validity. Similar results were obtained in our research, which confirmed the construct validity of the SRPQ in our sample.

There are some limitations in our study that should be mentioned. The Serbian version of the SRPQ has been found to have good psychometric qualities, although further research is still required, including testing on factors like responsiveness. A further drawback is that only one clinic provided the sample for this study. In the future, more studies with a bigger sample should be conducted.

CONCLUSION

In conclusion, the SRPQ has been successfully translated into Serbian, and its construct validity, internal consistency reliability, and test-retest reliability have all been demonstrated to be high. Cognitive debriefing interviews supported the Serbian language version's suitability as a valid, pertinent, and simple to use option. According to our findings, the SRPQ in Serbian is a useful instrument for assessing social participation in Serbian RA people.

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ПРЕВОД, ПОУЗДАНOST И КОНСТРУКТИВНА ВАЛИДНОСТ УПИТНИКА О УЧЕШЋУ У ДРУШТВЕНИМ УЛОГАМА ЗА ОСОБЕ СА РЕУМАТОИДНИМ АРТРИТИСОМ

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Резиме

Реуматоидни артритис (РА) је хронична, аутоимуна, системска болест непознате етиологије и представља најчешћи облик запаљеног реуматизма. Рано откривање и постављање дијагнозе је од основног значаја за ток лечења, како би се повећала стопа ремисије, те успорио и умањио настанак трајних оштећења. Код већине особа, РА представља тешко обољење, током којег оштећење зглобова напредује, слаби или се губи способност за рад и самозбрињавање. На овај начин долази до настанка инвалидитета. У вези са настанком инвалидитета уско је повезана и социјална партиципација, која се може описати социјалним улогама које појединац обавља. Када се утврђује ниво социјалне партиципације, онда се процењује да ли појединац може да буде у одређеној улози на начин на који и колико жели, као и колика је важност учешћа у улози за појединца, а не да ли је обављена активност коју носи одређена улога. У обзир се узимају личне преференције и важност коју појединац придаје одређеној улози, као и начин и време које особа жели да проведе у тој улози. За процену социјалне партиципације користе се различити инструменти, а један од њих је и Упитник о учешћу у друштвеним улогама. Овај Упитник је нашао примену и показао се поузданим и валидним инструментом за процену социјалне партиципације код особа са анкилозним спондилитисом и остеоартритисом. Како није валидиран за особе са РА, циљ овог рада је да се ураде превод и адаптација на српски језик, те да се утврде

његове психометријске карактеристике – поузданост и валидност. Узорак је чинило 126 испитаника са РА (84.1% жена и 15.9% мушкараца), просечног узраста 54.26 (13.65) година. Истраживање је спроведено у Београду, на Институту за реуматологију, током 2021. године. Тест-ретест поузданост, интерна конзистентност и конструктивна валидност српске верзије Упитника о учешћу у друштвеним улогама процењени су применом коефицијента интракласне корелације, Кронбахове алфе и Спирмановог коефицијента корелације. Резултати су показали високу вредност коефицијента интракласне корелације (0.913–0.959) што указује на одличну тест-ретест поузданост. Када се ради о унутрашњој конзистентности поузданости, већина Кронбаховог алфа коефицијента била је јака (0.706–0.926). Конструктивна валидност упитника је потврђена, са изузетком субскеале Значај улоге и то при првом мерењу. Можемо рећи да се српска верзија Упитника о учешћу у друштвеним улогама показала као поуздан и валидан упитник који врши процену социјалне партиципације особа са реуматоидним артритисом.

GREEN ECONOMY IN NATURAL CAPITAL MANAGEMENT: IMPLICATIONS FOR SUSTAINABLE DEVELOPMENT

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Abstract

Building a green economy is a complex process whose dynamics, among other things, are directly related to the application of many traditional and new concepts within the framework of natural capital management. In this paper, the essence of numerous concepts widely applied in the management of natural capital and the construction of a green economy, as well as the achievement of sustainable development goals, is explained by means of descriptive analysis. Using panel regression analysis, a model was created to determine the impact of changes in the use of natural resources, the state of the environment and gross national income on the sustainable development index of 166 countries in the period between 1990 and 2019. Research has confirmed the finding that the growth of the material footprint, gross national income per inhabitant, and CO₂ emissions per inhabitant have a negative impact on the index of sustainable development. The obtained results speak of the necessity of building a green economy in order to stop the further growth of the ecological footprint and reduce CO₂ emissions per inhabitant. The results also implicitly point to the imperative of increasing efficiency and improving the effectiveness of natural capital management in order to build a green economy and achieve the goals of sustainable development.

Key words: green economy, natural capital management, sustainable development, sustainable development index.

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ЗЕЛЕНА ЕКОНОМИЈА У МЕНАЏМЕНТУ ПРИРОДНОГ КАПИТАЛА: ИМПЛИКАЦИЈЕ ЗА ОДРЖИВИ РАЗВОЈ

Апстракт

Изградња зелене економије је сложен процес чија је динамика, поред осталог, директно повезана са применом многих традиционалних и нових концепата у оквиру менаџмента природним капиталом. У раду је помоћу дескриптивне анализе објашњена суштина бројних концепата широко примењених у менаџменту природног капитала и изградњи зелене економије, као и постизању циљева одрживог развоја. Помоћу панел регресионе анализе креиран је модел за утврђивање утицаја промена употребе природних ресурса, стања животне средине и бруто националног дохотка на индекс одрживог развоја 166 земаља у временском периоду од 1990. до 2019. године. Истраживања су потврдила констатацију да раст материјалног отиска, бруто националног дохотка по становнику, и емисије CO₂ по становнику имају негативан утицај на индекс одрживог развоја. Добијени резултати говоре о неопходности изградње зелене економије у циљу заустављања даљег раста еколошког отиска и смањења емисије CO₂ по становнику. Резултати такође, имплиците указују на императив раста ефикасности и унапређења ефективности управљања природним капиталом у циљу изградње зелене економије и постизања циљева одрживог развоја.

Кључне речи: зелена економија, управљање природним капиталом, одрживи развој, индекс одрживог развоја.

INTRODUCTION

Continually endangering the biophysical capacity of the geographical space, first on a local and regional, and then on a global level, humanity has for a long period of time been acting in a way that contradicts the basic laws of nature (Rockström et al., 2009; Steffen et al., 2015; Wiedmann et al., 2020). The question of human existence, among other things, is increasingly viewed in the light of numerous problems associated with limited natural resources and the limits of the ecological capacity of the planet Earth to absorb waste as a consequence of growing production and consumption (Lenzen, et al, 2022). It is possible to see numerous specificities in the domain of economics and management of modern companies and countries by identifying the content coverage of natural resources and the environment in the category of natural capital (Harris, & Rouch, 2021).

At the end of the previous century, it became evident that the existing model of growth and development of industrial companies and countries is based on the premise of the practically unlimited use of natural and energy resources. It is also based on the almost uncontrolled emission of polluting substances into the environment since the time of the first Industrial Revolution at the end of the 18th century and, as the ruling mode of economic value creation, it lost its relevance (Malaval, 2008). This is evidenced by the fact that the framework for shaping strategies and poli-

cies for the growth and development of companies and countries over the last thirty years has been the paradigm of sustainable development (SD).

One of the main challenges facing the modern world is the SD challenge. It is becoming more obvious that humanity is still very far from fulfilling the goals of SD. Namely, there are too many problems related to sustainability, among which many of them are increasing every day. One of the acute issues of sustainable development is related to the growing exploitation of natural resources and the increasing CO₂ emissions.

According to the usual and often cited definition of SD, it is about development that meets the needs of the present without jeopardising the ability of future generations to meet their own needs (Our Common Future, 1987). The concept aroused a much greater interest of researchers and development policy makers after the Earth Summit in Rio de Janeiro in 1992, at which a program for the implementation of sustainable development in the twenty-first century known as Agenda 21 was adopted (Agenda 21, 1992). Quickly after this event, the SD paradigm became a generally accepted principle of ecological, economic and social development of the largest number of companies and countries in the world. At the same time, one should keep in mind the necessity of distinguishing between two forms of the SD paradigm, the form of weak and the form of strong sustainability. At the base of weak sustainability is the attitude that ‘anthropological’ capital, i.e. capital that is the result of human work and natural capital, are interchangeable and that, accordingly, in order to achieve sustainability, a complete change of the existing mode of production is not required (Neumaier, 2013). Strong sustainability, on the contrary, implies that natural capital and complementary drivers of economic activities are created by human labor.

Issues related to the imperative of the industrial transition to a green economy (GE) have recently taken a prominent place in discussions about sustainable business models and strategies of SD countries. The transition from a carbon-based, CO₂-heavy industrial economy to a very low-CO₂ GE is capturing the attention of policymakers in economically developed countries and, more recently, in emerging economies. It turned out that most countries plan the development of GE with clearly defined priorities and activities. The transition to GE is a complex process that is directly related to many traditional and new production concepts, widely applied in natural resource management and environmental management, i.e. in natural capital management (NCM).

The aim of this work is to present a new insight into the interdependence of material footprint (MF) and CO₂ emissions per inhabitant on the sustainable development index (SDI) at the global level. It should be noted that the largest number of reference studies of this interdependence provide insight at the national or regional level. In this context, the paper apostrophises traditional and new concepts important for the GE construction process related to the reduction of MF and CO₂ emissions per

inhabitant in light of SD challenges at the global level. By using the methods of qualitative economic analysis, the essence of the concepts relevant to the construction of GE and the improvement of the effectiveness of NCM in light of their contribution to the realisation of weak or strong sustainability is explained. The panel data analysis methodology was used to assess the impact of changes in MF and CO₂ emissions per inhabitant on the sustainable development index (SDI).

Structurally, the paper consists of eight sections. After the introduction, section two re-views the concepts of GE and GG with special reference to the imperative of resource decoupling and decoupling impact. In the next section, the most important concepts on which the transition to GE is based are described, and their role in the realisation of paradigms is considered. In section four, a research model was constructed with the aim of determining the relationship between the use of natural resources, the state of the environment and sustainable development on the example of a group of 166 countries in the period between 1990 and 2019. The following sections of the paper are dedicated to the explanation of the research methodology, to the interpretation of the obtained results, and to the discussion of the obtained results. The final sections of the paper consist of concluding remarks and a list of used references.

GREEN ECONOMICS AND GREEN GROWTH

The development of GE represents one of the key instruments for achieving SD, for the protection and preservation of natural resources, for ensuring the economic valuation of the ecosystem of services and goods, reducing poverty, creating opportunities for the creation of new jobs for decent work, and moving the world in the direction of development with a reduced level of carbon dioxide emissions. In other words, the movement towards GE protects the planet, current and future generations and serves the purpose of achieving SD goals (Denona Bogović, & Grdić, 2020). Thus, green economy is becoming an increasingly interesting area of research, while green projects are gaining importance (Stojković et al, 2021).

The transition to GE was in the spotlight at the United Nations conference in Rio de Janeiro in 2012. The final document of the conference points out that each country should determine the transition to GE in accordance with its national SD plans, strategies and priorities. Although it has recently been led by environmentalists and green parties, GE is now a concept equally advocated by the EU, OECD, the World Bank, the United Nations Environment Program (UNEP), the United Nations Conference on Trade and Development (UNCTAD), and a whole range of other global organisations.

In recent times, GE has stood out as a generally accepted concept, way of thinking and business model. The concept is by its very nature ex-

tremely complex. It is made up of various initiatives and, as such, occurs at all political, managerial and entrepreneurial levels. It includes the research and development of new technologies, new policies and schools of thought, and the creation of new concepts, as well as lifestyles and habits. There is still no single and generally accepted definition of GE in the available literature. In the simplest terms, GE is seen as a low-carbon, resource-efficient and socially inclusive economy (UNEP, 2011).

In addition to the GE coin, the term green growth (GG) is also used in professional and everyday life. GG is an important premise of SD, and in the most elementary sense it means economic growth based on resource-efficient, cleaner and more resilient production. At the basis of the idea of GG is the attitude that a growing economy is possible with a stagnant and preferably declining trend in the exploitation of natural capital. GG is a way to solve economic and environmental problems that have been present for years, as well as to devise new ways of growth by stimulating production based on lower consumption of natural and energy resources, and lower pollution per unit of final production. GG implicitly implies the existence of effective NCM (Dietz, & Neumaier, 2007; Neumaier, 2013); Loiseau et al., 2016).

The basic analytical starting point of GG is the idea of decoupling economic activities from the exploitation of renewable and non-renewable natural resources and environmental pollution (Graph 1). In the analysis of decoupling and the success of the transition from the traditional production model to GE, in addition to the indicators of the rate of economic growth, the indicators of the use of material resources and emissions of polluting substances per inhabitant are extremely important. The most widespread indicator of resource use in economic research is the material footprint (MF), and the level of environmental pollution is CO₂ emissions per inhabitant¹.

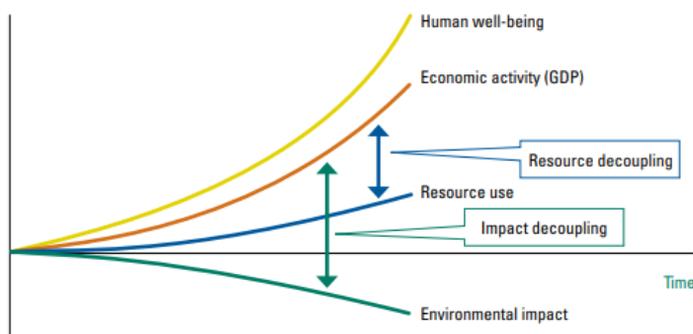


Figure 1. Resource decoupling and Impact decoupling

Source: UNEP, 2011.

¹ Indicators MF, CO₂, GNI are always used in per capita terms.

Resource decoupling exists when economic activity and human well-being increase at a higher rate than resource use, and decoupling impact is present when the economy grows while simultaneously reducing its negative impact on the environment. Separation is very important, because humanity aspires to intensify economic growth and improve human well-being, and today, per se, it implies the growing consumption of natural resources whose extraction, processing and use have serious negative consequences for the environment and human health. Decoupling can reduce resource use and, more importantly, reduce environmental degradation caused by increasing resource use (Umpfenbach, 2016). Resource decoupling and impact decoupling could reduce resource use and, at the same time, reduce environmental degradation. This could affect the growth of human well-being under other unchanged conditions (Wood et al, 2018; Charlier, & Fizaine, 2023).

Critics of the GE approach and green growth point out that the thesis of decoupling resource and impact decoupling is completely unrealistic. In addition, critics of GE believe that its representatives do not fully take into account the very demanding changes in the economic system that are necessary to solve global environmental problems such as climate change, or the biodiversity crisis. Therefore, some of them propose degrowth as the only realistic option (Kallis, 2018; Schmelzer et al, 2020).

CONCEPTS RELEVANT TO THE GREEN TRANSITION

Many already well-established and some new concepts have a prominent place in the construction of GE and the realisation of the decoupling resource and impact decoupling vision. Among the concepts whose application in modern production is very important in the process of designing GE and improving the effectiveness of NCM, cleaner production and resource efficiency, waste hierarchy, industrial ecology, circular economy, bioeconomy, nature-based solutions, and product-service system stand out (Loiseau et al, 2016: 368).

Cleaner production and resource efficiency represents the continuous application of an integrated environmental protection strategy to processes, products and services in order to increase efficiency and reduce risks for people and the environment. This is of particular importance considering the fact that the issues of the protection and improvement of environmental quality in today's economic conditions represent one of the central elements of economic development strategies of countries around the world (Đurović Todorović et al, 2023). This approach points out that it is more appropriate to try to prevent pollution, rather than to treat it by so-called techniques 'at the end of the pipe' (El Kholi, 2002). Cleaner production and resource efficiency includes the issue of resource efficiency, which is undeniably one of the key elements of the transition

to GE (UNEP, 2016). Accordingly, emphasis is placed on the development of cleaner technologies that generate less pollution and waste, and that use natural resources more efficiently.

The focus of cleaner production and resource efficiency management is on prevention and avoidance, not on remediation of environmental problems. At the same time, it should be known that there is no universal form of cleaner production management, since different industries and different countries have specific obstacles that need to be overcome. Generally speaking, many factors still hinder effective management with cleaner production. Lack of workforce training, insufficient investments financed from public sources, lack of adequate foresight by top management and interested parties have caused the management with cleaner production in different fields and areas to look very heterogeneous (Tschiggerl & Topic, 2019).

Waste hierarchy: reuse, repairing, recovery and recycling with waste prevention are important elements of GE whose impact on improving the efficiency of resources and reducing their consumption is very pronounced. The stages of waste hierarchy are prevention, reuse, recycling, recovery and final disposal. The starting point of NCM in the waste management segment is the treatment of waste materials as production resources. The general principles are avoiding, reduce, reuse, recycle, redesign and remanufacture (Ghisellini & Ulgiati, 2020; Kaza et al, 2018; Zaman, 2015). Waste management approaches should be chosen based on waste form, composition, quantity and local needs and conditions (Marshall & Farahbakhsh, 2013). Globally, the generation and structure of waste is influenced by industrialisation, urbanisation, population size, education level, public habits and intentions (Zaikova et al, 2022), household attitudes, age groups, local climate, consumption, behavior and culture (Moh, 2017), land size, household location (rural/urban), economic status and monthly household income (Triguero et al, 2016; Zaman, 2015). In general, higher economic status corresponds to higher disposable income, higher consumption and higher waste generation (Roi & Tarafdar, 2022). The waste hierarchy approach is mainly focused on reducing material and energy flows, and therefore environmental pollution caused by the nature of production processes. As such, it aims to increase resource efficiency similar to the cleaner production approach (Bartl, 2014). It differs from the latter in its stronger emphasis on waste reduction and control of harmful substances. Emphasising the importance of protecting the planetary ecological boundaries, this concept corresponds with the vision of strong sustainability.

Industrial ecology is a research field interested in integrating sustainability concepts into ecological and economic systems. Energy and material use is optimised, waste generation is minimised to move from linear permeability to closed loop materials and energy use (Ehrenfeld &

Gertler, 1997). The basic elements of industrial ecology are the use of biological analogy, systemic perspective, introduction of technological changes, and the dematerialisation of production (Lifset & Graedel, 2002; Aires & Aires, 2002). The primary goal of industrial ecology is the promotion and improvement of sustainable industrial development at global, regional and local levels (Guinée, 2017).

The circular economy represents a regenerative economic system in which resources, waste emissions and energy inefficiencies are significantly reduced due to slowing down, rounding off and extending energy and material cycles in production (Ekins et al, 2019). This is achieved, first of all, by designing and creating products that extend their life as much as possible, but also by maintaining, servicing and recycling. The circular economy model is in complete contrast to the currently dominant model of the linear economy, which promotes the concept of production based on the principle of take (from nature), make (in the production process), use, throw away (Potting, 2017). It is a concept characterised by a holistic approach to SD, which aims to minimise waste and maximise the use of resources (What is a Circular Economy?, 2020; *Universal Circular Economy Policy Goals*, 2021). The concept of circular economy implies the adoption of cleaner production patterns in companies, increasing the responsibility and awareness of producers and consumers, the use of renewable technologies and materials wherever possible, as well as the adoption of appropriate, clear and stable policies and implementation tools. By promoting the adoption of closed-loop production patterns within the economic system, the concept of the circular economy aims to increase the efficiency of resource use, with a special focus on urban and industrial waste, in order to achieve a better balance and harmony between the economy, the environment and society (Ramos, 2024).

Bioeconomy offers broad perspectives for progress in primary production (e.g. plant and animal breeding), health (pharmacogenetics) and industry, while reducing dependence on non-renewable resources and ensuring food, environmental, social and economic security through job creation and competitive position. Also, bioeconomy covers the use of processes based on biological development in green industries. This is mostly a micro approach since it aims to change the behavior of the firm. Exceeding planetary boundaries, and especially climate change, requires economies around the world to decarbonise production and respect the principles and goals of sustainable development as much as possible. The transformation of the traditional economy into a sustainable bioeconomy by replacing fossil resources with renewable biogenic resources offers a solution to these goals (Hinderer et al, 2021).

Nature-based solutions are defined as actions for the protection, sustainable management and restoration of natural or modified ecosystems that solve social challenges in an effective and adaptive way, while

providing benefits for human well-being and the sustainability of biodiversity. Nature-based solutions provide benefits to both natural ecosystems and human-managed systems, ensuring a healthier and better quality of life for people at the same time. They must be able to adapt to changed conditions of production and consumption, and provide long-term positive results. In simple terms, nature-based solutions are built on the use of natural processes to combat the destabilisation and degradation of living conditions on Earth. The result is the search for innovative solutions for the management of natural systems that can achieve benefits for both nature and society in a balanced way. In other words, by working with nature, not against it, human communities can develop and implement solutions that lead to a more resource efficient and environmentally sound economy (Seddon et al, 2020). Applying nature-based solutions requires designing multifunctional environments that contribute to sustainable resource management systems that induce the development of a green economy. The application of nature-based solutions is aligned with the criteria of strong sustainability (Mazza et al, 2011).

The concept of product-service system was defined in Europe in the 1990s as a combination of tangible products and intangible services designed to meet the needs of end customers (Tukker & Tischner, 2006). Products are owned by companies throughout their life cycle, and the use of the service is what the consumer pays for. That is why companies have a strong economic interest in extending the life of their products, in order to ensure that they are intensively used, that is, to make them as attractive as possible in terms of price and quality. The concept of product-service systems generally remains at the micro level and does not aim at systematic changes in the overall patterns of resource consumption (Mont & Tukker, 2006). They are one of the pillars of improving energy efficiency, because the focus is on the production of physical goods in a rational way. Due to the fact that they speak to the sustainability of the entire production chain, product-service systems also deal with the maintenance of these products-services, recycling and, if necessary, product replacement. In this way, the negative impact on the environment of the entire cycle is reduced. The concept of product-service system is a paradigm shift to the entire logic of designing new products and services, which leads to the conclusion that its application implies strong sustainability (Roman et al, 2015). For example, IBM decided to rent servers instead of selling units directly to companies. Philips, on the other hand, has a service where customers buy a promised level of lighting for a given building. The British company Drover is in the business of renting cars instead of selling them.

Figure 2 presents the previously analysed concepts important for building GE and improving the efficiency and effectiveness of NCM depending on two characteristics of sustainability: the degree of substitution of environmental and economic benefits, and the required level of chang-

es in the production system. The picture shows that, depending on which of the considered concepts dominates NCM, it is possible to distinguish their connections with visions of weak or strong sustainability.

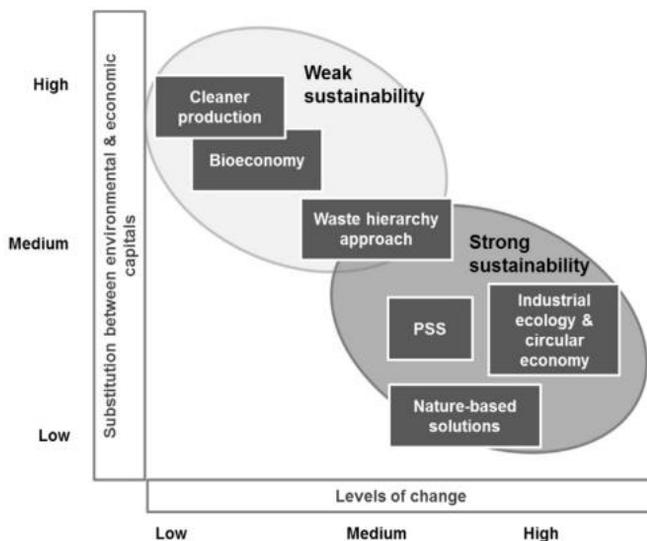


Figure 2. Concepts present in GE and NCM depending on the two visions of sustainability

Authors based on: Loiseau et al, 2016: 368

RESEARCH MODEL: THE IMPACT OF CHANGE IN GNI, MF AND CO₂ EMISSION ON SD

For this study, annual data spanning from 1990 to 2019 was utilised for 166 countries worldwide. All the data for the SDI, GNI per capita at constant 2017 US dollars adjusted for Purchasing Power Parity (GNI), Carbon Dioxide emissions per capita, measured in tonnes (CO₂), and MF per capita, measured in tonnes (MF) was collected from SDI (2020). The exclusion of 2020, 2021, and 2022 is based on data availability considerations, with the last documented year in the database being 2019. The decision to end the dataset with 2019 is also based on recognising potential outliers or anomalies due to global events, notably the COVID-19 pandemic and the Russia-Ukraine conflict. It is assumed that the inclusion of these years would lead to significant distortions in the data patterns, so deliberate exclusion is necessary to ensure the integrity and reliability of the analysed data set.

The SDI serves as an overarching measure that combines multiple dimensions of development and considers economic, social, and environmental factors. It provides a holistic assessment of a country's devel-

opment and aligns with the principles of sustainable development, which aim to reconcile economic progress with environmental and social well-being.

Specifically, the SDI is an innovative paradigm to quantify the complex balance between human development and ecological preservation. Unlike its predecessor, the Human Development Index (HDI), the SDI represents a groundbreaking innovation in contemporary environmental discourse, developed specifically to address the complex challenges of our time of primarily anthropogenic environmental degradation. As such, the SDI goes beyond the conventional HDI framework in which life expectancy, education, and income serve as the established trinity of human development metrics. The decisive factor lies in the inventive integration of an ecological dimension into the SDI. In other words, the index recognises prosperity and requires a harmonious alignment between human well-being and environmental protection. The SDI appeals to and guides policymakers, researchers, and practitioners into a new era of refined sustainability metrics, forcing them to re-evaluate the fundamental principles of progress in an age where balance is proving to be the prerequisite for a prosperous future. For a comprehensive exposition of the SDI methodology and its underlying rationale, please refer to Hickel (2020).

GNI per capita is an important economic indicator that is adjusted for inflation and purchasing power parities, and provides insights into the economic prosperity of a country's residents. Using constant 2017 US dollars and adjusting for PPP facilitates cross-country comparisons and, thus, contributes to a crucial economic perspective in assessing sustainable development.

CO₂ emissions per capita measure a country's carbon footprint and reflect its contribution to greenhouse gas emissions. Monitoring this variable is critical to understanding the environmental impact of economic activities, and a country's commitment to mitigating climate change, an essential aspect of sustainable development.

The material footprint per capita measures the amount of raw materials and resources consumed by each individual in a country. This metric sheds light on the environmental impact of consumption patterns and provides insights into resource efficiency and potential environmental impacts. The assessment of material consumption is in line with the Sustainable Development Goals and emphasises the responsible management of resources.

The following research hypotheses were formulated:

- H1 – An increase in MF has a negative impact on the Sustainable Development Index.
- H2 – An increase in Gross National Income has a negative impact on the Sustainable Development Index.
- H3 – An increase in CO₂ emissions has a negative impact on the Sustainable Development Index.

METHODOLOGY

The methodology framework in this paper relies on panel regression modelling (Cameron et al, 2005; Wooldridge, 2013). The general form of the panel model is represented by the equation:

$$y_{it} = \alpha_{it} + x_{it}'\beta_{it} + u_{it}, i = 1, \dots, N, t = 1, \dots, T,$$

where y_{it} is the dependent variable (scalar), x_{it} is the vector of independent variables, u_{it} is the stochastic error (noise), N is the number of countries, and T is the number of time periods observed (number of years). The general form of the model allows the dependence of both parameters, the intercept α_{it} and the slope β_{it} of the regression, on both the individual and time. However, such a model has more unknown parameters than the sample size, making model estimation impossible. For this reason, various assumptions should be made about the dependence of parameters on i and t , as well as on the noise, in order to obtain parameter estimates. In panel data analysis, the fixed and random effects panel models are two distinct, but most commonly used approaches designed to address unobserved heterogeneity among individual units within a dataset, such as countries.

The fixed effects panel model incorporates individual-specific effects α_i into the model. These fixed effects capture unobservable characteristics unique to each unit that remain constant over time, representing time-invariant individual heterogeneity. On the other hand, the random effects panel model treats individual-specific effects as random variables, assuming they follow a specific distribution. These random effects encompass both time-invariant and time-varying unobserved heterogeneity. The model is estimated using Generalized Least Squares or Maximum Likelihood Estimation, considering the assumed distribution of the random effects.

In mathematical terms, we look at the model in the form:

$$y_{it} = \alpha_i + x_{it}'\beta + \varepsilon_{it},$$

where ε_{it} are i.i.d. If α_i and x_{iT} are correlated, then the model is a fixed effect panel model. Otherwise, if they are independent, the model is a random effect model. In both models, we assume:

$$E[\varepsilon_{it} | \alpha_i, x_{i1}, \dots, x_{iT}] = 0, t = 1, \dots, T.$$

To determine the appropriate model to utilise, we conducted the Hausman test. The null hypothesis states that random effects characterise the optimal model, while the alternative hypothesis suggests a fixed effects model. The test examines whether a correlation between the distinctive errors and the regressors within the model exists. The null hypothesis asserts the absence of such a correlation between the two.

RESULTS

The Hausman test is designed to guide the choice between fixed-effects and random-effects models. The results of the Hausman test (chi-square (3) = 64.34, $p < 0.01$) give evidence to reject the null hypothesis, suggesting that GLS estimates are consistent with the fixed-effects model. That is, the implication is that fixed effects are preferred over random effects.

Hence, we built the fixed-effects panel model in this paper, which incorporates $t=4677$ observations with $N=166$ cross-sectional units.

The results are given in Table 1. The gross national income is negatively associated with SDI, with a coefficient of $-2.68499e-06$ and a significant t-ratio of -11.27 ($p < 0.01$). The SDI is expected to decrease by $2.68499e-06$ units for a one-unit increase in gross national income. Similarly, the variables CO_2 and Material Footprint exhibit negative associations with SDI, with coefficients of -0.00328723 and -0.00795721 , respectively. Both predictors are statistically significant, supported by t-ratios of -4.293 and -25.32 and very low p-values ($p < 0.01$). For a one-unit increase in CO_2 , the SDI is expected to decrease by 0.00328723 units. The SDI is expected to decrease by 0.00795721 units for a one-unit increase in material footprint. The model provides insights into the relationships between these variables and the SDI, suggesting that gross national income, CO_2 , and material footprint significantly impact sustainable development outcomes.

Table 1. Fixed effect panel model

Variable	Coefficient	Std. Error	t-ratio	p-value
Constant	0.729348	0.00475590	153.4	0.0000
GNI	$-2.68499e-06$	$2.38280e-07$	-11.27	<0.01
CO_2	-0.00328723	0.000765704	-4.293	<0.01
MF	-0.00795721	0.000314292	-25.32	<0.01

The summary of the estimated model given in Table 2 provides key insights from the regression analysis. The mean of the dependent variable is 0.572383 , with a standard deviation of 0.166024 , suggesting variability around the mean. The sum squared residual of 19.94464 , and a low standard error of the regression (0.066515) indicate a well-fitted model. The LSDV R-squared of 0.845257 suggests that the model explains a substantial portion of the total variation. The within R-squared of 0.256646 indicates that a considerable portion of the variability is attributed to individual-specific effects. The high LSDV F-statistic (146.5728) with an extremely low p-value (0.000000) implies overall model significance. The log-likelihood of 6125.875 and associated criteria (Akaike, Schwarz, Hannan-Quinn) provide measures of model fit, with lower values being preferable.

Table 2. Model summary

Measure	Value	Measure	Value
Mean dependent var	0.572383	S.D. dependent var	0.166024
Sum squared resid	19.94464	S.E. of regression	0.066515
LSDV R-squared	0.845257	Within R-squared	0.256646
LSDV F(168, 4508)	146.5728	P-value(F)	0.000000
Log-likelihood	6125.875	Akaike criterion	-11913.75
Schwarz criterion	-10823.63	Hannan-Quinn	-11530.39

We also performed two additional tests. The joint test on named regressors, with a test statistic of $F(3, 4508) = 518.801$ and an extremely low p-value ($1.28579e-289$), indicates that at least one of the regressors is significant. The test for differing group intercepts rejects the null hypothesis of common intercepts ($F(165, 4508) = 110.866$, p-value = 0), suggesting heterogeneity among groups. Overall, the findings highlight the significance of the model, the explanatory power of the regressors, and potential serial correlation and group heterogeneity.

DISCUSSION

The obtained results confirm the existence of a statistically significant long-term co-integrating relationship between changes in GNI pc, MF and CO2 emissions, and FDI in 166 countries of the world in the period between 1990 and 2019. Specifically, for a unit increase in GNI, the expected decrease in FDI is $2.68499e-06$ units. Similarly, for a one-unit increase in MF, the expected decrease in FDI is 0.00795721 units, while the expected decrease in FDI is 0.00328723 units for a one-unit increase in CO2. With this, the research results confirmed hypotheses H1, H2 and H3. In other words, the constructed model provides a respectable insight into the relationships between independent variables and FDI as a dependent variable at the global level. In light of the defined research objectives, these results speak of the expressed need for the transition of business models and national development strategies to the GE concept. They also talk about the importance of NCM for the development of GE.

It should be emphasised that the constructed model fully abstracts the numerous factors behind the observed relationship. Namely, it is evident that a whole series of factors have an influence on the relationship between changes in GNI, MP and CO2 emissions on FDI. First of all, the inadequate use of natural resources in many world economies, especially in less developed economies, results in an increase in pollution and the manifestation of negative externalities in the production process. The share of consumed energy from green sources in the total energy consumption is still the predominant characteristic of economically developed economies. The insufficient effectiveness of natural capital man-

agement at all levels is also a factor that contributes to the increase of MF, which implicitly implies growing CO₂ emissions. Outdated technology is associated with high consumption of natural resources per unit of final production, which, as a rule, means growing CO₂ emissions. In this context, the purpose of NCM is to point out the importance of investing in equipment that implies resource-saving production with lower CO₂ emissions. In the discussion about the place of MF, CO₂ emissions in the GE, the NCM concept and their implications for SD, it is necessary to point out the importance of improving general environmental awareness in order to reduce CO₂ emissions.

Less developed economies on the NCM plan should follow the recommendations of the global environmental policy, such as the recommendations of the conference of the parties (COP), making maximum efforts in order to achieve the goals set by these and other international agreements (Mitić et al, 2017). Also, economies at a lower level of economic development can consider the implementation of CO₂ storage technologies, where the limiting factor of such policies is certainly the high cost of that procedure.

Green taxes can significantly contribute to the reduction of CO₂ emissions, especially if tax revenues are focused on solving current issues related to the use of natural capital. Taxes on environmentally harmful behavior have the potential to increase the amount of public revenue. On the other hand, CO₂ emission trading schemes mean that increases in pollutant emissions from one source must be accompanied by an equivalent decrease in pollution from other sources. Developed countries have these programs to limit pollutant emissions and to stimulate businesses that choose to pollute the environment less.

Many studies confirm the negative relationship between GDP and domestic material consumption, as well as harmful emissions, which cannot be said for the relationship between GDP and the material footprint (MF). The primary reason for this discrepancy is that the former pertains exclusively to local consumption, while the MF indicator encompasses the consumption of material resources throughout the entire production and consumption chain (Razzaq et al., 2021). Due to this fact, most economically developed countries characterised by outsourcing products with high material demands have not achieved the desired outcomes in terms of resource decoupling. Hence, sustainability policies related to MF are incomparably more complex than those addressing GDP decoupling from domestic natural resource consumption, and can significantly contribute to achieving the Sustainable Development Goals (SDGs).

In recent years, numerous studies have emerged analysing MF trends to investigate the achievement of SDGs. Some of the more notable ones have focused on examining the role of ecological factors in achieving SDGs (Adebayo et al, 2022; Adebayo et al, 2023; Zhang et al, 2023; Akadiri et al,

2022; Wu et al, 2022), while others have concentrated on identifying the nature of interactions between economic growth and environmental conditions by testing the validity of the Environmental Kuznets Curve hypothesis (Wang et al, 2023; Naveed et al, 2022; Kilinc-Ata et al, 2022).

Vavrek and Chovancová (2016) noted the existence of absolute decoupling between economic growth and greenhouse gas emissions in the Visegrad Group countries (Czech Republic, Hungary, Slovakia, and Poland). However, despite this finding, the authors emphasise the necessity for these countries to develop new and rapidly applicable energy policies to reduce greenhouse gas emissions and achieve sustainable development goals by 2050. Wang et al. (2018) found that resource decoupling is more pronounced in developing countries than in economically advanced ones. These results are valid for three BRICS countries (China, India, and Brazil) and three OECD countries (the USA, Australia, and Japan).

Bithas and Kalimeris (2018) concluded that the global economy's dependence on natural resources increased by over 60% during the period between 1900 and 2009. They assert that the effects of resource decoupling achieved in post-industrial economies during the 1970s were entirely negated by the intensified use of natural resources in several developing countries. Accordingly, the authors believe that the dematerialisation of production is one of the prerequisites for achieving sustainable development. For this reason, they stress that managing economic development requires much clearer definitions of policies regarding natural resource exploitation and environmental protection than is generally the case in most global economies.

Kjaer et al. (2019) analysed product-service systems as tools for achieving a circular economy and green growth. They concluded that even a widespread implementation of such systems does not guarantee absolute resource decoupling. The authors recommend a sequence of specific measures for policymakers aimed at supporting the broad adoption of product-service systems to achieve absolute resource decoupling and green transformation.

Lonca et al. (2019) examined the issue of resource decoupling within the development of circular economy models in EU countries. They concluded that three types of circularity measures must be implemented to reduce greenhouse gas emissions in the steel, plastic products, aluminium, and cement industries by 2050. These measures include material circulation, material efficiency, and new circular business models.

Haberl et al. (2020) conducted an extensive review of the literature on resource decoupling and impact decoupling as key premises for green transformation. They noted that absolute decoupling is a rare phenomenon, and that only a few industrialised countries have managed to decouple GDP from CO₂ emissions. This achievement has primarily been attributed to changes in production models and fundamental consumption patterns.

Hickel and Kallis (2020) concluded that it is unrealistic to discuss the existence of resource decoupling on a global scale. They highlighted that even under the assumption of limiting global warming to 1.5 °C or 2 °C annually, impact decoupling is nearly unattainable. Therefore, they argue that the concept of green growth is highly debatable, necessitating the consideration of alternative development strategies.

Frodyma et al. (2020) investigated the decoupling between GDP and fossil fuel consumption in 141 countries by analysing trends in domestic material consumption and the material footprint (MF). Their findings revealed that relative decoupling of domestic material consumption and GDP exists in a small number of economies, while there is no evidence of any decoupling between GDP and MF in the majority of the analysed countries.

Charlier and Fizaine (2023), based on panel analyses using extensive datasets and diverse methodologies, found no evidence of resource decoupling in a sample of 163 countries over the period between 1990 and 2015.

Using Brazil, one of the largest developing economies globally, as an example, Rovere et al. (2018) expressed the view that, under the assumption of implementing appropriate economic development policy instruments, it is possible to achieve both resource decoupling and impact decoupling in Brazil.

The previous literature review indicates that the findings of numerous studies focused on the existence of resource decoupling and impact decoupling vary, but largely align with the results and confirmation of the hypotheses presented in this paper. Additionally, it has become evident that, while the phenomenon of decoupling is a frequent research topic, the same cannot be said for studies examining the relationship between the material footprint (MF) and sustainable development. In this context, assessing the impact of GDP growth, MF, and CO₂ emissions on the Sustainable Development Index (SDI) posed a significant research challenge in itself.

The results of this study can provide policymakers with insights into the challenges posed by economic growth, unsustainable natural resource consumption, and high environmental pollution. These findings can undoubtedly assist macro-level managers in designing measures and instruments aimed at reducing natural resource consumption and per capita CO₂ emissions while achieving a satisfactory GDP growth rate.

It is crucial for future research to evaluate the impact of rising natural resource prices on their use in the production and consumption processes, as well as the associated CO₂ emissions. In addition to the methods used thus far, other econometric techniques and evaluation tools could be employed to assess this impact. Moreover, research must go beyond advocating for continued GDP growth or its deceleration. It is es-

essential to rigorously investigate the relationship between natural resource consumption and social well-being, a topic that was robustly debated over a decade ago by Steinberger and Roberts (2010), as well as Roberts et al. (2012).

CONCLUSION

The links between the growth of GNI pc, MF pc and CO₂ pc, on the one hand, and sustainable development, on the other hand, are of essential importance for understanding the essence and scope of GE, the phenomenon of resource and impact decoupling, and NCM. In the 1980s, this relationship was the focal point of theoretical and many empirical studies, because the direct consequences of inadequate NCM were manifested in the emergence of global problems such as climate change, global warming and many others.

Bearing in mind the results of the created research model of the change impact in GNI, MF and CO₂ emission on SDI on a sample of 166 countries, the transition process of the existing model of industrial production to the GE model, which is based on the idea of resource decoupling and impact decoupling, is imposed as essential. This, in turn, logically implies an increase in the efficiency and effectiveness of NCM.

There are also numerous limitations of the model created here, starting from the inappropriate and basically excessive use of natural resources in many national environments, low technological innovation in the field of exploitation of natural resources and environmental pollution control instruments, insufficient efficiency and, especially, inadequate effectiveness of NCM. In this sense, including some of these variables in the research model would undoubtedly be very useful. Here, variables that are especially taken into account, are related to the achieved level of ecological innovation, consumption of electricity from green sources and others for whose values arranged statistical data can be found.

In perspective, NCM must become a management infrastructure and a trial test of the success of every management practice without exception. Curbing the consumption of not only non-renewable but also renewable natural resources represents the *modus vivendi* of human survival. In this context, it can be concluded that NCM is a process that promotes the sustainable use of natural resources and the emission of polluting substances without jeopardising the sustainability of vital ecosystems. This management approach should integrate research on different types of natural resources in a process of adaptive management and stakeholder-driven innovation, in order to improve lifestyles, increase ecosystem resilience, and increase the productivity of resources and environmental services at the local, regional and global level.

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ЗЕЛЕНА ЕКОНОМИЈА У МЕНАѢМЕНТУ ПРИРОДНОГ КАПИТАЛА: ИМПЛИКАЦИЈЕ ЗА ОДРЖИВИ РАЗВОЈ

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Резиме

Непрестано угрожавајући биофизичке капацитете географског простора, најпре на локалном и регионалном, а затим и на глобалном плану, човечанство се већ дужи временски период понаша на начин који је у супротности са основним законима природе. Питање људске егзистенције, између осталог, све више се посматра у светлу бројних проблема повезаних са расположивим природним ресурсима и ограничењима капацитета Земље да апсорбује отпад као последице растуће производње и потрошње. Идентификујући категорију природног капитала садржајем природних ресурса и животне средине, могуће је говорити о ефикасности и ефективности управљања тим фактором производње на нивоу различитих економских ентитета у светлу многих изазова одрживог развоја са којима се суочава савремени свет.

Питања која се односе на императив транзиције постојећег облика производње на модел зелене економије заузимају све истакнутије место у концепирању одрживих пословних модела и стратегија одрживог развоја земаља. У раду је коришћењем панел регресионог модела сагледаван утицај промена материјалног отиска, промена бруто националног дохотка по становнику и емисије CO₂ по становнику на индекс одрживог развоја за групу од 166 земаља света у периоду од 1990. до 2019. године. Резултати модела указују да за јединични пораст бруто националног дохотка по становнику, очекивано смањење индекса одрживог развоја износи 2,68499e-06 јединица. Слично, за повећање материјалног отиска за јединицу, очекивано смањење индекса одрживог развоја износи 0,00795721 јединица, док је за повећање емисије CO₂ по становнику од једне јединице, очекивано смањење индекса одрживог развоја 0,00328723 јединица. Ови резултати упућују на потребу успостављања пословних модела и националних стратегија развоја на принципима озелењавања економије. Они такође указују на важност постојања ефикасног и ефективног менаѢмента природног капитала који промовише одрживо коришћење природних ресурса и регулише емисију загађујућих материја без угрожавања одрживости виталних екосистема. У перспективи, обуздавање потрошње не само необновљивих, већ и обновљивих природних ресурса, као и смањење загађења животне средине представљају важан услов људског опстанка.

CONSUMER ETHNOCENTRISM TOWARDS FASHION PRODUCTS

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Abstract

The subject of this paper is the analysis of consumer ethnocentrism with special reference to fashion products. The aim is to examine: whether consumers of fashion products in Serbia are ethnocentrically oriented; what they think about the price-quality ratio of domestic fashion products; whether they choose a domestic or a foreign fashion product, provided that their prices are equal; how often they ordered fashion products through (domestic, foreign) websites before and during the pandemic; and how often they bought fashion products promoted by (domestic, foreign) influencers before and during the COVID-19 pandemic. The empirical research was conducted in the period between March and June 2021, in the Republic of Serbia. The specificity of the research is reflected in the analysis of consumer ethnocentrism by consumer generational cohorts (ranging from Z to Baby Boomers) and by the amount of monthly income, all while considering the frequency of ordering fashion products through domestic and foreign websites before and during the pandemic, as well as the impact of domestic and foreign influencers on the frequency of purchasing the mentioned products in the observed periods. The results show that the greatest percentage of Generational cohort Z members believe that the prices of domestic fashion products correspond to the quality of products, in contrast to generational cohorts Y, X and Baby Boomers, the majority of whom believe that the prices are high in relation to the quality. Consumer ethnocentrism is most pronounced among the category of consumers with high income and among Baby Boomers.

Key words: consumer ethnocentrism, fashion products, domestic products, generational cohorts, COVID-19 pandemic.

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ПОТРОШАЧКИ ЕТНОЦЕНТРИЗАМ МОДНИХ ПРОИЗВОДА

Апстракт

Предмет рада је анализа потрошачког етноцентризма с посебним освртом на модне производе. Циљ је да се испита: да ли су потрошачи модних производа у Србији етноцентрички оријентисани; шта мисле о односу цене и квалитета домаћих модних производа; да ли би одабрали домаћи или страни модни производ под условом да су им цене једнаке; колико су учестало наручивали модне производе преко (домаћих, страних) сајтова пре и током пандемије; као и колико су учестало куповали модне производе које промовишу (домаћи, страни) инфлуенсери пре и током пандемије COVID-19. Емпиријско истраживање је спроведено између марта и јуна 2021. године, у Републици Србији. Специфичност истраживања се огледа у анализи потрошачког етноцентризма према генерацијским кохортама (укључујући све од генерацијске кохорте З до Бејби бумера) и према висини месечних примања, уз разматрање учесталости наручивања модних производа преко домаћих и страних сајтова пре и током пандемије, као и утицаја домаћих и страних инфлуенсера на учесталост куповине поменутих производа у посматраним периодима. Резултати показују да генерацијска кохорта З у највећем проценту сматра да цене домаћих модних производа одговарају квалитету, за разлику од генерацијских кохорте Y, X и Бејби бумера чији припадници у већини сматрају да су цене високе у односу на квалитет. Најизраженији је потрошачки етноцентризам код категорије потрошача са високим примањима и код Бејби бумера.

Кључне речи: потрошачки етноцентризам, модни производи, домаћи производи, генерацијске кохорте, пандемија COVID-19.

INTRODUCTION

Consumer ethnocentrism is a significant factor in the fashion industry (Slijepčević, 2019), and it represents an attempt to apply the general sociological concept of ethnocentrism to a business context. As such, it is connected with the patriotic feeling of the individual which dictates that it is desirable to buy domestic products (Karoui & Khemakhem, 2019; Bakti, Sumaedi, Rakhmawati, Damayanti & Yarmen, 2020; Rašković, Ding, Hirose, Zabkar & Fam, 2020; Kostić, Stanišić & Marinković, 2021). The above-mentioned relation was also identified in the research conducted on the Serbian market (Pavlović & Savić, 2017). Specifically, consumer ethnocentrism represents a preference for products and brands from one's own country over products and brands from other countries (Gašević, Vranješ & Tomašević, 2019; Casado-Aranda, Sánchez-Fernández, Ibáñez-Zapata & Liébana-Cabanillas, 2020; Ma, Yang & Yoo, 2020). This term could be used to explain the reasons why some consumers have negative attitudes towards foreign products, and to justify the consumer's bias towards buying domestic versus foreign products (Bešlagić, 2015). From a marketing perspective, consumer ethnocentrism should be viewed as a consumer choice conditioned by the attitude that ethnocentrism helps not only the economic but also the political and so-

cial development of the country (Kragulj, Parežanin & Miladinović, 2017; Das and Mukherjee, 2020; Vuong & Giao, 2020).

FACTORS AFFECTING CONSUMER ETHNOCENTRISM

The demographic characteristics of consumers represent a very important factor in the research on consumer ethnocentrism. The most common demographic variables in the research on consumer ethnocentrism are age, gender, income and education (Javalgi, Kahare, Gross & Scherer, 2005). A slightly different classification is given by Shankarmahesh (2006), who points out that the most important variables within this group are age, income level, the level of education, race, and social class. Nguyen (2017) states that gender, age, the level of education, and the average level of monthly income are relevant socio-demographic characteristics for research in the context of consumer ethnocentrism. Although research results are not consistent, there seems to be more empirical support for the hypothesis that younger people express a lower level of consumer ethnocentrism than older people (Rakić, Rakić & Stanojević, 2018; Abdalrahman, Fehér & Lehota, 2019; Bernabéu, Oliveira, Rabadan & Diaz, 2020; Migliore, Rizzo, Schifani, Quatrosi, Vetri & Testa, 2021). Research also shows that women have greater ethnocentric tendencies than men (Bernabéu et al., 2020; Migliore et al., 2021). Apart from a few exceptions, research results indicate a negative association between consumer ethnocentrism and the level of education (Rakić et al., 2018; Bernabéu et al., 2020; Guo and Özdiñç, 2021). Most studies found a negative association between individual income and the scores on the consumer ethnocentrism scale (Wel, Alam, Khalid & Mokhtaruddin, 2018; Stepchenkova, Su & Shichkova, 2019; Bernabéu et al., 2020; Aljukhadar, Boeuf & Senecal, 2021). However, some studies find no effects of income on consumer ethnocentrism (Jain and Jain, 2013; Awdziej, Tkaczyk & Włodarek, 2016; Bešlagić, Bećirović & Čavalić, 2018), while other studies find a positive association between income and ethnocentrism (Balabanis and Diamantopoulos, 2011; Al Ganideh and Good, 2016).

When it comes to consumer ethnocentrism in Serbia, i.e. the demographic factors that determine it, the research by Marinković, Stanišić and Kostić (2011) found that ethnocentric tendencies occur to a greater extent in men than in women. This result is different from the one obtained from the research in other countries, where the level of consumer ethnocentrism was higher among women. The results of this research also show that the lowest degree of consumer ethnocentrism is present among younger respondents, and the highest among older respondents. In addition to the above, the increase in household income implies a decrease in consumer ethnocentrism (Veljković, 2009). The fact that the elderly and consumers with the lowest level of monthly income are more ethnocentric and show a greater degree of economic patriotism has also been proven in recent research conducted on

the market of the Republic of Serbia (Rakić et al., 2018; Gašević, 2022). Moreover, according to the results of the research by Gašević (2022), it can be observed that there are no statistically significant differences in consumer ethnocentrism between consumers according to the education level criterion.

The COVID-19 pandemic, as an unprecedented situational factor, has had significant implications for consumer psychology and behaviour during and after the pandemic (He & Harris, 2020). It is a collective traumatic event that has caused increased concern for health and safety (Maltseva & Li, 2020), and that inflicted physical, psychological and emotional harm to consumers (He & Harris, 2020). In addition to health and psychological problems, the pandemic has also caused financial problems and difficulties for individuals. The pandemic has created a radically different marketing environment and different consumer needs and habits (Sheth, 2020; Zwanka & Buff, 2021; Mamula, Perčić & Nećak, 2022). An important area of consumer (ethical) decision-making that is changing under the influence of the pandemic relates to behaviours directed towards the purchase of domestic and foreign products. The question of purchasing domestic and foreign products is not only a question of affordability, quality and price but also a question related to consumer ethics in terms of whether it is right (or wrong) to act in a certain way (He & Harris, 2020). Thus, the research conducted by Verma and Naveen (2021) showed that, during the COVID-19 pandemic, consumers avoided foreign products, which had a positive effect on their level of ethnocentrism, i.e. on the purchase of domestic products. A higher degree of consumer ethnocentrism is more pronounced among consumers who buy domestic fashion products more often – frequently and very often (Gašević, 2022). The lowest level of consumer ethnocentrism was identified among consumers who do not buy products from the mentioned categories. On the other hand, according to this research, the correlation between the COVID-19 pandemic and consumer ethnocentrism was assessed as positive and of high intensity. The results obtained are in line with the results of recent studies that deal with the analysis of the influence of external factors on consumer behaviour, which primarily refers to consumer behaviour research on the choices they made during the COVID-19 pandemic (Ben Hassen, El Bilali & Allahyari, 2020; Kock, Nørfelt, Josiassen, Assaf & Tsionas, 2020; Di Renzo et al., 2020; Hamadani et al., 2020; Migliore et al., 2021; Miftari, Cerjak, Tomić-Maksan, Imami & Prenaj, 2021; Mhatre and Singh, 2021; Savarese, Castellini, Morelli & Graffigna, 2021; Verma and Naveen, 2021; Chakraborty, Siddiqui, Siddiqui & Alatawi, 2022).

ETHNOCENTRISM TOWARDS FASHION PRODUCTS

When it comes to research aimed at identifying the impact of consumer ethnocentrism on the evaluation of different categories of products, it can be said that the available literature (primarily foreign) is almost ex-

explicitly focused on high-tech products and fashion products (such as, for example, cars, household appliances, computers, clothing and/or services), especially in developing countries (Gašević, 2022). The research on consumer ethnocentrism in Serbia shows that the level of consumer ethnocentrism is higher in the category of food products than in some other categories (Rakić et al., 2018). In fact, consumers from Serbia have the most positive attitudes towards domestic products from the following categories: everyday food products, alcoholic beverages, non-alcoholic beverages (Rakić et al., 2018). A recent study by Gašević (2022) reached similar results, according to which consumers from our country show the highest degree of ethnocentrism towards food and cosmetic products, as well as household cleaning products. On the other hand, fashion clothing and appliances are the last two categories of products that are not bought every day, and require a longer purchase decision process. Nevertheless, regarding the analysis of the profile of consumers who buy fashion products, it can be concluded that certain characteristics of consumers influence their decision to buy these products. Specifically, with increasing age, the tendency to buy fashion items also increases, but it is interesting that consumers with a lower level of education are more likely to decide to buy products from this category, which means that the level of education significantly affects the purchase of fashion products. This can also be explained by the fact that they choose branded products due to the fear of making the wrong choice. However, for this group of respondents, the level of monthly income does not play a significant role in the purchase of these products. Moreover, it has been shown that the choice of online purchase of fashion products (through a website, mobile applications or social media) affects their tendency to purchase these products (Borisavljević and Radosavljević, 2021).

METHODOLOGY OF RESEARCH

The research subject of this paper is the analysis of the degree of consumer ethnocentrism in Serbia from the aspect of fashion products. In accordance with the defined subject, the main objectives of this research are to answer the following questions: (a) is there consumer ethnocentrism in Serbia regarding fashion products; (b) what is the price-quality ratio of domestic fashion products; (c) which fashion product would consumers choose if the prices of domestic and foreign products were equal; (d) what was the frequency of ordering fashion products through domestic and foreign websites before and during the COVID-19 pandemic; and (e) what was the frequency of purchasing a fashion product promoted by domestic and foreign influencers before and during the pandemic.

In accordance with the thus defined subject and objectives of the research, the following hypotheses have been set, and will be proved as a

contemplative and theoretical supplement to certain gaps in the knowledge of the phenomenon under research: *hypothesis H₁* – consumers in Serbia are ethnocentrically oriented when it comes to fashion products; *hypothesis H₂* – there is a statistically significant difference in the answers of respondents with different socio-demographic characteristics in relation to the opinion on the price-quality ratio of domestic fashion products; *hypothesis H_{2.1}* – there is a statistically significant difference in the answers of respondents of different age categories in relation to the opinion on the price-quality ratio of domestic fashion products; *hypothesis H_{2.2}* – there is a statistically significant difference in the answers of respondents of different gender in relation to the opinion on the price-quality ratio of domestic fashion products; *hypothesis H_{2.3}* – there is a statistically significant difference in the answers of respondents of different amount of monthly income in relation to the opinion on the price-quality ratio of domestic fashion products; *hypothesis H₃* – there is a statistically significant difference in the answers of respondents with different socio-demographic characteristics in relation to the choice between domestic and foreign fashion products in case the prices of domestic and foreign products are equal; *hypothesis H_{3.1}* – there is a statistically significant difference in the answers of respondents of different age categories in relation to the choice between domestic and foreign fashion products in case the prices of domestic and foreign products are equal; *hypothesis H_{3.2}* – there is a statistically significant difference in the answers of respondents of different gender in relation to the choice between domestic and foreign fashion products in case the prices of domestic and foreign products are equal; and *hypothesis H_{3.3}* – there is a statistically significant difference in the answers of respondents of different amount of monthly income in relation to the choice between domestic and foreign fashion products in case the prices of domestic and foreign products are equal.

In order to derive valid and reliable conclusions, in accordance with the defined subject, objectives and the research hypotheses, the empirical, i.e. quantitative research was conducted using the survey method. An online questionnaire was prepared especially for this research and was distributed to the respondents. Consumers in Serbia were questioned about their opinions, habits and attitudes about the mentioned questions. The survey lasted from March 24 to June 21, 2021 and was conducted on the territory of the Republic of Serbia. The sample is random; it consists of 1,002 respondents – consumers of both genders (men – 26%, women – 74%). According to age categories, the respondents were divided as follows: Generational cohort Z (18%), Generational cohort Y (31%), Generational cohort X (35%) and Baby Boomers (16%). Table 1 gives short descriptions of the mentioned generational cohorts.

Table 1. Descriptions of generational cohorts

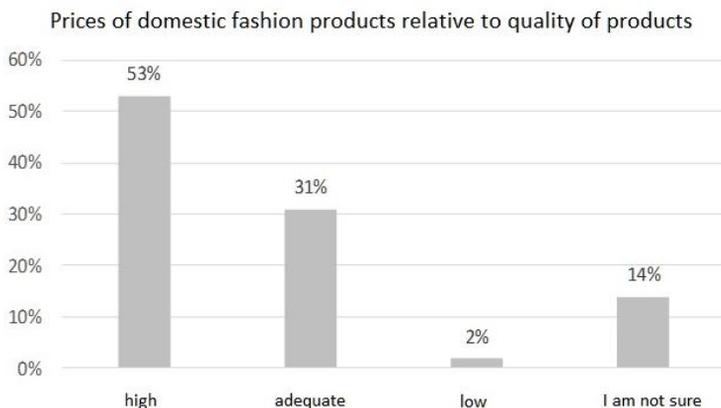
	Baby-boomers (1945-1964)	Generational cohort X (1965-1979)	Generational cohort Y (1980-2000)	Generational cohort Z (2001-2012)
Style of clothing	Business	Relaxed business	Whatever they feel comfortable with	They make a brand out of themselves and create their own image
Work environment	Exclusively an office with a tendency to hard and prolonged work	Office and house, there is a desire for a flexible schedule	Office and home, flexible schedule	They expect flexibility from their employers, remote work
Motivation	Salary	Safety	Work-life balance	Individuality
Mentoring	Can not stand negative feedback very well	Feedback is not necessary for them	Constant need for feedback	They seek stability and permanence
Retention	Salary	Security and salary	Personal relationship	Independence
Means of communications	Personal contact and telephone	Phone, e-mail	SMS, Social networks	They use various computers, mobile phones and others digital devices
Technology	Documents are prepared by colleagues, the Internet is used to a limited extent, they only use e-mail at work	They create documents themselves, use a mobile phone and laptop, use the Internet for research and search, use e-mail and a mobile phone	They create documents and databases themselves, use the Internet for research and to connect, use e-mail/texting 24/7	Instead of the Internet, they use Internet of Things
Career goal	Build a perfect career and excel at work	Make a „portable” career and, if possible, a business, master a multitude of skills and experiences	Make a few parallel careers or business, have several business at the same time	They choose job they love, versus a better-paying, and in their opinion, more boring job. Usually, they build a career abroad
Attitude towards career	Organizational - careers are defined by employees	Portfolio - devoted to the profession and not to the employee	Digital entrepreneurs	They are prone to entrepreneurship and include their personal projects in regular job
Characteristic product	TV	PC	Mobile phone	Different digital devices and platforms
Choice when making financial decisions	Face to face	Face to face and online	Solutions for decisions are collected digitally	Pragmatic and conservative, rational consumers

Source: Adjusted according to Mamula Nikolic (2021)

The sample includes respondents from all regions of Serbia. According to the amount of monthly income, the structure of the sample consists of the following structure of respondents: up to RSD 50.000 – 43%; RSD 50.000-70.000 – 20%; RSD 70.000-100.000 – 14%; and over RSD 100.000 – 7%. The statistical error of the sample is 3%. The SPSS statistical software was used for data processing and analysis. The following quantitative statistical methods were used: descriptive statistics (frequency distribution, mean) and comparative statistics (χ^2 -test). Some questions in the questionnaire were formulated in the form of a five-point Likert scale. The answers offered for the question on frequency of ordering are: almost always, often, sometimes, rarely, and never, and were assigned the values of 5, 4, 3, 2 and 1, respectively.

RESULTS AND DISCUSSION

Based on the results shown in Graph 1, more than half of the consumers in Serbia (53%) believe that the prices of domestic fashion products are high relative to quality. A third of the respondents (31%) believe that the prices correspond to the quality of products, and only 2% of respondents believe that the prices are low relative to quality.



Graph 1. Distribution of respondents by their opinion on the prices of domestic fashion products relative to quality

Source: Authors of the paper

The obtained results are somewhat similar to the results of the research conducted by Gašević (2022), according to which 33.5% of consumers stated that the domestic fashion clothing is expensive, while only 8.6% of them consider it very affordable. Also, 46.7% of the surveyed consumers are satisfied with the quality of domestic fashion clothing.

The greatest percentage of the members of Generational cohort Z believes that the prices of domestic fashion products correspond to the quality of the products (46%). More than half of the respondents in the Y (57%), X (57%) and Baby Boomers (55%) generational cohorts believe that the prices are high relative to quality (Table 2). According to the χ^2 -test (Value = 37.167^a, df = 9, p = 0.00 < 0.05), *there is a statistically significant difference in the answers of respondents of different age categories in relation to the opinion on the price-quality ratio of domestic fashion products.*

Table 2. Distribution of respondents (in %) by age groups in relation to the opinion on the prices of domestic fashion products relative to quality

Age groups	Prices of domestic fashion products relative to quality			
	High	Adequate	Low	I am not sure
18-25 (Generational cohort Z)	38	46	0	16
26-40 (Generational cohort Y)	57	27	3	13
41-55 (Generational cohort X)	57	29	1	13
56-72 (Baby Boomers)	55	28	3	14

Source: Authors of the paper

The greatest percentage of female consumers believes that the prices of domestic fashion products are high relative to quality (55%), while 48% of male consumers in Serbia are of the same opinion. A third of the male (34%) and female respondents (31%) believe that the prices are adequate for products of such quality (Table 3). According to the χ^2 -test (Value = 13.580^a, df = 3, p = 0.004 < 0.05), *there is a statistically significant difference in the answers of respondents of different gender in relation to the opinion on the price-quality ratio of domestic fashion products.*

Table 3. Distribution of respondents (in %) by gender in relation to the opinion on the prices of domestic fashion products relative to quality

Gender	Prices of domestic fashion products relative to quality			
	High	Adequate	Low	I am not sure
Male	48	34	4	14
Female	55	31	1	14

Source: Authors of the paper

As for the distribution of respondents by the amount of monthly income, their opinions on the price-quality ratio of domestic fashion products are similar. The greatest percentage of consumers with an income be-

tween 50 and 70 thousand dinars (61%) believe that the prices are high relative to quality, and the greatest percentage of consumers within the highest income range (39%) believe that the prices correspond to the quality of domestic fashion products (Table 4). According to the χ^2 -test (Value = 12.619^a, df = 9, p = 0.181 > 0.05), *there is no statistically significant difference in the answers of respondents with different monthly incomes in relation to the opinion on the price-quality ratio of domestic fashion products.*

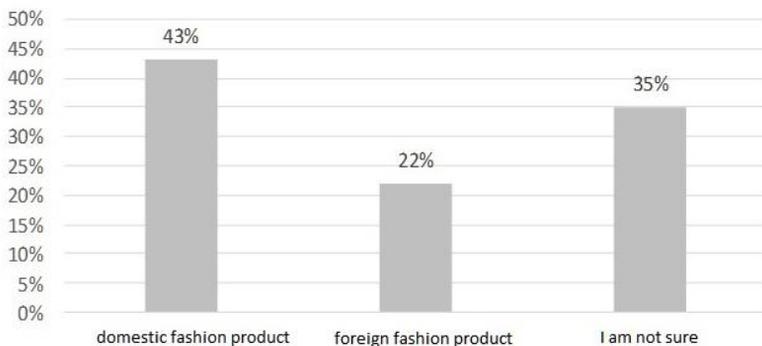
Table 4. Distribution of respondents (in %) by the amount of monthly income in relation to the opinion on the prices of domestic fashion products relative to quality

Amount of monthly income	Prices of domestic fashion products relative to quality			
	High	Adequate	Low	I am not sure
Up to RSD 50,000	52	30	2	15
RSD 50,000 – 70,000	61	25	2	12
RSD 70,000 – 100,000	55	30	2	14
Over RSD 100,000	58	39	0	3

Source: Authors of the paper

If the prices of domestic and foreign fashion products were equal, the largest number of consumers would opt for the domestic product (43%), which leads us to the *conclusion that consumers in Serbia are ethnocentrically oriented* (Graph 2).

If the prices of domestic and foreign fashion products are equal, I buy:



Graph 2. Distribution of respondents by their choice of domestic or foreign fashion product in case of equal prices

Source: Authors of the paper

The greatest percentage of the members of the Baby Boomer Generational cohort (49%) would rather choose a domestic fashion product if the prices of domestic and foreign products were equal, while, on the other hand, the greatest percentage of the members of Generational cohort Z (36%) would prefer a foreign fashion product. Therefore, of all generational cohorts of consumers, *Baby Boomers are the most ethnocentrically oriented* (Table 5). According to the χ^2 -test (Value = 25.642^a, df = 6, p = 0.00 < 0.05), *there is a statistically significant difference in the answers of respondents of different age categories in relation to the choice between domestic and foreign fashion product in the event that the prices of domestic and foreign products are equal.*

Table 5. Distribution of respondents (in %) by age groups in relation to the choice of domestic or foreign fashion product

Age groups	In case the price of a domestic fashion product is equal to the price of a foreign product, I buy:		
	Domestic fashion product	Foreign fashion product	I am not sure
18-25 (Gen Z)	37	36	27
26-40 (Gen Y)	42	20	38
41-55 (Gen X)	43	20	37
56-72 (Baby Boomers)	49	17	34

Source: Authors of the paper

The percentages of male and female respondents are approximate when it comes to deciding between a domestic fashion product and a foreign one (Table 6). According to the χ^2 -test (Value = 4.726^a, df = 2, p = 0.094 > 0.05), *there is no statistically significant difference in the answers of respondents of different gender in relation to the choice between domestic and foreign fashion products.*

Table 6. Distribution of respondents (in %) by gender in relation to the choice of domestic or foreign fashion product

Gender	In case the price of a domestic fashion product is equal to the price of a foreign product, I buy:		
	Domestic fashion product	Foreign fashion product	I am not sure
Male	41	27	32
Female	43	21	36

Source: Authors of the paper

The obtained results are almost identical to the results of the research conducted by Gašević (2022). Specifically, according to this research, there is no statistically significant difference between men and

women when it comes to attitudes about domestic fashion clothing, the intention to purchase domestic fashion clothing, the degree of satisfaction with and enthusiasm for domestic fashion clothing, and the level of loyalty to domestic fashion clothing (intention to repeat purchase and make recommendations to other customers).

The percentages of consumers according to income levels are fairly even as well, but those within the highest income range (52%), who would opt for a domestic fashion product rather than the foreign one, stand out (Table 7). According to the χ^2 -test (Value = 3.313^a, df = 6, p = 0.769 > 0.05), *there is no statistically significant difference in the answers of respondents with different levels of monthly income in relation to the choice between domestic and foreign fashion products (provided that the prices of domestic and foreign products are equal).*

Table 7. Distribution of respondents (in %) by the amount of monthly income in relation to the choice of domestic or foreign fashion product

Amount of monthly income	In case the price of a domestic fashion product is equal to the price of a foreign product, I buy:		
	Domestic fashion product	Foreign fashion product	I am not sure
Up to RSD 50,000	44	21	35
RSD 50,000 – 70,000	43	18	39
RSD 70,000 – 100,000	42	20	38
Over RSD 100,000	52	19	29

Source: Authors of the paper

Through domestic websites, 97% of consumers frequently bought fashion products before the COVID-19 pandemic, and 72% of consumers did the same during the pandemic (Table 8). The mean value of the frequency of ordering through domestic websites before the pandemic is 4.40, and it is 3.25 during the pandemic. Through foreign websites, 42%

Table 8. Distribution of respondents (in %) by the frequency of ordering fashion products through domestic and foreign websites, before and during the pandemic

Frequency of ordering	Through domestic websites		Through foreign websites	
	Before the pandemic	During the pandemic	Before the pandemic	During the pandemic
Almost always	58	19	1	3
Often	28	21	11	16
Sometimes	11	32	30	34
Rarely	2	23	34	25
Never	1	5	24	22

Source: Authors of the paper

of consumers frequently bought fashion products before the COVID-19 pandemic, while 53% of consumers did the same during the pandemic (Table 7). The mean value for the frequency of ordering through foreign websites before the pandemic is 2.33, and it is 2.54 during the pandemic.

Chrysochoidis et al. (2007) examined the relation between consumer ethnocentrism and frequency of purchase, but taking into account only foreign products, and the research results showed that consumer ethnocentrism has no effect on consumer purchasing behaviour, which is reflected in the number of purchases of foreign products.

Before the COVID-19 pandemic, 12% of consumers in Serbia frequently purchased fashion products promoted by domestic influencers, and this percentage was identical during the pandemic (Table 9). The mean value for the frequency of ordering fashion products promoted by domestic influencers before the pandemic is 1.47, and it is 1.44 during the pandemic. Before the pandemic, 9% of consumers frequently purchased fashion products promoted by foreign influencers, and this percentage was identical during the pandemic (Table 9). The mean value of the frequency of ordering fashion products promoted by foreign influencers before the pandemic is 1.41, and it is 1.38 during the pandemic.

Table 9. Distribution of respondents (in %) by the frequency of purchasing fashion products promoted by domestic and foreign influencers, before and during the pandemic

Frequency of purchasing fashion products	Promoted by domestic influencers		Promoted by foreign influencers	
	Before the pandemic	During the pandemic	Before the pandemic	During the pandemic
Almost always	1	1	1	0
Often	2	1	1	1
Sometimes	9	10	7	8
Rarely	21	19	22	19
Never	67	69	69	72

Source: Authors of the paper

When comparing the percentages in Tables 8 and 9, the mean values for the frequency of purchasing fashion products through domestic and foreign websites, as well as the purchase of products promoted by domestic and foreign influencers, it can be concluded that the purchase of fashion products in Serbia is more frequent through domestic websites than through foreign ones, and that the purchase of fashion products promoted by domestic influencers is more frequent than the purchase of fashion products promoted by foreign influencers, both for the period before and during the pandemic. Moreover, considering that a greater percentage of consumers in Serbia choose domestic fashion products (43%) com-

pared to foreign ones (22%), provided that their prices are equal, it can be concluded that consumer ethnocentrism in Serbia prevails when it comes to fashion products. The obtained results are somewhat similar to the results of the research by Gašević (2022), according to which 42% of respondents stated that they buy domestic fashion clothing occasionally, while 21% of respondents stated that they buy domestic fashion clothing rarely.

In general, the results of the empirical research proved that consumers in Serbia are ethnocentrically oriented when it comes to fashion products, and thus *the hypothesis H_1 is confirmed*. They prefer a domestic fashion product over a foreign one, provided that their prices are equal. Moreover, it has been found that fashion products are purchased in Serbia through domestic websites more often than through foreign ones, as well as that the purchase of fashion products promoted by domestic influencers is more frequent than the purchase of fashion products promoted by foreign influencers, both for the period before the pandemic and during the pandemic. As it has been established that there is a statistically significant difference in the answers of respondents of different age categories in relation to the opinion on the price-quality ratio of domestic fashion products, hypothesis $H_{2,1}$ is confirmed. The same conclusion was reached regarding hypothesis $H_{2,2}$, i.e. there is a statistically significant difference in the answers of respondents of different gender in relation to the opinion on the price-quality ratio of domestic fashion products. On the other hand, as it has been established that there is no statistically significant difference in the answers of respondents with different monthly incomes in relation to the aforementioned opinion, hypothesis $H_{2,3}$ is not confirmed. Therefore, it can be concluded that *hypothesis H_2 is mostly confirmed*. Given that a statistically significant difference has been proven to exist in the answers of respondents of different age categories in relation to the choice between domestic and foreign fashion products, provided that the prices of domestic and foreign products are equal, hypothesis $H_{3,1}$ is confirmed. In contrast, there is no statistically significant difference in the answers of respondents of different gender and with different amounts of monthly income in relation to the mentioned choice. Therefore, hypotheses $H_{3,2}$ and $H_{3,3}$ are not confirmed. It can be concluded that *hypothesis H_3 is only partially confirmed*.

CONCLUSION

The results of the research show that the greatest percentage of members of Generational cohort Z believe that the prices of domestic fashion products correspond to the quality of products, in contrast to generational cohorts Y, X and Baby Boomers, the majority of who believe that prices are high relative to quality. Based on the aforementioned, it can be concluded that the coming generation of young people is a good

potential market for the competition between domestic producers of fashion products, and that it is necessary for the producers to act strategically in this direction from the marketing aspect, and to additionally develop and strengthen the ethnocentrism of Generational cohort Z. On the other hand, in relation to generational cohorts Y, X and Baby Boomers, who, as the most capable generational cohorts, consider that prices are high relative to quality, domestic producers can act in three directions. The first one is to reduce prices and improve quality, which is perhaps the most difficult to achieve. The second direction is to increase quality, which is somewhat easier to implement, and finally, the third and most easily applicable way is to reduce the prices of domestic fashion products.

The category of consumers with high incomes gives preference to domestic products compared to foreign ones, provided that the prices of domestic and foreign fashion products are equal, which is a signal to domestic producers to direct their marketing strategy and communication towards that target group with pronounced consumer ethnocentrism. Moreover, the oldest generation of consumers (Baby Boomers) is the one most ethnocentrically oriented of all generational cohorts, and this is where the producers of domestic fashion products have space for more active measures.

During the pandemic, the purchase of fashion products through domestic websites decreased, while purchase through foreign websites increased. The increased purchase of fashion products through foreign websites during the pandemic compared to the pre-pandemic period could be explained by the existence of foreign websites with advanced software used by global fashion companies, significantly better than domestic ones, as well by better presentation, larger marketing budgets and efficient and secure payment, in contrast to those of domestic fashion houses that cannot boast of that level of quality and safety of online offers and sales. In order to stop the growing trend of purchasing fashion products through foreign websites, it is necessary to invest in the modernisation of websites and online sales, and to increase the marketing budget for domestic producers. The reasons for the increased purchase of fashion products through foreign websites are a suggestion for further research.

When it comes to purchases encouraged by influencers, the respondents almost equally declared that their purchase decisions were barely influenced by either domestic or foreign influencers before the pandemic, while this influence was even smaller during the pandemic. It follows that domestic fashion houses should carefully choose and decide on cooperation with influencers, as well as make efforts to strengthen direct communication and interaction with (potential) customers.

The limitation of this paper is reflected in the analysis of only selected factors that influence the purchase of fashion products. The survey method is of a subjective nature, both because of the respondents' an-

swers, with their tendency to answer questions in a more socially desirable direction under certain conditions, and because of insufficient possible precision in the formation of a random sample of the research. As the empirical research has confirmed that consumers of fashion products in Serbia are ethnocentrically oriented when considering the choice between domestic and foreign fashion products, provided that their prices are equal, it would be interesting to further examine the degree of influence exerted on ethnocentrism by quality, price and consumer desire to help the domestic fashion industry. We also suggest the examination of fashion organisations that collaborate with influencers regarding the effects they achieve when their products/services are promoted by influencers. In addition, it would be important to examine the behaviour of consumers of fashion products in the region, in order to compare the results from the aspect of ethnocentrism, which could pose questions about possible opportunities for export.

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ПОТРОШАЧКИ ЕТНОЦЕНТРИЗАМ МОДНИХ ПРОИЗВОДА

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Резиме

Предмет рада је анализа потрошачког етноцентризма с посебним освртом на модне производе. Циљ рада је да се испита: да ли су потрошачи модних производа у Србији етноцентрички оријентисани; шта мисле о односу цене и квалитета домаћих модних производа; да ли би одабрали домаћи или страни модни производ под условом да су им цене једнаке; колико су учестало наручивали модне производе преко домаћих и страних сајтова пре и током пандемије; као и колико су учестало куповали модне производе које промовишу домаћи и страни инфлуенсери пре и током пандемије COVID-19. Емпиријско истраживање је спроведено између марта и јуна 2021. године на територији Републике Србије. Специфичност истраживања се огледа у анализи потрошачког етноцентризма према генерацијским кохортама потрошача (генерацијска кохорта З, генерацијска кохорта Y, генерацијска кохорта X, Бејби бумери) и према висини месечних примања, уз разматрање учесталости наручивања модних производа преко домаћих и страних сајтова пре и током пандемије, као и утицаја домаћих и страних инфлуенсера на учесталост куповине поменутих производа у посматраним периодима. Резултати истраживања показују да генерацијска кохорта З у највећем

проценту сматра да цене домаћих модних производа одговарају квалитету, за разлику од генерацијских кохорти Y, X и Бејби бумера, чији припадници у већини сматрају да су цене високе у односу на квалитет. Током пандемије је куповина модних производа преко домаћих сајтова опала, док је порасла куповина преко страних сајтова. Када су у питању куповине подстакнуте инфлуенсерима, испитаници су се изјаснили да у највећој мери нису куповали под утицајем инфлуенсера (ни домаћих, ни страних) пре пандемије, а током пандемије је тај утицај још мањи. Генерално, потрошачи у Србији су етноцентрички оријентисани када су у питању модни производи. Они радије бирају домаћи модни производ у односу на страни у случају да су њихове цене једнаке. Најизраженији је потрошачки етноцентризам код категорије потрошача са високим примањима и код Бејби бумера.

ANTECEDENTS OF FASHION-ORIENTED COMPULSIVE BUYING OF YOUNG CONSUMERS: EVIDENCE FROM AN EMERGING ECONOMY

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Abstract

The study aims to examine the antecedents of fashion-oriented compulsive buying of young consumers in a heretofore largely under-studied context of an emerging European economy. Data collection was performed on a convenience sample of 386 Serbian respondents, by means of web-based structured questionnaire. The hypothesised relationships were examined by means of partial least squares structural equation modelling (PLS-SEM). The results of the study indicate impulse buying as the most influential direct determinant of compulsive buying, followed by fashion orientation and materialism. The relationship between fashion orientation and compulsive buying was negatively moderated by perceived consumer effectiveness. The study's findings provide implications for policy-makers, socialisation agents of young consumers (e.g. families, educational institutions, media) and marketers of fashion brands.

Key words: young consumers, compulsive buying, fashion orientation, impulse buying, materialism, perceived consumer effectiveness.

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ФАКТОРИ КОЈИ ПРЕТХОДЕ МОДНО ОРИЈЕНТИСАНОЈ КОМПУЛЗИВНОЈ КУПОВИНИ МЛАДИХ ПОТРОШАЧА: ДОКАЗИ ИЗ ЕКОНОМИЈЕ У РАЗВОЈУ

Апстракт

Циљ истраживања је испитивање фактора који претходе модно оријентисаној компулзивној куповини младих потрошача у до сада недовољно проучаваном контексту европске економије у развоју. Прикупљање података обављено је на пригодном узорку од 386 испитаника из Србије, помоћу структурираног онлајн упитника. Препостављене везе су испитане моделовањем помоћу структурних једначина применом метода најмањих квадрата (ПЈС-СЕМ). Резултати студије су указали да је импулсивна куповина најугицајнија директна одредница компулзивне куповине, а затим следе модна оријентација и материјализам. Однос између модне оријентације и компулзивне куповине је негативно модериран перципираном потрошачком ефикативношћу. Из резултата проистичу препоруке за креаторе политика, агенте социјализације младих потрошача (нпр. породице, образовне институције, медије) и продавце модних брендова.

Кључне речи: млади потрошачи, компулзивна куповина, модна оријентација, импулсна куповина, материјализам, перципирана потрошачка ефикавност.

INTRODUCTION

The contemporary fashion market is characterised by unsustainable overconsumption which negatively impacts social and environmental well-being (Gupta et al., 2019). Due to the linear character of the production process, overconsumption of resources and huge waste generation, the fashion industry today represents one of the most polluting industries. On the other side, fashion consumers' constant seeking for more fashionable products, which shortens products life cycles, further contributes to environmental problems (Castro-López et al., 2021). Unsustainable forms of purchasing behaviour, such as impulse and compulsive buying, are highly represented in the fashion market, and often encouraged by fashion producers and retailers in order to stimulate sales (Nguyen & Ha, 2021).

These types of behaviour are often connected with high consumers' orientation towards new fashion trends (Gupta et al., 2019) and acquisition of material possessions (Pradhan et al., 2018). Young adults are especially prone to these phenomena, taking into account that they are likely to attach great importance to apparel and other fashion-orientated products (Lee, 2009), and express materialistic tendencies due to growing up in a highly commercialised environment, concentrated on materiality (Adib & El-Bassiouny, 2012).

Even though impulse buying (IB) and compulsive buying (CB) have been researched in marketing literature, there is a lack of empirical

evidence in European developing countries. Considering that the student population represents a profitable market segment for the fashion industry, the identification of antecedents of their IB and CB tendencies for fashion products is crucial for defining the most effective strategies to encourage more personally, socially and environmentally responsible behaviour. Based on these premises, the objective of this research is to explore how fashion orientation (FO), materialism (MAT) and perceived consumer effectiveness (PCE) influence IB and, finally, CB of fashion products.

THEORETICAL BACKGROUND

Fashion Orientation

FO can be defined as “an individual’s attitudes, interests and opinions regarding fashion products” (Belleau & Nowlin, 2001, p. 135). The manifestation of FO is usually tied to late adolescence or early adulthood, so young people are generally considered to highly value apparel and fashion-related products (Lee, 2009). Research results showed that consumers with a higher interest in fashion are likely to purchase new apparel products and spend more on fashion clothing (Gam, 2011). FO is considered to be an important antecedent to fashion-related purchasing behaviour (Rahman et al., 2016).

Materialism

Richins and Dawson’s (1992) values approach, containing three components of MAT construct (acquisition as the pursuit of happiness, possession-defined success and acquisition centrality), is the most widely used MAT conceptualisation in literature. Materialistic orientation reflects persons striving toward money and material goods (Dittmar & Isham 2022), aimed at maintaining a desired image and status (Dittmar, 2005; Kasser, 2016). It is considered to be significantly represented in the younger population, whose members exhibit high preferences for material possessions as a means of accomplishing success, happiness and self-realisation (Chan et al., 2006). Due to that, the MAT of young consumers is especially emphasised and researched in literature (e.g. Chan et al., 2006; Adib & El-Bassiouny, 2012; Lučić et al., 2021).

Fashion orientation and materialism. Previous research has shown that the acquisition of material goods is expected to be more significant for consumers with high FO, as it can support the desired image in public (Gwozd et al., 2017; Gupta et al., 2019). Talaat (2022) found out that fashion consciousness and MAT both represent main antecedents of consumers’ involvement with fashion clothing. Gautam and Sharma’s (2018) findings indicated that materialistic consumers were also more fashion involved. Goldsmith et al. (2013) found out that consumers who

demonstrated fashion innovativeness were likely to satisfy their materialistic needs by purchasing fashionable goods. Handa and Khare (2011) confirmed the relationship between MAT and fashion clothing involvement. Relying on these previous findings, it is reasonable to assume the following:

Hypothesis 1 (H1) – FO positively influences MAT.

Impulse Buying

IB can be described as a person's impulse to buy, often irrational and emotion-driven, and motivated by gaining an immediate reward, while disregarding the long-term consequences (Lučić et al., 2021). It goes beyond making unplanned purchases, as impulse purchasers experience a sudden and strong motivation to make an immediate purchase, usually without reconsidering the purchase outcomes (Vazifehdoost et al., 2014). Fashion clothing goods are found to be products which highly stimulate impulse purchasing (Nguyen & Ha, 2021). In the fashion context, fashion-oriented IB refers to a consumer's urge to buy an item based on the perception of its modernity and style (Park et al., 2006).

Fashion orientation and impulse buying. In their study, Park et al. (2006) found that there was a positive causal relationship between consumers' fashion involvement and fashion-oriented IB behaviour. Ahmad et al. (2019) indicated that IB tendency and fashion involvement represent factors which significantly affect IB behaviour. In a study of Vazifehdoost et al. (2014), it was discovered that fashion-oriented IB had a strong relation with customers' level of fashion involvement. The study of Nguyen and Ha (2021) found out that fashion involvement was one of the factors which positively influenced the IB of fast-fashion items of Millennials. In accordance with these findings, the following hypothesis was developed:

Hypothesis 2 (H2) – FO positively influences IB.

Materialism and impulse buying. Pradhan et al. (2018) investigated the impact of MAT on credit card use and IB and CB behaviour, and concluded that MAT increased the tendency for IB. In other research, it was found that MAT had strong and positive influences on the impulsiveness of young adults (Lučić et al., 2021). Clow et al. (2015) explored the differences in the shopping behaviour of students and non-student adult consumers, and found out that students scored higher on both MAT and impulsiveness than older consumers. Chung (2015) focused on female college students, reaching a conclusion that there was a significant positive correlation between MAT and the IB of clothing items. Based on previous research findings, the following assumption was made:

Hypothesis 3 (H3) – MAT has a significant positive impact on IB.

Compulsive Buying

CB is a term used in psychiatric and consumer research contexts to refer to the behaviour characterised by the loss of control and experiencing an irresistible desire for excessive buying to gain certain mental relief (Dittmar, 2005; Heffernan et al., 2021). It manifests in the conduction of addictive, chronic purchasing as a primary response to negative mood states, resulting in many unfavourable consequences, such as financial problems, psychological distress, interpersonal conflicts and functioning deterioration (Heffernan et al., 2021; Black, 2022). Schlosser et al. (1994) gave a profile of a typical compulsive buyer, and it was a 31-year-old female who had developed CB at the age of 18 and most often purchased fashion items such as clothing and shoes. Since it usually begins in the age range for enrolling in university, the student population is often used as the subject of research (Yurchisin & Johnson, 2004).

Fashion orientation and compulsive buying. Fashionable apparel often plays an essential role in compulsive consumers' lives, and, thus, they have a tendency of purchasing fashionable items, seen as symbols which help them define themselves (Trautmann-Attmann & Johnson, 2009). Park and Burns (2005) discovered a direct influence between consumer FO and CB. Trautmann-Attmann and Johnson (2009) concluded that fashion interest, as a segment of FO, significantly predicted the CB of clothes. Yurchisin and Johnson (2004) and Lee (2009) found a positive relationship between consumers' fashion involvement and CB behaviour. Additionally, Johnson and Attmann (2009) and Bhatia (2019) confirmed the significant relationship between consumers' fashion interest and compulsive clothing buying. Previous literature findings support the proposal of the following hypothesis:

Hypothesis 4 (H4) – FO positively influences CB.

Materialism and compulsive buying. By observing CB as an identity-seeking behaviour, Dittmar (2005) found out that CB is motivated by high material tendencies of consumers, who purchase material goods as a means to reach desired self-identity and compensate for negative moods. Yurchisin and Johnson (2004) stated that MAT and perceived social status associated with purchasing represented determinants of CB. Dittmar et al. (2007) and Bhatia (2019) also found that materialistic values of consumers influence their online CB behaviour. Selim et al. (2012) discovered a significant direct influence of materialistic and hedonic values on the CB tendencies of college students. The results indicate that MAT directly, and self-esteem inversely affect the rate of CB. On the bases of these findings, the following can be assumed:

Hypothesis 5 (H5) – MAT positively influences CB.

Impulse and compulsive buying. Previous findings suggest that IB can trigger CB behaviour in the fashion industry, particularly in cases where consumers have a tendency towards impulsive behaviour. Pradhan et al. (2018) empirically confirmed that impulse, materialistically oriented buyers, might tend towards CB. The findings of Darrat et al. (2016) showed that IB increases consumers' anxiety which is, in turn, connected to CB. Also, Khorrami et al. (2015) confirmed that IB had a significant impact on the CB of clothing. Based on these, the following is proposed:

Hypothesis 6 (H6) – IB positively influences CB.

Perceived Consumer Effectiveness

PCE represents consumers' perception of the degree to which their consumption choices and behaviour could influence the marketplace and contribute to the solving of environmental problems (Higuera-Castillo et al., 2019). In the context of the fashion industry, PCE was found to be affecting the purchasing of environmentally sustainable clothing (Apaolaza et al., 2022; Riesgo et al., 2023) and adopting sustainable apparel practices (Chi et al., 2023). Riesgo et al. (2023) discovered that fashion consumers who act in a sustainable way demonstrate greater perceived consumer effectiveness and fashion consciousness than average consumers. Even though, to our knowledge, a moderating effect of PCE on the relationship between FO and CB was not investigated previously, it can be presumed that consumers who believe they can make changes in the fashion market are less likely to engage in CB. In accordance with that, the following was suggested:

Hypothesis 7 (H7) – *PCE negatively moderates the relation between FO and CB.*

The hypothesised relationships are displayed in Figure 1.

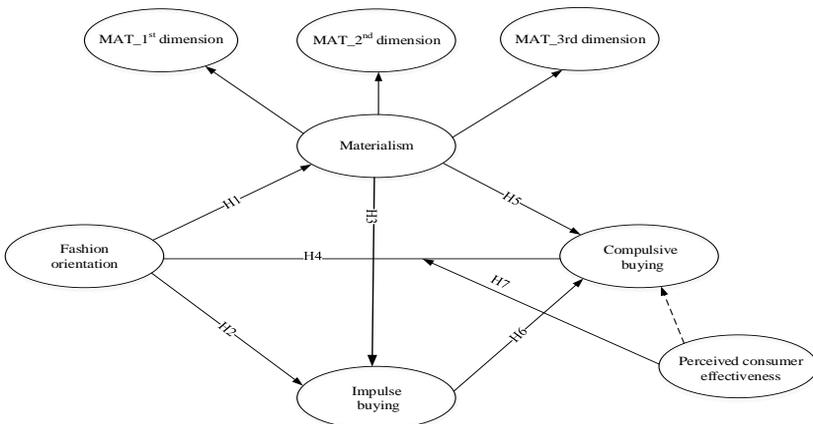


Figure 1. Conceptual model

RESEARCH METHODOLOGY

Participants and Procedure

The study was performed on a convenience sample of students of a large state university in Serbia, by means of a web-based structured questionnaire. A pre-test of the questionnaire preceded the main data collection, to address eventual issues in item wording. Data collection was performed between November of 2021 and June of 2022. After screening out suspicious response patterns (i.e. straight-lining), a total of 386 responses were entered into data processing. Respondents were between 18 and 27 years old, and the majority of them were females (78.8%).

Measurement Items

All of the constructs used in this study were modelled reflectively, using items from previous studies, which were rated on a 7-point Likert-type scale. FO was measured using six items adapted from the study of Gupta et al. (2019). MAT was measured with a set of items borrowed from the work of Talaat (2022). IB was measured using items adapted from the study of Maraz et al. (2015), which were initially proposed by Ridgway et al. (2008). Items from the study of Okazaki et al. (2021) were adapted to measure CB. Four items, adapted from the work of Roberts (1996), were used to measure PCE.

Analyses

Principal component analysis (PCA) was applied to examine the dimensionality of MAT in the context of fashion clothing in Serbia. Measurement model assessment was followed by structural model assessment. Moderation analysis was performed following a two-stage approach (Hair et al., 2017). The proposed relationships were tested by means of PLS-SEM, using SmartPLS v.4 (Ringle et al., 2022).

RESULTS AND DISCUSSION

Results

Principal component analysis. To the best of the authors' knowledge, MAT has not been previously examined in the context of fashion clothing in Serbia. Therefore, we first applied PCA with varimax rotation, to condense a larger number of items into a smaller number of lower-order subdimensions of MAT, in line with previous research including MAT in the context of fashion clothing (O'Cass, 2004; Gwozdz,

2017). The Kaiser-Meyer-Olkin measure of sampling adequacy above 0.70 (KMO=0.770) and the significance of Bartlett's test of sphericity (Approx. $\chi^2=1116.120$, $df=36$, $p<0.001$) indicated the appropriateness of the data for factor analysis. PCA resulted in three factors with eigenvalues above 1, cumulatively explaining 67.266% of the variance in the sample. Three emerging factors were considered as reflections of MAT.

Measurement model assessment. MAT was reflectively specified a higher-order construct, in line with previous research (Pradhan et al., 2018). The disjoint two-stage approach was applied for specifying and estimating the higher-order construct (Sarstedt et al., 2019). In the first stage of measurement model assessment, MAT was represented by its lower-order components, whereas the subdimensions of MAT were directly linked to all latent variables to which the higher-order construct is expected to be related in the model. In the second stage of the analysis, the latent factor scores of the subdimensions of MAT were included in the model as indicators of MAT as a higher-order component. The reliability and validity assessment of lower order constructs was followed by an examination of the reliability and validity of MAT as a higher-order construct.

Significant indicator loadings above the recommended level of 0.708 (Hair et al., 2017) indicated acceptable item reliability. Several outer loadings which were below the recommended threshold, but above the value of 0.40, were retained in the model, as they did not adversely affect construct reliability. The constructs also exhibited an acceptable level of internal consistency reliability, as indicated by Cronbach's alpha values and composite reliability (CR), which were above the lower threshold of 0.70. Average variance extracted (AVE) per construct, above the level of 0.50, indicated acceptable convergent validity of the constructs. Reliability and convergent validity statistics are displayed in Table 1.

Discriminant validity, i.e. the extent to which a construct empirically differs from other constructs in a model, was assessed by Fornell-Larcker criterion and heterotrait-monotrait (HTMT) ratio of correlations. Square roots of AVE, displayed on the diagonal in Table 2 (bolded), exceeding correlations among a construct and every other construct in a model, displayed below the diagonal, provided evidence in support of discriminant validity (Hair et al., 2017).

Table 1. Outer loadings, reliability and convergent validity statistics

	Constructs and items	Outer loadings ^b	t-statistics	Cronbach's alpha	CR	AVE
	Fashion orientation (Gupta et al., 2019)			0.936	0.938	0.758
FO1	Fashionable, attractive clothing is very important to me	0.854	57.515			
FO2	Keeping up with the latest fashion is important to me	0.912	92.813			
FO3	I spend considerable time and effort to learn about the latest fashion	0.858	52.249			
FO4	I keep my wardrobe up-to-date with the changing fashions	0.884	70.068			
FO5	I usually buy one or more outfits of the very new fashion	0.839	44.550			
FO6	I consciously buy something that reflects the current fashion	0.876	62.757			
	Materialism (Talaat, 2022)					
	Materialism – 1 st factor (happiness)			0.826	0.896	0.742
MAT1	My life would be better if I owned things that I don't have	0.826	35.244			
MAT2	I would be happier if I could buy more things	0.895	68.168			
MAT3	I feel very happy when I buy new things	0.861	42.003			
	Materialism – 2 nd factor (success)			0.730	0.827	0.547
MAT4	Sometimes, it bothers me when I can't afford to buy things that I like	0.747	28.619			
MAT5	I would like to lead a luxurious life	0.819	36.625			
MAT6	Some of the most important achievements in life include acquiring material possessions	0.639	11.823			
MAT7	I like to own things that impress people	0.741	24.844			
	Materialism – 3 rd factor (centrality)			0.741	0.870	0.772
MAT8 ^a	I don't place much emphasis on the amount of material objects people own as a sign of success	0.785	4.829			
MAT9 ^a	I don't pay much attention to the material objects other people own	0.963	7.570			
	Impulse buying (Maraz et al., 2015)			0.817	0.891	0.733
IB1	I buy apparel I don't need	0.853	54.024			
IB2	I buy apparel that I did not plan to buy	0.870	56.413			
IB3	I consider myself an impulsive purchaser	0.844	40.302			
	Compulsive buying (Okazaki et al., 2021)			0.760	0.864	0.684
CB1	My wardrobe contains clothing items that I bought, but have never worn	0.659	17.401			
CB2	Others might consider me a 'shopaholic'	0.896	69.414			
CB3	Much of my life centres around buying apparel	0.902	81.273			

	Perceived consumer effectiveness (Roberts, 1996)			0.715	0.821	0.535
PCE1 ^a	Consumer as an individual cannot do anything about pollution	0.798	3.293			
PCE2	When buying products, an individual should consider how his use of them will affect the environment and other consumers	0.674	2.983			
PCE3 ^a	Since one person cannot have any effect upon pollution and natural resource problems, it doesn't make any difference what an individual does.	0.757	3.582			
PCE4	Each consumer's behavior can have a positive effect on society by purchasing products sold by socially responsible companies	0.690	2.863			
	Materialism – higher order construct					
MAT_LVS1 ^d		0.837	33.445	0.704	0.868	0.768
MAT_LVS2		0.914	85.459			
MAT_LVS3		0.287 ^c				

Note: ^aItems were reverse scored; ^bp<0.01; ^cthe indicator was excluded from further analysis due to outer loading below 0.40 (Hair et al., 2017); ^dMAT_LVS1 to MAT_LVS3 represent indicators of materialism as a higher order construct, whereas the indicators correspond to latent variable scores of the dimensions of materialism

Table 2. Discriminant validity assessment using Fornell-Larcker and HTMT criterion

	MAT_2nd	MAT_1st	MAT_3rd	CB	FO	IB	PCE	MAT_higher_order	Fornell- HTMT Larcker
MAT_2nd	0.740	0.703 [0.593; 0.798]	0.219 [0.096; 0.347]	0.597 [0.491; 0.696]	0.624 [0.527; 0.710]	0.419 [0.314; 0.521]	0.153 [0.074; 0.225]	0.876	
MAT_1st	0.543	0.861	0.130 [0.046; 0.241]	0.401 [0.285; 0.515]	0.508 [0.415; 0.596]	0.246 [0.124; 0.369]	0.179 [0.083; 0.300]		
MAT_3rd	0.166	0.121	0.878	0.106 [0.036; 0.187]	0.129 [0.049; 0.240]	0.067 [0.019; 0.106]	0.141 [0.054; 0.261]		
CB	0.478	0.330	0.084	0.827	0.663 [0.573; 0.741]	0.852 [0.777; 0.915]	0.131 [0.058; 0.214]	0.471	0.612 [0.502; 0.715]
FO	0.535	0.449	0.122	0.566	0.871	0.495 [0.392; 0.585]	0.087 [0.047; 0.123]	0.565	0.687 [0.592; 0.772]
IB	0.349	0.203	0.052	0.668	0.433	0.856	0.082 [0.038; 0.093]	0.325	0.415 [0.296; 0.529]
PCE	-0.107	-0.144	-0.090	-0.098	-0.067	0.020	0.731	-0.139	0.191 [0.088; 0.317]

Note: MAT_1st, MAT_2nd, MAT_3rd – subdimensions of materialism, MAT_higher_order – materialism as a higher order construct; numbers in brackets represent lower and upper bounds of the 95% bias-corrected and accelerated confidence intervals derived from bootstrapping with 5000 subsamples

HTMT scores below the conservative threshold of 0.85, or 0.90 for conceptually similar constructs (Hair et al., 2017) provided evidence in support of the discriminant validity of the constructs. Bootstrapping procedure revealed that none of the confidence intervals included the value of 1 and therefore discriminant validity was established (Hair et al., 2017). Table 2 (values above the diagonal, in italic) displays discriminant validity assessment using HTMT ratio. The convergent and discriminant validity of MAT as a higher-order construct was also supported, as displayed in Tables 1 and 2.

Structural model analysis. The presence of multicollinearity between the constructs included in the model was examined first. Variance inflation factor (VIF) values, which were below the value of 5 (Hair et al., 2017), indicated that multicollinearity among the predictors was not an issue of the structural model. The coefficient of determination related to CB of $R^2=56.4\%$, i.e. in-sample predictive power, indicated moderate explanatory power of the model. A bootstrapping procedure, with 5000 subsamples and 95% bias-corrected and accelerated confidence intervals, was applied to analyse structural relationships. The procedure indicated that all structural relationships in the model were significant. FO emerged as a significant direct predictor of MAT ($\beta=0.565$, $t=15.475$) and IB ($\beta=0.366$, $t=6.716$). Hence, H1 and H2 were supported. IB was significantly affected by MAT ($\beta=0.118$, $t=2.209$), which provided support for H3. FO emerged as a significant direct determinant of CB ($\beta=0.255$, $t=5.599$), leading to the acceptance of H4. Both MAT and IB emerged as significant direct determinants of CB, whereas the impact of IB was stronger ($\beta=0.151$, $t=3.643$; $\beta=0.511$, $t=12.767$). Therefore, H5 and H6 were supported.

Effect size f^2 values were inspected next, to examine how the removal of a certain predictor would affect the explained variance in CB. According to Hair et al. (2017), values higher than 0.02, 0.15 and 0.35 indicate small, medium and large effect sizes f^2 . Taking into account effect size, IB exerted the largest effect on CB (0.478). In the following step, a blindfolding procedure was applied to assess the model's predictive relevance for CB. Q^2 values above 0, 0.25 and 0.50 are indicative of small, medium and large predictive accuracy of a structural model (Hair et al., 2017). The present study resulted in the predictive relevance Q^2 of 0.381, revealing medium to large predictive relevance of the model for CB.

The results of structural analysis are displayed in Table 3.

The moderating effect of PCE. The explained variance in CB rose from 0.564 to 0.573 with the inclusion of the moderator. PCE emerged as a significant negative moderator of the relationship between FO and CB (interaction effect=-0.09, $t=2.246$, $p<0.05$), i.e. one standard deviation increase in PCE above the mean would decrease the simple effect of FO on CB by 0.09, whereas a decrease of PCE by one standard deviation below the mean would

strengthen the effect of FO on CB by 0.09, as displayed in Table 3 and Figure 2. In other words, at a higher level of PCE, there is a weaker relationship between FO and CB (the slope is flatter) than at a lower level of PCE (the slope is steeper). Therefore, H7 was supported. This finding suggest that the increase of PCE among young consumers would weaken the impact of FO on CB. The effect size (f^2) of moderation in the present study of 0.021 is rather small; however, according to Becker et al. (2018), moderating effects are predominantly small.

Table 3. Structural model estimates

Relationships	VIF	f^2	Path coeff.	t-value	95% CI ^a
H1: FO → MAT	1.000	0.468	0.565**	15.474	0.488; 0.630
H2: FO → IB	1.468	0.114	0.366**	6.716	0.253; 0.467
H3: MAT → IB	1.468	0.012	0.118*	2.209	0.017; 0.226
H4: FO → CB	1.635	0.091	0.255**	5.599	0.168; 0.347
H5: MAT → CB	1.511	0.035	0.151**	3.643	0.072; 0.235
H6: IB → CB	1.025	0.478	0.511**	12.767	0.430; 0.586
H7: PCE x FO → CB		0.021	-0.09*	2.246	-0.159; -0.01

$R^2_{MAT}=0.319$; $R^2_{IB}=0.197$; $R^2_{CB}=0.564$; $Q^2_{MAT}=0.240$; $Q^2_{IB}=0.141$; $Q^2_{CB}=0.381$

Note: * $p < 0.05$; ** $p < 0.01$; ^a95% bias-corrected and accelerated confidence intervals derived from bootstrapping with 5000 subsamples

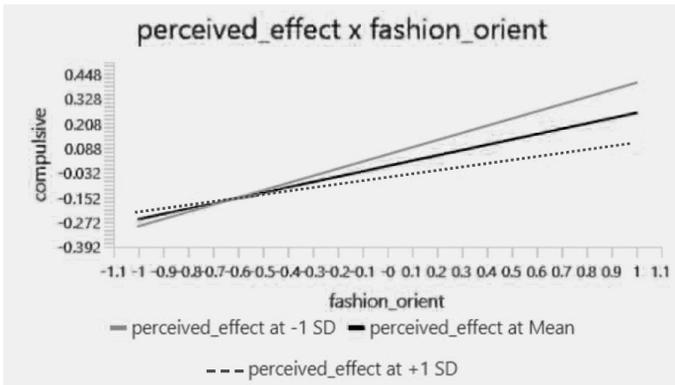


Figure 2. Simple slope plot

DISCUSSION

The findings of the study indicate FO as a significant driver of MAT. A recent study has also supported the notion that one’s interest in fashion styles and their appearance contributes to the acceptance of materialistic values among young fashion consumers (Talaat, 2022). This finding implies that the FO of young consumers, which implies the purchases of new fashion items, may contribute to their higher materialistic tendency.

The study revealed the significant impact of FO on the IB of fashion products. This finding is in line with previous studies which indicated the significant contribution of consumers' interest into the latest fashion trends on fashion-oriented IB behaviour (Park et al., 2006; Ahmad et al., 2019; Nguyen & Ha 2021). The finding suggests that consumers who are more interested in ever-changing fashion trends are more likely to make spur-of-the-moment purchases of fashion products.

Consistent with recent research (Pradhan et al., 2018; Lučić et al., 2021), MAT emerged as a significant predictor of the IB of fashion products. This finding suggests that consumers who place a high value on the acquisition of material possessions will be more likely to make impulse purchases of fashion items.

The results of the study indicate a significant impact of FO on CB of fashion products, which implies that an increase in young consumers' FO may induce the excessive and uncontrollable purchases of fashion products. This finding is in compliance with Moon et al.'s (2022) study indicating the significant influence of apparel brand consciousness on CB among young Pakistani clothing customers. Fashion interest also emerged as a significant driver of CB of clothing among young consumers in the US (Johnson & Attmann, 2009), and online compulsive apparel buying among young Indian consumers (Bhatia, 2019).

The present study revealed the significant impact of MAT on CB. Several recent studies involving young adult consumers have also pointed to the role of materialistic values as the trigger of CB (Bhatia, 2019; Tarka, 2020; Pahlevan Sharif et al., 2022). The relationship between MAT and CB revealed in the present study implies that an increase in the importance of worldly possessions as a source of happiness and a symbol of success from the perspective of young consumers will make them more prone to the CB of fashion items.

IB emerged as the most influential direct determinant of CB. Another recent study also supported this relationship (Pradhan et al., 2018). This finding implies that an increase in IB will make young fashion consumers more vulnerable to CB.

Moderation analysis was performed to examine whether the effect of FO on CB varies across the levels of PCE. The findings of the study indicate that, at higher levels of awareness of young consumers that an individual can make a difference when it comes to environmental protection, there is a weaker influence of FO on CB of fashion products. Accordingly, by raising awareness among young consumers about an individual's responsibility for environmental degradation and its relatedness to fashion consumption, young consumers can still be fashionable, but without detrimental behaviour, i.e. compulsive purchases of unnecessary clothing items. This finding implies a possibility for various modes of collaborative apparel consumption to be promoted among young consum-

ers, such as fashion libraries (Gwozdz et al., 2017; Lang & Armstrong, 2018). This alternative could diminish the negative consequences of excessive purchases for consumers as individuals, such as indebtedness, and a society as a whole, such as environmental degradation stemming from land filling or incineration of discarded apparel.

CONCLUSIONS

This study aimed to examine the determinants of fashion-oriented CB among young consumers in an under-researched context of an emerging European economy. Whereas previous studies have revealed the significant contribution of PCE to pro-environmental consumer behaviour, to the best of our knowledge, no prior study has examined the potential of PCE to mitigate an unsustainable practice, such as the CB of fashion products. The findings of this study, which indicate IB as the most influential direct determinant of CB, followed by FO and MAT, and the moderating role of PCE on the relationship between FO and CB, contribute to the body of knowledge on consumer behaviour in an emerging economy setting.

In addition, this study's findings provide implications for policymakers, the socialisation agents of young consumers (e.g. families, educational institutions, media) and marketers of fashion brands. As young consumers are especially receptive to marketing communications, policymakers should create regulations to protect young consumers from promotional activities directed towards excessive purchases as a means of achieving the desired social status and self-identity. According to Kasser (2016), to reduce the materialistic tendencies of people, values such as care for others, focus on personal growth and self-acceptance should be prioritised. Socialisation agents should raise young people's awareness of the environmental impact of clothing consumption and the detrimental effects of CB in the long run, taking into account that the alleviation of negative feelings which precede CB is only temporary and followed by negative financial, social and personal consequences (Tarka, 2020; Moon et al., 2022). By raising awareness among young consumers that individuals can make a difference when it comes to environmental preservation, the contribution of FO to compulsive purchases of fashion products can be diminished. Style orientation has been shown to lead to reduced shopping frequency and more sustainable apparel consumption and disposal than FO (Gupta et al., 2019). Accordingly, a shift in consumers' focus from the newest fashion trends to stylish apparel, i.e. an emphasis on distinctive, higher quality and durable apparel, could be a possible option to induce more sustainable apparel consumption. In support of this perspective, higher subjective well-being has been shown to be associated with higher style than FO (Gwozdz et al., 2017). On the other side, young consumers can still be fashionable without the purchases of new clothing

items, relying upon alternative modes of clothing consumption, such as clothing rentals or swapping. An ethical approach in corporate communications and product promotions is advised for fashion companies, as compulsive buyers have a tendency to return purchased goods frequently, are less satisfied and prone to anti-brand actions (Moon et al., 2022).

Several limitations of the study should be noted. The convenience sample of young consumers in Serbia limits the generalisation of findings to the population of young consumers. The cross-sectional design of the study indicates that support for the causal relationships of this study should be taken with caution. Therefore, future studies should employ a longitudinal research design and involve more representative samples of young consumers. The medium predictive relevance of the model for MAT ($Q^2_{MAT}=0.240$) and small to medium predictive relevance for IB ($Q^2_{IB}=0.141$) indicate that there are other relevant determinants of the aforementioned constructs which have not been involved in the present study, and which should be addressed in future research.

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ФАКТОРИ КОЈИ ПРЕТХОДЕ МОДНО ОРИЈЕНТИСАНОЈ КОМПУЛЗИВНОЈ КУПОВИНИ МЛАДИХ ПОТРОШАЧА: ДОКАЗИ ИЗ ЕКОНОМИЈЕ У РАЗВОЈУ

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Резиме

Савремено модно тржиште карактерише неодржива прекомерна потрошња која негативно утиче на друштвено и еколошко благостање. Услед линеарног карактера производног процеса, прекомерне потрошње ресурса и генерисања велике количине отпада, модна индустрија данас представља једну од најзагађујућих индустрија. Специфични облици куповног понашања, као што су импулсивна и компулзивна куповина, веома су заступљени на модном тржишту, а често их подстичу модни произвођачи и малопродаја како би стимулисали продају. Овакви типови понашања често су повезани са високом оријентацијом потрошача ка новим модним трендовима и стицањем материјалних добара. Млади потрошачи су посебно склони овим појавама, узимајући у обзир да често придају велики значај одећи и другим модно оријентисаним производима и изражавају материјалистичке тенденције због одрастања у високо комерцијализованом окружењу. Циљ ове студије јесте да се испита утицај фактора (модна оријентација, материјализам, импулсивна куповина) који претходе модно оријентисаној компулзивној куповини младих потрошача у до сада углавном недовољно проучаваном контексту европске економије у развоју. Под модном оријентацијом се подразумева поседовање ставова и интересовања појединца у вези са модним трендовима и модним производима и она се обично манифестује у касној адолесценцији или раном одраслом добу. Материјалистичка оријентација одражава тежњу појединаца ка новцу и материјалним добрима, у циљу одржавања жељеног имиџа и статуса. Импулсивна куповина подразумева куповину која је често ирационална, вођена емоцијама, и мотивисана добијањем тренутне сатисфакције у виду купљеног производа, занемарујући дугорочне последице. Компулзивна куповина се манифестује као спровођење хроничне, зависничке куповине као примарног одговора на негативна психичка стања и негативно расположење особе, што резултира многим неповољним последицама (нпр. финансијски проблеми, психолошки проблеми, међуљудски конфликти и погоршање квалитета живота). Прикупљање података за истраживање обављено је на пригодном узорку од 386 испитаника из Србије, помоћу структурираног онлајн упитника. Претпостављене везе су испитане моделовањем помоћу структурних једначина применом метода најмањих квадрата (ПЈС-СЕМ). Резултати студије су указали да је импулсивна куповина најутицајнија директна одредница компулзивне куповине, а затим следе модна оријентација и материјализам. Однос између модне оријентације и компулзивне куповине је негативно модериран перципираном потрошачком ефикасношћу, која представља перцепцију потрошача о степену до којег би њихови избори при куповини и потрошачко понашање могли да утичу на тржиште и допринесу решавању еколошких проблема. На основу резултата, дате су препоруке за креаторе политика, агенте социјализације младих потрошача (нпр. породице, образовне институције, медије) и продавце модних брендова.

THE RELIABILITY OF THE MONETARY TRILEMMA THEORY ON THE EXAMPLE OF TRANSITION COUNTRIES

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Abstract

The purpose of this paper is to evaluate the reliability of the monetary trilemma theory in selected transition countries (Albania, Armenia, Russia, Serbia and Ukraine) in the period between 2007 and 2021. The paper tests the validity of the monetary trilemma theory, which implies that it is impossible to concurrently achieve exchange rate stability, independent monetary policy and financial integration, i.e. free capital flows. Bearing in mind that financial integrations represent a cornerstone of contemporary world functioning, the initial hypothesis is defined in such a way that the choice of a nation's exchange rate arrangement affects the degree of its monetary policy autonomy. The validity of the monetary trilemma hypothesis was assessed by an intuitive linear regression model proposed by the authors Aizenman et al. (2013). However, the obtained results did not support the validity of the monetary trilemma theory on the example of the five analysed transition countries in the given period. This fact points to the conclusion that the choice of foreign exchange arrangement does not affect the level of the observed countries' monetary policy independence.

Key words: monetary trilemma, monetary autonomy, exchange rate, free capital mobility, transition countries.

ВЕРОДОСТОЈНОСТ ТЕОРИЈЕ МОНЕТАРНЕ ТРИЛЕМЕ НА ПРИМЕРУ ЗЕМАЉА У ТРАНЗИЦИЈИ

Апстракт

Сврха овог рада јесте да оцени поузданост, односно валидност теорије монетарне трилеме у одабраним земаљама у транзицији (Албанији, Јерменији, Русији, Србији и Украјини) у периоду од 2007. до 2021. године. У раду се тестира веродостој-

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ност теорије монетарне трилеме која подразумева да није могуће истовремено водити политику стабилног девизног курса, аутономне монетарне политике и финансијске интеграције, односно слободног кретања капитала. Имајући у виду да финансијске интеграције свакако представљају камен темељац функционисања савременог света, у чланку се полази од претпоставке да избор режима девизног курса од стране дате земље утиче на степен њене монетарне аутономије. Валидност хипотезе о монетарној трилеми је процењена интуитивним моделом линеарне регресије који су предложили аутори Aizenman и др. (2013). Међутим, добијени резултати нису поткрепили валидност теорије монетарне трилеме на примеру пет анализираних земаља у транзицији у датом периоду, указујући и на закључак да избор девизног режима не утиче на ниво независности монетарне политике посматраних земаља.

Кључне речи: монетарна трилема, монетарна независност, девизни курс, слободан проток капитала, земље у транзицији.

INTRODUCTION

Trilemma explains the way in which free capital flows and a fixed exchange rate regime limit the autonomy of monetary policy, emphasizing that, at a given point in time, only two of these three options are possible (see Figure 1). In accordance with monetary trilemma hypothesis in the recent conditions of growing financial integration, it can be concluded that in the absence of capital flow restrictions, monetary policy can be independent only in a flexible exchange rate arrangement. Following the traditional approach to the interpretation of the monetary trilemma theory in the regime of a fixed exchange rate and in the conditions of free capital flows, domestic interest rates cannot be formed independently; in other words, it can be said that in these circumstances the domestic country's monetary authorities are not independent. Monetary independence can be interpreted as the ability of a country's monetary authorities to set interest rates independently (Goczek, & Mycielska, 2019). In the case in which

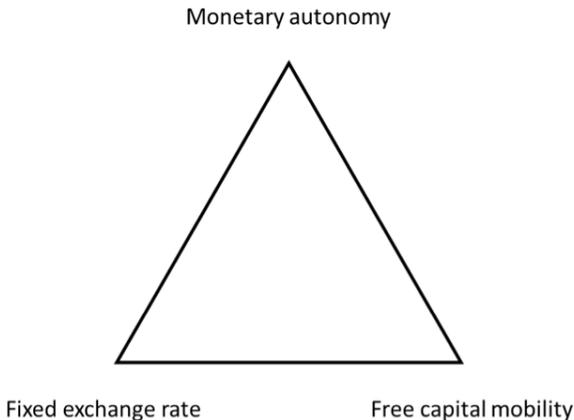


Figure 1. The policy trilemma

the movements of the domestic interest rate are influenced to a greater or lesser extent by the interest rate of the base country, it is said that the monetary policy of the domestic country is not independent.

Hausmann, Panizza and Stein (2001), and Calvo and Reinhart (2002) suggested that the fear of floating prevents certain countries with *de jure* flexible exchange rate regimes from allowing the exchange rates of their national currencies to move freely. Frankel, Schmukler and Servén (2004), and Shambaugh (2004) state that in more flexible exchange rate regimes, domestic interest rates follow the interest rates of the base countries to a lesser extent. More recently, Aizenman, Chinn and Ito (2010) concluded that the validity of the trilemma theory in developing countries depends on the nature of external financing and the level of financial development. Based on the example of 126 countries, Bleaney, Lee and Lloyd (2013) conclude that countries with a credible exchange rate arrangement that do not apply any capital restrictions are not monetarily independent since their interest rates follow foreign ones, regardless of the exchange rate arrangement. Analysing the case of three small Latin American countries with flexible exchange rates, Edwards (2015) notes that if there is a fear of fluctuations, local monetary authorities will raise base interest rates to avoid the devaluation of their national currency regardless of the exchange rate arrangement. Ray (2014) considers that external shocks can be imported even in developed economies with freely flexible exchange rate regimes and developed domestic financial markets, such as Sweden, Canada, New Zealand and Great Britain. According to Rey (2015), monetary autonomy does not ensure a country's isolation from global economic shocks. Instead, monetary policy in countries with a floating exchange rate or strong control of international capital flows is more resistant to external shocks. Finally, Obstfeld and Taylor (2017) synthesised the previous explanations into one theory called the Monetary Policy Trilemma, which states that a country can simultaneously achieve only two of the following three goals: exchange rate stability, free capital mobility, and the implementation of monetary policy based on domestic goals. These authors also emphasise that during the last decades, many countries have switched their exchange rate arrangement to floating ones in order to achieve free capital mobility and an independent monetary policy.

By conducting research on the sample of over 110 developing and industrial countries for the period between 1973 and 2000, Shambaugh (2004) did not confirm the validity of the monetary trilemma theory, while Aizenman, Chinn and Ito (2013) confirmed the validity of the monetary trilemma theory on the example of 184 countries for the period between 1970 and 2010. Popper, Mandilaras and Bird (2013), and Herwartz and Roestel (2017) found that trilemma policy stability is highly connected with the level of FE reserves. Ihnatov and Căpraru (2014) concluded that free capital mobility has led to monetary autonomy in the CEE coun-

tries in the period between 1999 and 2010. On the other hand, Han and Wei (2018) argued that, without capital restrictions, a floating exchange rate arrangement may provide monetary autonomy. The mentioned authors observed the U.S. and 28 other countries in the period between 1990 and 2014. On the example of 161 countries during the period between 1970 and 2013, Ligonniere (2018) drew a conclusion that the validity of the monetary trilemma depends on global financial cycles. Rohit, Kumar and Dash (2019) also confirmed this conclusion, but only for a short time horizon. Milošević, Bjelica and Balaban (2020) showed that the monetary trilemma theory was valid only for 9 new members of the European Union, and for the period between 2000 and 2018. Finally, on the example of 180 analysed countries during the period between 1970 and 2020, Aizenman, Chinn and Ito (2023) drew a conclusion that the validity of the monetary trilemma depends on economic conditions, bearing in mind the fact that countries have applied policy mixes that varied over time.

MATERIALS AND METHODS

The analysed data panel consists of the following five transition countries for which it was possible to collect data on the money market rate: Albania, Armenia, Russia, Serbia and Ukraine, and covers the period between 2007 and 2021. For the purpose of this analysis, the data was obtained from the regular International Monetary Fund's (IMF) Annual Reports on Exchange Arrangements and Exchange Restrictions (AREAER), IMF's International Financial Statistics database, as well as the websites of relevant national central banks. The authors estimate the reliability of the monetary trilemma theory by applying the intuitive, i.e. simple linear functional equation proposed by Aizenman et al. (2013):

$$\alpha MI_{i,t} + \beta ERS_{i,t} + \delta KAOPEN_{i,t} = 1,$$

where $MI_{i,t}$ – is the Index of monetary independence, $ERS_{i,t}$ – is the Index of exchange rate stability, while $KAOPEN_{i,t}$ – is the Capital controls index.

The simple linear form of the monetary trilemma theory indicate that the weighted sum of three observed variables is constant and amounts to one, which further means that a growth in one variable should be followed by a decreasing sum of the other two. Bearing in mind the fact that financial integrations have grown into a certainty of the contemporary world, the papers' initial assumption is defined in such a way that the choice of exchange rate regime by a certain country has implications on the degree of its monetary policy independence.

According to the methodology used by Aizenman et al. (2013), the Index of monetary independence (MI) is measured by the following formula:

$$MI = 1 - \frac{\text{corr}(i_i, i_j) + 1}{2},$$

Where i_i represents the interest rate of the home country's money market rate, while i_j represents the interest rate of the base country's money market rate. The authors defined the base country in accordance with the approach of Shambaug (2004), and Cevik and Zhu (2019). The values of the MI index range from 0 to 1, where its lower values imply a lower monetary independence, while its higher values imply greater monetary autonomy. It is worth mentioning that all observed countries have applied the inflation-targeting monetary policy frameworks (see Table 1). At the same time, monetary independence implies that the observed country can implement a monetary policy in accordance with its domestic economic goals (Obstfeld, Shambough, & Taylor, 2004). On the other hand, Montes, Silva, Bastos and Batista (2022) consider that, in recent times, when there are stable exchange rate and free capital mobility, the level of independence of monetary policy has been reduced.

Table 1. Monetary policy framework and EXR arrangement of observed transition countries

Country	Monetary policy framework	EXR arrangement
Albania	Inflation-targeting framework	Floating
Armenia	Inflation-targeting framework	Floating
Russia	Inflation-targeting framework	Free floating
Serbia	Inflation-targeting framework	Stabilised arrangement
Ukraine	Inflation-targeting framework	Floating

Source: Annual Report on Exchange Arrangement and Exchange Restrictions (2022)

The exchange rate stability in the observed countries is measured by the Index of the exchange rate stability (*ERS*), which is based on the deviations of the monthly exchange rate of the domestic currency in relation to the currency of the base country, and it is calculated by the following formula (Aizenman et al., 2013):

$$ERS = \frac{0.01}{0.01 + SD(\Delta(\log(exr_rate)))}$$

The *ERS* index ranges from 0 to 1, where its higher values indicate a greater stability of the exchange rate, and vice versa. Ilzetzki, Reinhart and Rogoff (2019) argued that most countries try to stabilise their exchange rates in the conditions of declining capital controls.

It is worth to mention that from the analysed sample countries, Albania, Armenia, Russia and Ukraine have applied the floating exchange rate arrangements, while Serbia used the stabilized exchange rate arrangement (see Table 1).

The Capital control index, $KAOPEN_{i,t}$, is calculated according to the methodology proposed by Chin and Ito (2008), on the basis of data taken from the IMF's Annual Reports on Exchange Arrangements and Exchange Restrictions (2006-2022). $KAOPEN_{i,t}$ includes the following measures:

- k_{1t} – existence of dual or multiple exchange rate structures;
- k_{2t} – restrictions on the current account transactions of the balance of payments;
- k_{3t} – restrictions on capital account transactions; and
- k_{4t} – repatriation requirements and surrender requirements.

To emphasise financial liberalisation, the authors introduced a dummy variable that takes a value of 1 for the absence of restrictions, and 0 everywhere else. Finally, for calculating $KAOPEN_{i,t}$, Principal component analysis (PCA) was applied to all of the mentioned variables. For calculating this indicator, data was also derived from the IMF's Annual Reports on Exchange Arrangement and Exchange Restrictions (2006-2022). Stevanović, Marković and Lepojević (2022) consider that FDI inflows are the key component of country openness, while Balaban, Živkov and Milenković (2019), and Veselinović, Despotović and Stevanović (2022) showed that it contributes to economic development in small transition economies. Aizenman and Ito (2010) showed that emerging economies applied managed exchange rate arrangements, followed by middle monetary autonomy and controlled capital mobility. Finally, Madžar (2018) suggests that small countries are, among other things, characterised by the openness of the economy, a relatively narrow and shallow financial sector, difficult access to capital sources, and the flexibility of their exchange rate.

RESULTS AND DISCUSSION

Of all the observed countries, Russia had the highest level of monetary autonomy during the period between 2007 and 2021 (the average level of the MI index was 0.538998), followed by Armenia, whose average level of the MI index was 0.527115. The average level of the MI index in Serbia was 0.446797, while its value in Ukraine amounted to 0.439436 in the observed period. The least level of monetary autonomy was recorded in Albania (the average level of the MI index was 0.336598) during the observed period.

Albania and Serbia had the most stable exchange rate in the observed period. Namely, average value of the ERS index in Albania was 0.75, while its value was 0.70 in Serbia. Contrary to that, Russia and Ukraine had the least stable exchange rate during the period between 2007 and 2021. The average value of the ERS index in Russia was 0.41, while its value was 0.40 in Ukraine. The only currency that strengthened its value (3.11%) in the observed period was The Albanian lek (ALL).

The Ukrainian hryvnia (UAH) recorded an almost fivefold (4.72) decrease in its value, while the Russian rubble (RUB) fell by 180%, the Serbian dinar (RSD) by 48.84% and the Armenian dram (AMD), to a lesser extent, by 33.61%.

According to the calculated $KAOPEN_{i,t}$ indices, Ukraine was the country with the most capital restrictions during the period between 2007 and 2021. Albania, Russia and Serbia did not apply the dual or multiple exchange rate arrangement (k_{1t}), while Armenia and Ukraine did. In terms of restrictions on current capital account transactions (k_{2t}), the most liberal countries were Armenia and Russia (no capital restrictions introduced), while Serbia and Ukraine had permanent restrictions on current capital account transactions in the observed period. The most intense and extensive restrictions on capital account transactions (k_{3t}) were introduced in Ukraine (0.02) and Serbia (0.11), while the most liberal countries in this regard were Armenia (0.66) and Russia (0.47). Finally, Armenia was the only country that did not introduce repatriation and surrender requirements (k_{4t}). Table 2 provides data on the descriptive statistics of the monetary trilemma variables used in this research.

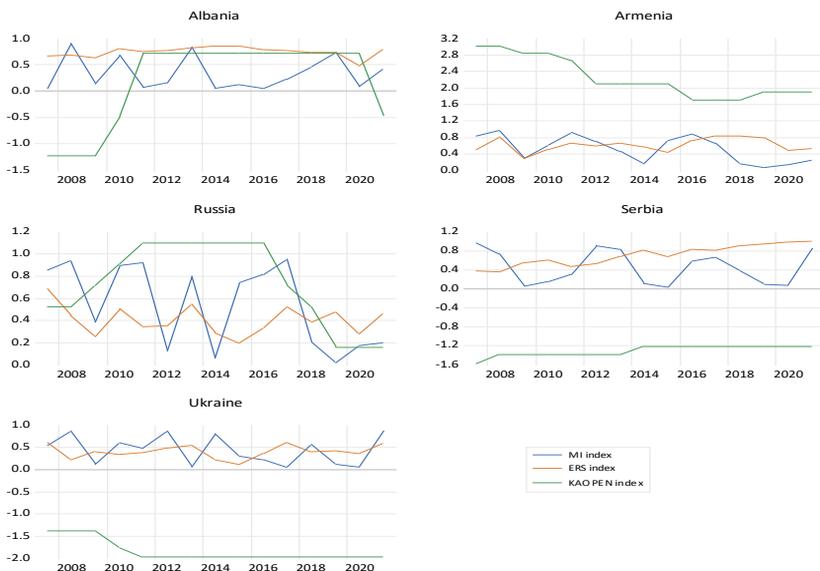
Table 2. Descriptive statistics of the used variables

	MI index	ERS index	KAOPEN _i index
Mean	0.457788	0.575761	1.80E-15
Median	0.424017	0.552382	0.159090
Maximum	0.964709	0.996150	3.019498
Minimum	0.016268	0.115070	-1.969702
Standard deviation	0.337067	0.210858	1.542989
Jarque-Bera	8.440527	2.483208	5.359975
Probability	0.014695	0.288920	0.068564

Source: Authors' calculations

The monetary trilemma indices for all observed transition countries during the period between 2007 and 2021 are presented in Graph 1, simultaneously pointing to the colourful landscape of the monetary policy trilemma triangle apexes.

After conducting a correlation analysis that indicated that there was no multicollinearity among the observed predictors (see next Table 3 for details), as well as that none of the correlations were statistically significant, the authors approached the estimation of the validity of the monetary trilemma theory by using the simple linear functional equation form proposed by Aizenman et al. (2013).



Graph 1. Monetary trilemma indices for observed transition countries from 2007 to 2021

Source: Authors' calculation based on Annual Report on Exchange Arrangement and Exchange Restrictions (2022)

Table 3. The results of the conducted correlation analysis

Pearson correlation coefficient	MI index	ERS index	KAOPEN _t index
MI index	1.000000		
ERS index	-0.085544	1.000000	
KAOPEN _t index	0.119245	0.094424	1.000000

Source: Authors' calculations

Namely, according to Aizenman et al. (2013) the greater the R squared is, the greater the support for the reliability of the monetary trilemma theory. However, the obtained results suggest that the linear functional form is not an appropriate one for testing the reliability of the monetary trilemma theory in the observed transition countries during the period between 2007 and 2021, bearing in mind the fact that the coefficient of determination, R squared, is not valid for nonlinear regression. As robustness checks, Aizenman (2013) proposed a regression of $MI_{i,t}$ on $ERS_{i,t}$ and $KAOPEN_{i,t}$. However, the obtained results (a negative value of R squared) also suggest that the monetary trilemma theory in the observed transition countries was not valid during the period between 2007 and 2021 (see Table 4).

Table 4. The results of the intuitive linear regression analysis

Variables	Coefficient	Standard error	t-Statistic	Prob.
C	0.547686	0.114500	4.783301	0.0000
ERS index	-0.156137	0.186982	-0.835038	0.4065
KAOPEN _t index	0.028064	0.025552	1.098294	0.2757
R-squared	0.023675			
Adj. R-squared	-0.003445			
S.E. of regression	0.337647			
F-statistic	0.872955			
Prob. (F-statistic)	0.422089			
Durbin-Watson	1.964387			

Source: Authors' calculations

CONCLUSIONS

The article tests the reliability of the monetary trilemma theory, which implies the impossibility of countries simultaneously achieving exchange rate stability, conducting independent monetary policy and obtaining free capital movements in contemporaneity. Considering the comprehensive and pervasive presence of financial integration in the modern world, the paper starts from the assumption that the choice of exchange rate regime by a certain country affects the level of its monetary policy independence. The paper considers a panel of data from five selected transition countries (Albania, Armenia, Russia, Serbia and Ukraine) in the period between 2007 and 2021, for which it was possible to obtain data on money market rates.

In the observed period, Russia was the most monetarily independent country measured by the MI index, followed by Armenia, Serbia, Ukraine and finally Albania, as the country with the most intensive observed binding of its domestic money market rate to the Eurozone money market rate. While Albania and Serbia had the most stable exchange rate in the observed time frame, Russia and Ukraine experienced the least stability of their exchange rate, with pronounced devaluations of their national currency. Unlike the Albanian currency, which remained relatively stable, Ukraine experienced an almost five-fold devaluation of its national currency, followed by its weakening in Russia (by 180%), Serbia (by 48.84%) and Armenia (by 33.61%).

Finally, the analysis showed that Armenia was the most liberal, while Ukraine was the most protected country from the perspective of all four constructors of the $KAOPEN_{i,t}$ indices. While Armenia and Ukraine had dual and multiple exchange rates, Albania, Russia and Serbia were exceptions in this respect. From the perspective of restrictions on capital current account transactions, the most liberal were Armenia and Russia, and to a lesser extent Albania, while Serbia and Ukraine had constant re-

strictions of this type in the observed period. Unlike other countries, Armenia was the only nation that did not introduce requirements for income repatriation and surrender of export proceeds. Finally, Ukraine and Serbia recorded the most intensive and extensive restrictions on their capital account transactions, followed by Albania, while Armenia and Russia had the most liberal regime in this regard.

In this paper, the authors estimate the reliability of the monetary trilemma theory by intuitive, i.e. simple linear functional equation proposed by Aizenman et al. (2013). Namely, according to Aizenman et al. (2013) the greater the coefficient of determination, R squared, the greater the support for the reliability of the monetary trilemma theory. However, the obtained results suggest that the linear functional form is not appropriate for testing the reliability of the monetary trilemma theory in the observed transition countries during the period between 2007 and 2021, bearing in mind the fact that R squared is not valid for nonlinear regression. As robustness checks, Aizenman (2013) proposed conducting a regression of $MI_{i,t}$ on $ERS_{i,t}$ and $KAOPEN_{i,t}$. However, the obtained results (a negative value of R squared) also suggest that the monetary trilemma theory in the observed transition countries was not valid during the period between 2007 and 2021.

The main limitations of this research are related to the lack of data for countries in transition due to the turbulent events from their past, from the disintegration of the former Yugoslavia and the emergence of new states, through their war conflicts and ethnical tensions, all the way to the emergence of hyperinflation and general economic instability. It is recommended that future research test the validity of the monetary trilemma theory through nonlinear functional forms on a larger sample of data, bearing in mind the obtained results and the limitations of this analysis.

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ВЕРОДОСТОЈНОСТ ТЕОРИЈЕ МОНЕТАРНЕ ТРИЛЕМЕ НА ПРИМЕРУ ЗЕМАЉА У ТРАНЗИЦИЈИ

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Резиме

Сврха овог рада јесте оцена поузданости, односно валидности теорије монетарне трилеме у одабраним земљама у транзицији у периоду од 2007. до 2021. године. Теорија монетарне трилеме указује на немогућност истовременог постицања три основна циља монетарне политике: (1) стабилности девизног курса, (2) независне монетарне политике и (3) слободног протока капитала. Трилема заправо објашњава како слободни токови капитала и режим фиксног девизног курса ограничавају аутономију монетарне политике, наглашавајући да су у датом тренутку могуће само две од ове три опције. У складу са хипотезом монетарне трилеме у новијим условима растуће финансијске интеграције, може се закључити да у одсуству ограничења токова капитала, монетарна политика може бити независна само у флексибилном аранжману девизног курса. Будући да су финансијске интеграције нужност савремених глобалних кретања, може се поставити почетна хипотеза у смислу да избор адекватног девизног режима одређене земље у значајној мери утиче на ниво независности њене монетарне политике. Поузданост, односно валидност трилеме оцењена је једноставним лине-

арним функционалним обликом који су предложили Aizenman и др. (2013), а која се међутим у овом случају није показала као адекватна. Наиме, према Aizenman и др. (2013) виши ниво показатеља коефицијента детерминације (R на квадрат) указује на бољу спецификацију модела, што у овом случају није било потврђено. Такође, исти аутори у виду провере робусности добијеног модела сугеришу регресију показатеља Mi,t на $ERSi,t$ и $KAOPENi,t$. У овом би случају висок ниво коефицијента детерминације такође сугерисао да је теорију монетарне трилеме могуће потврдити. Међутим, као и у преходном случају, негативна вредност R на квадрат потврђује претходно добијене закључке. Коначно, може се извући закључак да добијени резултати не иду у прилог применљивости теорије монетарне трилеме на примеру разматраних пет транзиционих земаља у периоду од 2007. до 2021. године, што указује на чињеницу да избор девизног режима не утиче на ниво независности монетарне политике посматраних земаља. Као основно ограничење спроведеног истраживања, аутори наводе недостатак података за земље у транзицији због турбулентних догађаја које су их задесили у прошлости, од распада бивше Југославије, настанка нових држава, ратова и етничких тензија, па све до појаве хиперинфлације и опште привредне нестабилности. За будућа истраживања препоручује се тестирање теорије валидности монетарне трилеме путем нелинераних функционалних форми на већем узорку података.

AMBIENT FACTORS AFFECTING TOURISTS' INTENTION TO REVISIT THE "EXIT" MUSIC FESTIVAL

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Abstract

Research in the field of tourism is constantly conducted to understand the dynamics and factors influencing consumer decisions in choosing tourist destinations. When investigating the role of ambiance in the process of consumers' decisions regarding a return visit to a tourist destination, the methodology of analysis of variance (ANOVA) was applied, using the example of the EXIT festival as the most popular international music festival in Serbia. Main and secondary objectives were set based on the Likert scale. The main objective of the research is to examine the impact of ambiance on the tourists' decision-making process regarding a return visit to a particular destination. The focus is on identifying the specific ambiance elements that most influence tourists' decisions to revisit. The additional objectives of the research were addressed through the analysis of the relationship between ambiance quality and tourist satisfaction. This is significant because tourist satisfaction plays a crucial role in shaping their future travels and decisions to revisit destinations. Sub-objectives were set based on the main objective, relating to the identification of ambiance management strategies that could enhance tourist experiences and encourage return visits to destinations.

Key words: ambient factors, revisiting destination, music festival "EXIT", Petrovaradin fortress, Serbia.

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АМБИЈЕНТАЛНИ ФАКТОРИ КОЈИ УТИЧУ НА НАМЕРУ ТУРИСТА ДА ПОНОВО ПОСЕТЕ МУЗИЧКИ ФЕСТИВАЛ „ЕХИТ”

Апстракт

Истраживања у области туризма се непрестано спроводе да би се разумели динамика и фактори који утичу на одлуке потрошача у избору туристичких дестинација. При истраживању улоге амбијента у процесу доношења одлука потрошача о поновној посети туристичкој дестинацији примењена је методологија анализе варијансе *ANOVA* на примеру фестивала „ЕХИТ” као најпопуларнијег музичког фестивала међународног ранга у Србији. На основу Ликертове скале постављени су главни и споредни циљеви. Главни циљ истраживања је испитивање утицаја амбијента на процес одлучивања туриста о поновном посећивању одређене дестинације. Фокус се ставља на идентификацију специфичних елемената амбијента који највише утичу на одлуку туриста о поновној посети. Додатни циљеви истраживања сагледани су кроз анализу везе између квалитета амбијента и задовољства туриста. То је значајно јер задовољство туриста игра кључну улогу у формирању њихових будућих путовања и одлука о поновној посети дестинацији. На основу главног циља постављени су подциљеви који се односе на идентификацију стратегија управљања амбијентом које би побољшале искуства туриста и подстакле поновну посету дестинацији.

Кључне речи: фактори амбијента, поновно посећивање дестинације, музички фестивал “ЕХИТ”, Петроварадинска тврђава, Србија.

INTRODUCTION

Ambience as a part of a physical area, or as a phenomenon that arises through the influence of external factors has become a very important preoccupation for all who are creating tourist and hospitality products. There are different ways of observing the meaning of the term, whereby it can be said with certainty that it has multiple meanings.

According to Stanković (2008), ambient values, as part of artistic values, refer to the evaluation of aesthetic qualities that are of cultural-historical significance. The ambience contributes to complementing the basic artistic value, assessing the type of geographical space, diversity, and preservation of nature. It is used to evaluate landmarks and attractiveness for tourists, as well as the level of tourist visitation.

In scientific literature, ambience is most frequently mentioned in the context of its influence on consumer behaviour (Bitner, 1992) in general, where it is shown that ambience represents the essential variable for explaining customer satisfaction among hotel guests, regardless of the geographical area, the nationality of guests and the type of hotel (Troye & Heide, 1987).

In that vein, through different aspects of areas, the term ambience is discussed mostly in texts concerning planning and design in hotel management (Lawson, 1976; Lawson 1987; Didi, Nizam & Hamza, 2016; Heide, Laerdan & Gronhaug, 2007). In a similar context, ambience is mentioned when considering the quality of travel agency services, in

which case ambient conditions are considered as part of the physical environment of a travel agency and as a fundamental determinant of consumer behaviour (Caro & Garcia, 2008). The influence of some of the ambient factors on consumer behaviour was also studied. Some of the papers highlight the influence of ambient fragrance as one of the factors of consumption in big shopping malls (Chebat & Michon, 2003) or restaurants (Gueguen & Petr, 2006), the influence of the general atmosphere as one of the marketing tools used (Kotler, 1973), the quality of ambient installations (panels, lightening, space) in museum institutions during cultural heritage exhibitions (Rojas & Camarero, 2008), and even the influence of colours (Babin, Hardestry & Suter, 2003) and music (Yalch & Spangenberg, 2000) on consumer behaviour during purchases. Ambient is also considered through the element of the physical area, which applies to design and décor, identified as key elements of ambient. A limited number of studies explores their significance for general management (Kotler, 1973), and especially for users and workers of hospitality services and companies (Bitner, 1992).

Ambience only counts as a tourism/hospitality variable if it generates a reaction within or among individual visitors/guests, so a guest's choice of hospitality products is based on both rational and emotional considerations (Kwortnik, 2003). It is clear that the perception of ambient can result in certain emotions, beliefs and psychological feelings that retroactively influence behaviour (Darley & Gilbert, 1985; Berry, Seiders & Grewal, 2002; Gueguern & Pert, 2006; Caro & Garcia, 2008; Heide, Laerdal & Gronhaug, 2007; Didi, Nizam & Hamza, 2016).

In his paper, Newton points to the well-known fact of the existence of factors that attract tourists other than ambient, but Petrick (2004) gives a review of the so called loyal visitors and cites the reasons of their return. The point, according to Petrick, is not merely a good offer, but also the atmosphere in the city and the feeling of familiarity. Loyal visitors are, according to him, great for spreading 'word of mouth' marketing and for recruiting new visitors (Petrick, 2004).

As many festivals are held regularly, organisers strive to create a satisfying experience for visitors, so that they will want to return in the future (Tanford, Montgomery, & Hertzman, 2012). Repeat visitation has broader implications for destination marketing and tourism, as visitors may choose to return to a previously visited destination for a festival (Getz, 2008). Some studies typically measure specific antecedents and outcomes to achieve specific research purposes. On the other hand, some other studies measure only motivation, while others measure factors that influence satisfaction or loyalty, and some may include both. Festival loyalty models explore the process by which festival attributes influence loyalty intentions through the festival experience (Tanford, Jung, 2017; Grappi & Montanari, 2011; Mason & Paggiaro, 2012).

This research was conceived on the basis of the research of the authors Tanford S. and Jung S. (2017), and it deals with the following problems:

1. Visitors' quality perception of festival attributes;
2. Determining the importance visitors assign to festival attributes; and
3. The influence of the quality of festival attributes on the return of visitors.

Key Attributes of Ambience and Theoretical Assumptions

Ambience is a term which is used often in everyday life and in the business context. However, the concept is double barrelled. It is frequently used mechanically and has multiple meanings. With regards to ambient importance and its connection with tourism and hospitality, we searched for the adequate definition of this term (Heide, Laerdal & Gronhaug, 2007).

Before we begin to clarify the term, it should be said that even if we talk about the physical or psychological part of the environment, it implies various input factors. Dissidence among scientists exists here, because it is hard to determine the ambient solo as a physical part of the environment that people create, or just as a spiritual/psychological creation that arises in the interaction among the people within a physical environment.

Kotler uses the term 'atmosphere' to describe the quality of the surrounding environment (Kotler, 1973). This means that this term considers atmosphere, or better yet – ambient, to include elements of cultural heritage. Ambient is seen as a creation that arises in the interaction between individuals and their surroundings. On the other hand, Britner believes that is it important to distinguish atmosphere/ambient from the surroundings wherein service begins (servicescape) (Bitner, 1992; Rosenbaum, 2005; Rosenbaum & Ippin, 2007). In that sense, servicescape denotes the physical surroundings in which a service is transferred, and ambience is a result of the interaction between people (those that offer and those that receive the service) and their physical surroundings (servicescape). On the other hand, Heide and others (Heide et al, 2007) try to conciliate the two viewpoints of the term ambient. In their work, titled "The design and management of ambience-Implication for hotel architecture and service" (2007), they distinguish three groups of the external ambient factors that are important for the creation of the desired ambient. Those are: (1) atmospheric factors; (2) social factors; and (3) design factors (Heide, Laerdal & Gronhaug, 2007).

(1) Atmospheric factors represent the base in one area. They could be the light, colours, sound, fragrance or temperature of some location (Arcana, Wiratnaya & Budiani, 2018; Lee, 2014; Lee, Lee, and Choi,

2011; Ha & Jang, 2010; Wilson, 2003; Babin, Hardesty & Suter, 2003; Brengman & Geuens, 2003; Chebat, Chebat & Vaillant, 2001; Chebat & Michon, 2003; Mattila & Wirtz, 2001; Yalch & Spangenberg, 2000; Spangenberg, Crowley & Henderson, 1996; Baker, Levy & Grewal, 1992).

(2) Social factors represent the human component of surroundings. This group of factors has a big influence on ambient experience and includes: socialising, local community attitude, and security (Inoue, 2016; Kim, 2015; Jafari & Alinaghi Pour, 2014; Bopp, Behrens, Velecina, 2014; Hyun, 2010; Norzalita, Ghazali & Ainin, 2010; Marks, 1988; Martin, 1986; Fisher & Byrne, 1975).

(3) Design factors form the third category, which includes functional and aesthetic elements such as architecture, style and location. The significance of these factors is in the fact that they can be managed. They have a big influence in ambient forming (Yia, Zhaob & Joungc, 2018; Ryu & Han, 2010; Jafari & Alinaghi Pour, 2014; Besermenji, Pivac & Wallrabenstein, 2009; Mamalis, Ness & Bourlakis, 2005; Baker et al., 1992; Baraban & Durocher, 2001; Ward, Bitner & Banes, 1992).

It still seems that something is missing here. As stated above, Kotler defines the term 'atmosphere' as a quality of the surroundings that understands the elements of the environment. Even Britner agrees, speaking about ambient as a result of the interaction among people and their physical surrounding, that (servicescape) is the physical surroundings of the ambient. Elements of the surroundings are surely part of the servicescape, or everything that enables the making and the delivery/consumption of the service. It can be said that the basic part of the ambient at the tourist level are the infrastructure and suprastructure that enable the visit, acceptance and stay of tourists at the location. That means that ambient gets a new dimension and factor that concerns the tourist regulation of space, and it can be identified as a tourism factor that is added to the paper as a new, fourth factor.

(4) Tourism factors are seen as a tourist regulation of space for the purposes of tourism and tourists, and represent planned activities that have the goal of choosing the optimal objects and accessories in the selected location based on the conducted valorisation. In this context, by valorisation we mean the volume of the demand, the potential of the offer and the socio-economic goals of the society (Jovičić & Ivanović, 2006; Kicošev, 1998; Piha, 1982). Tourism factors emphasise the positive and minimise the negative effects in the space, which increases its attractiveness. Area transformation is a consequence of the fact that tourists want full comfort during their stay on the location (Čomić, 2005). This way, tourist regulation and arrangement of the location enables the optimal conditions for tourism processes, better exploitation of resources (Čomić & Pjevac, 1997), improved aesthetic appearance of the location and its

functionality, and direct and indirect influences to the general community (Karanfilovski, 1977). Depending on the function, tourism factors can be grouped in several categories: accommodation and food structures, sport and recreational equipment, communal infrastructure, organisation, tourist info, markets, souvenirs, and collateral services (Garača, et al. 2019; Troisi, et al. 2019; Mason & Paggiaro, 2012; Garača, et al. 2012; Yoon et al. 2010; Jović & Popović, 2006, Jovičić, 2002; Tomka, 1998; Laws, 1995; Koen, 1984; Kripendorf, 1982; WTO, 1980; Baud-Bovy M. 1967).

RESEARCH SETTINGS

The Petrovaradin Fortress – the Venue of the “EXIT” Festival

The Petrovaradin Fortress is located on the territory of Novi Sad, the capital of the northern Serbian province of Vojvodina. The Petrovaradin Fortress is situated in the area where the tourist zones of the river Danube and the mountain Fruška gora interlap. The Danubian basin is a tourist zone with an international rank and there are plans to turn Novi Sad, together with Fruška Gora, into a national tourist centre. Accordingly, there are educational, cultural, tourist and recreational events planned on the fortress, along the tourist objects and terrains (Generalni Urbanistički Plan, 2001). That is how the Petrovaradin Fortress is defined as the primary centre of tourist development in the Novi Sad area (Rakić, 2004). The status of the Petrovaradin Fortress is regulated by the Cultural Heritage Legislation that was adopted in 1994 by the National Assembly of the Republic of Serbia, and it is defined as an immobile estate and a cultural heritage site of great importance („Službeni list R. Srbije“ no.71/94).

The Petrovaradin Fortress also represents a complex type of military, defensive system, which consists of six mostly connected units. Those are: the Upper Town that used to be the heart and the best defended part of the fortress; the Middle Town, or the most widespread and the most conspicuous part of the fortress; the Lower Town, or the firmly compacted town structure surrounded with a system of walls; the Water Town, or the main defensive barrier facing the Danube, where water was present as a physical hurdle; the so-called Mostobran (Bridge barrier), or a separate little fortress on the left bank of the Danube that restricted access to the bridge and the crossing; and the little fortress on the War Island, which is a completely separate object. The Petrovaradin Fortress spreads over a surface of 80 hectares, and was built during the 18th century (Garača, Ćurčić, Vukosav & Curaković, 2012).

“EXIT” – the music festival

The music festival “EXIT” is one of the largest international manifestations in Serbia, and it attracts over 150,000 visitors every year, half

of which come from abroad. The festival is held on the Petrovaradin Fortress, which becomes the centre of youth, culture and art during the festival. The "EXIT" festival came into being as a movement of student rebellion which fought for the democratisation of Serbia at the end of the 20th century, and now acts through a consortium of non-government organisations and companies. For the first time, this festival was organised in 2000 at the local level, and since 2001, it has grown into one of the biggest music and cultural festivals in south-eastern Europe. During the "EXIT" festival, the Fortress becomes the centre of cultural tourism in Serbia, and the point at which friendships are made and contact is established between different cultures and nationalities. "EXIT" is designed on the basis of modern European festivals and represents a unique mixture of big music, theatre and cinema events, lectures, tribunes and performances. In particular, "EXIT" shows a clear vision of Serbia as an economically stable, modern and democratic European country, turned towards the world and its values, and a country whose system of government institutions serves its citizens, in which all minorities have their rights, and in which it is worthwhile to work, learn and explore. The time period of the festival – the first half of July, is one that suits the public – pupils and students, and the city that hosts the festival (Pivac, Garača & Kovačević, 2007).

The first festival was realised in 2000 as a multimedia event close to the Faculty of Philosophy. During a 100 days, concerts, public talks, performances, and movies were shown. Next year, the "EXIT" festival gained a more entertaining character, with the compulsory presence of educational content, and became the symbol of positive spirit that, alongside an attractive music repertoire, attracted young people from all over the world. In 2001, the "EXIT" festival was moved onto the most significant cultural and historical monument in Novi Sad, the Petrovaradin Fortress, which over time became one of the synonyms of the festival. This location proved to be ideal, because it can accommodate a big number of stages and scenes with various themes. Thanks to the large number of performances and visitors, the "EXIT" festival gained an international character and attracted over 250,000 visitors. In 2002, the number of visitors who attended the nine-day festival grew to 350,000. The following year, the duration of the festival was reduced to four days, which had an impact on the number of visitors (around 140,000). Most of the visitors were from the former Yugoslav republics (Slovenia, Macedonia, Croatia, Bosnia & Herzegovina, and Montenegro), but there was also a significant number of visitors from Great Britain. The quality of the organisation and the performers was high, and resulted in the presence of the big media organisation MTV. The "EXIT" festivals in 2004, 2005, and 2006 attracted more than 150,000 visitors (Zakić, 2006), and the number of visitors continually increased in the period between 2007 and 2019, when the festival attracted more than 190,000 visitors yearly.

METHODOLOGY

Several methods were used during the research, which consisted of preparation, data acquisition, data processing and presentation. Two methodological processes and phases were distinguished: the method of study, and the method of survey.

The method of study concerns the collection and reading of all accessible literature in the field, which covers the past research on the same or similar subject. The selected literature and written papers pass through the analytic-synthetic method, wherein past experiences are extracted, then combined and adjusted to the specific research and needs. In this stage of research, four factors that ambient is consisted of were distinguished: (1) Atmosphere factors, (2) Social factors, (3) Design factors, and (4) Tourist factors. Each of the factors comprises one or more of the ambient attributes that were also distinguished on the basis of the collected literature. The attributes identified are: (1) Music, (2) Socialising, (3) Security, (4) Local community attitude, (5) Architecture, style and location (6) Organisation, and (7) Food and accommodation, which are sorted in the factor group to which they belong.

The listed attributes are classified according to origin and affiliation, so that they represent some of the listed ambient factors:

1. Atmosphere factors: Music (1);
2. Social factors: Socialising (2), Security (3), Local community attitude (4);
3. Design factors: Architecture, style and location (5); and
4. Tourist factors: Organisation (6), Food and accommodation (7).

On the same occasion and in the same way, a survey was made to be used in the next phase of the research.

After reviewing the literature and based on the specified attributes, the following hypotheses were defined:

H1 – Visitors' attitudes about Music attributes differ significantly in relation to the number of visits to the festival;

H2 – Visitors' attitudes about Socialising attributes do not differ significantly in relation to the number of visits to the festival;

H3 – Visitors' attitudes about Security attributes do not differ significantly in relation to the number of visits to the festival;

H4 – Visitors' attitudes about Local Community Attitude attributes differ significantly in relation to the number of visits to the festival;

H5 – Visitors' attitudes about Architecture, Style and Location attributes do not differ significantly in relation to the number of visits to the festival;

H6 – Visitors' attitudes about Organisation attributes do not differ significantly in relation to the number of visits to the festival; and

H7 – Visitors' attitudes about Food and Accommodation attributes do not differ significantly in relation to the number of visits to the festival.

Data Collection and the Characteristics of the Respondents

In the second phase of the research, the survey was used and was based on a convenience sample. The research was conducted through the four days of the festival in the first week of July, 2019 on three locations: (1) the Upper town of the Petrovaradin Fortress, where info desks, exhibitions, and stages for minor performances were placed, and which represents the centre point of the music festival "EXIT;" (2) the Camp, where foreign visitors were accommodated (Štrand beach); and (3) the Campus of the University of Novi Sad, where visitors would rest, shop and socialise. Four hundred visitors completed the questionnaire, of which 344 were valid and 56 were incomplete. Of the visitors included in the final evaluation, 42.2% of them are visitors from Serbia, 30.2% are from former Yugoslav republics, and 27.3% of them are from the other parts of the world, mainly from Great Britain.

Table 1. Socio-demographic characteristic of the respondents (%)

1. Sex	Male		Female	
	63.7		36.3	
2. Age	< 20	21-30	> 31	
	16.3	80.5	3.2	
3. Education	Primary school	High school	University degree	Postgraduated degree
	0.0	73	21.2	5.8
4. Employment Status	Student	Employed		Unemployed
	62.5	27.6		9.9

Source: Personal research

As shown in Table 1, where the sex of the visitors is concerned, 63.7% are male and 36.3% female. According to age, 16.3% are visitors younger than 20, and 80.5% are those between the ages of 21 and 30. Only 3.2% of visitors are older than 31. The majority of the visitors had finished high school – 73%, while 21.2% are those with a university degree and 5.8% are visitors with a postgraduate degree. According to their professional status, 62.5% are students, 27.6% are employed (workers) and 9.9% are unemployed. As for motives, 10.2% of those that came to the festival came for rest and recreation, 36.9% because of the music, 19.2% for socialising, 31.7% for fun, and 2% for other reasons. One thing that is important for this paper is that the number of visits to the music festival and research show that 58.1% are visitors who came to the festival for the first time, 16.0% are those who came for the second time, and 25.9% are those who had already been to the festival three or more times.

The part of the survey that concerned ambience, its factors, and the separate attributes of ambience deals with the quality and significance of the individual attributes for examinees. The 5 level Likert scale was used

to determine significance, and the same 5 level scale was used to evaluate the quality of individual ambient attributes. The following may be concluded: Mark 1 was the lowest quality or significance of the attribute that describes the area of the festival, and mark 5 was excellent – the best quality or significance of the observed attributes. In that sense, the same marks could be used several times (Rohas and Kamarero, 2007).

During data processing, which is the last phase in the research, we used the statistical methods of description and analysis of variance ANOVA – measuring the differences on variables with more modalities and testing statistically important differences on the level of significance of 0.01 or 0.005.

FINDINGS

The part of the survey and research that was about the significance and quality of individual ambient attributes of the “EXIT” music festival and the analysis of the collected data represents the central part of the paper. As mentioned above, we used a Likert scale with 5 levels for the evaluation of importance, and a 5 level scale for the evaluation of the seven observed attributes. The Importance mark considered ambient attributes ranking from the most to the least important. We wanted to detect which of the attributes has the biggest influence on the decision to visit the festival and, eventually, return to visit the same destination.

On the other hand, the evaluation of the quality of the mentioned attributes was expected to show the quality of the region and the area of the festival, and how the visitors react to changes in the quality of the attributes as they return to the destination. By comparison and parallel analysis of the results on these two scales, a significant conclusions can be made and the most significant attributes that influence the return of the visitors can be identified.

Table 2 shows the evaluation of the significance of attributes by 344 examinees, and their most important attribute is Music (4.84), which is logical because the festival is mostly about music performers. In second place is Socialising (4.24), which is also expected, because young people are the most numerous visitors of the festival and they see it as a social event. Following these two attributes is Architecture, Style and Location (3.60), which represents the surroundings of the festival and a very important attribute, according to the examinees. This festival location is of enormous historical and cultural significance, therefore it is not surprising that it leaves a strong impression. The attribute Organisation (3.39) seems less important as everything functions well, and Local Community Attitude (1.89) is almost unimportant for the examinees, as they are young people often travelling in groups and they spend little time outside those groups communicating with local people. In the last place

of importance is Food and Accommodation (1.15), because the population that visits the festival did not come for rest and recreation, which is when the quality of accommodation is very important. In addition, the youth, who makes almost 97% of the surveyed population at the "EXIT" festival, eat at easily accessible and informal places, or the so-called fast food places, so this investigated attribute was not of great importance to them either.

Table 2. Evaluation of the significance of the ambient attributes

Attributes	Assay	Min	Max	Average	St. deviation
1. Music	344	1	5	4.8445	1.57069
2. Socialising	344	1	5	4.2471	1.66162
3. Security	344	1	5	2.2820	1.83584
4. Local Community Attitude	344	1	5	1.8924	1.60901
5. Architecture, Style and Location	344	1	5	3.6076	1.57943
6. Organisation	344	1	5	3.3924	1.47676
7. Food and Accommodation	344	1	5	1.1599	1.69698

Source: Personal research

When considering the quality of the seven attributes that comprise the ambient of the "EXIT" festival (Table 3), it should be emphasised that the situation is different. The best marked attribute is Socialising (4.36), and festival organiser cannot influence that attribute. Architecture, Style and Location is marked with a high grade (4.20), and that justifies the Petrovaradin Fortress as a festival location. Music is in third place (4.11), which is a high mark, but Socialising and Architecture, Style and Location are in front of Music, which could be a concerning signal, because "EXIT" is a music festival. The following attributes, which are in the group of social or tourist factors, are also marked with lower grades (3.5-3.8).

Table 3. Evaluation of the quality of the ambient attributes

Attributes	Assay	Min	Max	Average	St. deviation
1. Music	344	1	5	4.1105	0.96559
2. Socializing	344	1	5	4.3605	0.85596
3. Security	344	1	5	3.6163	1.22813
4. Local community attitude	344	1	5	3.8547	1.15647
5. Architecture, style and location	344	1	5	4.2006	1.00894
6. Organization	344	1	5	3.5640	1.11522
7. Food and accommodation	344	1	5	3.5087	1.20007

Source: Personal research

If the attributes are grouped according to their type, four groups (factors) of ambient attributes can be identified, and we can determine which kind of attributes has the biggest significance for the visitation and re-visitiation of the destination. Atmosphere factors are in first place, De-

signer factors are in second place, the group of Social factors is a whole mark behind them, and Tourist factors are at the end (Table 4).

Table 4. Evaluation of the significance of the ambient factors

Ambient factors	Assay	Min	Max	Average
1. Atmosphere factors	344	1	5	4.8445
2. Designer factors	344	1	5	3.6076
3. Social factors	344	1	5	2.8072
4. Tourist factors	344	1	5	2.2762

Source: Personal research

Where the quality of ambience factors are concerned (Table 5), the best marked are Design factors, where the attribute Architecture, Style and Location has great significance (4.2), followed by Atmosphere factors with the attribute Music (4.1), and, finally, Social (3.9) and Tourist (3.5) factors.

Table 5. Evaluation of the quality of ambient factors

Ambient factors	Assay	Min	Max	Average
1. Designer factors	344	1	5	4.2006
2. Atmosphere factors	344	1	5	4.1105
3. Social factors	344	1	5	3.9438
4. Tourist factors	344	1	5	3.5364

Source: Personal research

By using the one-way analysis of variance (ANOVA) with a high level of certainty, the only significant and statistically important difference found is between the qualities of music related to the number of visits to the music festival. LSD post-hoc was used to test the differences in answers between respondents. It was shown that there are significant differences between those who came to the festival twice and more times, and those who came to the festival once. That means that those visitors who came to the festival a second and third time gave lower marks to the quality of music than those who visited the festival for the first time, which means both that the quality of music is decreasing and that visitors keep on coming. Although "EXIT" is a music festival, Music as an attribute which falls under the Atmosphere factors is not vital for the decision to re-visit the destination (in this case the music festival). However, other factors (Designer and Social) are of great importance. It is similar with the evaluation of the quality of local community, where it was noted that the quality of relations is drastically lower among those who visited the festival more than one time than among those who visited the festival for the first time (Table No. 6).

Table 6. ANOVA test according to the number of visits

Attribute	No. visits	N	Mean	F	p	LSD post-hoc
Music	Once	200	4.273	6.156	.005*	3<2.1
	Twice	55	4.200			
	More times	89	3.809			
Architecture, style and location	Once	200	4.195	.807	.447	-
	Twice	55	4.073			
	More times	89	4.292			
Socializing	Once	200	4.350	.148	.863	-
	Twice	55	4.418			
	More times	89	4.348			
Loc. community attitude	Once	200	4.146	2.732	.067	-
	Twice	55	3.850			
	More times	89	3.685			
Organisation	Once	200	3.620	.991	.372	-
	Twice	55	3.382			
	More times	89	3.551			
Security	Once	200	3.575	.628	.534	-
	Twice	55	3.564			
	More times	89	3.742			
Food and accommodation	Once	200	3.555	.415	.661	-
	Twice	55	3.400			
	More times	89	3.472			

Source: Personal research

*p<0.005

DISCUSSION

Analysing the obtained research results, it can be said that the Music attribute is the only element where a significant difference can be seen in the evaluation of returning visitors. Tanford S. and Jung S. (2017) believe that festival activities, such as the music program and entertainment, have the greatest relationship with festival satisfaction. Therefore, these research results indicate that the visitors of the "EXIT" festival are less and less satisfied with the music program and entertainment, that is, they get the impression that they are somewhat saturated with the music program offered at the festival, which indicates that the organisers of the festival should to pay more attention when selecting performers at the festival, that they should represent performers from several different musical genres at the festival, and that they should not repeat performers. Considering that the research was carried out in 2019, the organisers increased

attention to the music program can be observed, as well as the fact that the continuation of the “EXIT” festival on the Jaz beach in Montenegro was introduced. With this, the dissatisfaction expressed by repeat visitors to the “EXIT” festival could be eliminated, which could be the subject of further research.

Socialisation represents the social aspects of attending a festival with others (Inoue, 2016). In this regard, social identification was measured through the attachment, closeness and identification with other participants, and a sense of belonging (Grappi & Montanari, 2011). In the available literature, the relationships between socialisation and satisfaction vary from slightly negative to significantly positive. On the other hand, a more consistent pattern of positive relationships exists between socialisation and loyalty (Tanford & Jung, 2017), which is confirmed by the results of this research. Therefore, the results of the research on the attitudes of visitors regarding the attributes Socialising and Security show that there is no significant difference in the evaluation of these attributes in relation to repeat visits, which is expected and leads to the conclusion that visitors of the “EXIT” festival have successfully adapted to ‘herd’ psychology, and that socialising is one of the most important attributes, which does not change significantly depending on the number of visits. The impression of safety also remained unchanged, which is good, because by returning to the festival, visitors confirm that they feel safe in our country and at the festival itself.

This research has shown that there is no significant difference in the attitudes of visitors of the “EXIT” festival towards the local community in relation to return visits, which is somewhat unexpected, because some studies that have dealt with this issue have identified the more negative impacts that festivals have on the local population, which resulted in resistance and lack of support for holding such events in their midst. In that sense:

Arcodia and Whitford (2007), Dwyer et al., (2000), and Reid, (2007) noticed that festivals have a number of negative impacts: changes in community values and patterns, environmental damage and litter, higher prices of basic services, resident exodus, interruption of normal business, noise and crowds, unsafe sexual behaviours, the use of alcohol and drugs, conflicts with festivalgoers, xenophobia, commodification and exploitation of culture and traditional ways of life, etc. Deery and Jago (2010) highlight that anti-social behaviour is very common at events such as music festivals due to alcohol and drugs abuse resulting in drunken, rowdy and delinquent behaviour. These negatives aspects can potentially threaten the local positive attitude of the impact of hosting an event. More importantly, this negative attitude can seriously damage the image of an event

and reduce community support. Yet, on the whole, Arcodia and Whitford (2007) assert that festivals are primarily social phenomena with the potential of providing a number of predominantly positive social impacts.

(Pavluković et al., 2017)

On the other hand, the depreciation of negative attitudes of the local community towards music festivals such as "EXIT," as well as towards their visitors, was observed and explained by Desnica and Šarac (2013), who examine, in detail, how culture orientation at the individual level moderates the local perception toward the social impacts of the "EXIT" (Serbia) and Sziget (Hungary) music festivals.

When it comes to the Architecture, Style and Location attribute, the research showed that there is no significant difference in the evaluation of this attribute in terms of the number of arrivals of festival visitors. Also, such a result was to be expected, taking into account previous research on the attitudes of visitors of the "EXIT" festival (Besermenji, Pivac & Wallrabenstein, 2009), which show that the quality of the environment, which includes Architecture, Style and Location, is the best rated attribute, in addition to music, price/ quality and companionship, with a score of 4.70. The aforementioned paper clearly highlights the positive attitudes of festival visitors towards the fortress as a venue for this musical manifestation, as well as that the possible relocation of the festival to another location in the city or the surrounding area would significantly impair the attractiveness of the event.

Regarding the attribute Food and Accommodation, no significant difference was found between service quality and repeat visits. In hospitality and other service industries, service quality is considered a key antecedent of loyalty, although its effects are most often mediated through satisfaction (Caruana, 2002, Kandampulli et al., 2015, Tanford, 2016). On the other hand, service quality does not occupy a significant place in models of destination loyalty (Gursoi et al., 2014). Contemporary research supports an indirect relationship, but the overall effect on loyalty is small. By definition, customer experience in service industries is created through service encounters. Experiencing the product itself (for example, staying in a hotel) is usually not the end goal of the user. The hotel provides accommodation for the primary purpose of travel, be it business or leisure. On the other hand, experiencing a festival is the ultimate goal for festival participants, just as visiting a destination is the goal for tourists. The program, activities and festival atmosphere cause satisfaction and ultimately loyalty, and service is in the background of the festival experience.

Organisation as an attribute of this study was not observed as a significantly differently perceived attribute in relation to the number of arrivals of visitors of the EXIT festival. We need to state that this attrib-

ute referred to the organisation of the festival itself, its functioning throughout the duration of the festival, and the allocation of resources. Analysing the available literature, we did not find a similar attribute that would support our findings. We are of the opinion that the organisation of the festival is a very important attribute, which significantly contributes to the satisfaction of festival visitors and contributes to its quality. This was shown in the quality assessment of this attribute. When ranking it according to importance in relation to other attributes, it is in the middle, behind Music, Socialising, and Architecture, and ahead of Local Community, Safety, and Food and Accommodation. In this research, no significant difference was shown in relation to the number of visits, possibly because the organisation of the festival functioned well from the very beginning and is constantly improving, so visitors have no major complaints. If it were different, in the context of poor organisation of stage distribution, ticket sales, festival entrances, and lighting or sound systems, it is assumed that the results of the research would also be different.

Based on the presented findings and discussion, it can be said that six of the seven hypotheses were confirmed. Hypothesis H4, which posits that visitors attitudes about Local Community Attitude attributes differ significantly in relation to the number of visits to the festival was not confirmed, but a clear explanation and scientific background for this finding was given.

CONCLUSION AND RESEARCH IMPLICATIONS

Tourists come to the “EXIT” festival even though the quality of music, the factor that used to be most important, is decreasing. The questions that should be asked are what is happening to the festival, and what is attracting people to visit the destination again, despite the fact that their primary motive is weaker. Parties on the Danube beaches became a movement that gathers young people, and the location is one of the most beautiful in the country and beyond. In this case as well, visitors have the opportunity to choose from a pool of various events. In addition, most of the authors who write about the “EXIT” festival indicate that visitors can spend their time in quality entertainment not only with music, but with all the cultural and historical heritage in the city (Blesic, Wallrabenstein & Devic, 2008).

In the paper about the Fortress ambient and its influence on the attractiveness of the “EXIT” festival, the cooperation of the “EXIT” festival and the cultural institutions on the Fortress has to be mentioned, most importantly The Art Academy and City Museum with which the festival management works closely, with the aim of improving the attractiveness of the music event (Besermenji, Pivac & Wallrabenstein, 2009).

As local residents have direct contact with tourists, which can affect the tourists' experience of a destination, it is necessary to inform and educate the local community on the opportunities and benefits (Pavlu-ković et al., 2020). In that sense, the local community could have a bigger or crucial role in satisfying tourists.

The return of the visitors to the festival, despite the decrease in the music quality and the primary motive that attracted visitors to the destination, is the finding that has arisen from the research. The high percentage of visitors – 41.9%, visits the festival more than once, and still we obtained a result which shows that even though the number of visits is higher, the quality of music is decreasing. It is clear that there are some other motives that attract the visitors to revisit the destination and the "EXIT" festival. After a detailed revision of the numbers, one important factor for revisiting arose although the primary motive was lower, and that is socialising and the quality of communication with other visitors. We showed earlier that the management of the festival has no influence on the quality of socialising, but by evaluating other festivals, their programs and the available data, we found that some showed that organisation can still do something to improve the quality of socialising. It is necessary to offer a greater variety of events on the festival's location. The reason for this is that the quality of performers varies and no one can guarantee the highest quality of performances.

To prevent the disappointment of the visitors, it is necessary to offer them multidimensional events. The "EXIT" festival, with the cultural offer of the city combined with its performances and exhibitions, does it well. When considering relocation, most of the examinees were against it, which shows that the Fortress was a good idea, with an attractive location and lots of choices for entertainment for visitors. As a result, visitors that might have been disappointed with the festival music during previous years have also had other events that offered them enough entertainment and socialising possibilities.

Based on the current literature and the attributes examined at other festivals, the possibility and need for some further research was observed, where the focus of the research would be on the attribute Escape (Bairak, 2011; Lee et al. 2011; Tanford et al., 2012; Grappi & Montanari, 2011) in relation to return, as well as on the link of the Prices/Value attribute (Parka, Lija & Parka; 2011) and satisfaction and loyalty, i.e. return to the festival. According to the available literature, the relationship between escapism and satisfaction and loyalty varies greatly, ranging from low/insignificant to very high and significant (Tanford & Jung, 2017), so this attribute should be examined on the example of the "EXIT" festival in the future.

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АМБИЈЕНТАЛНИ ФАКТОРИ КОЈИ УТИЧУ НА НАМЕРУ ТУРИСТА ДА ПОНОВО ПОСЕТЕ МУЗИЧКИ ФЕСТИВАЛ „EXIT“

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Резиме

Ово истраживање анализира различите факторе који утичу на задовољство и повратак посетилаца музичког фестивала „EXIT“, и спроведено је кроз две фазе: студију литературе и анкетирање посетиоца фестивала. Аналитичко-синтетичка метода коришћена је за преглед доступне литературе како би се идентификовали кључни фактори амбијента фестивала: атмосферски, друштвени, дизајнерски и туристички, са седам специфичних атрибута, укључујући музику, дружење, безбедност, став локалне заједнице, архитектуру, стил и локацију, организацију, храну и смештај. Анкетирање, спроведено током фестивала у јулу 2019. године, обухватило је 344 валидна испитаника, при чему је статистичка анализа пода-

така укључивала коришћење Ликертове скале за процену значаја и квалитета ових атрибута.

Резултати истраживања показали су да је музика најважнији атрибут за посетиоце, док је дружење најбоље оцењени атрибут по квалитету. Повратници фестивала су дали ниже оцене квалитету музике у поређењу са посетиоцима који су фестивал посетили први пут, што сугерише опадање задовољства музичким програмом. Остале хипотезе нису показале значајне разлике у ставовима посетилаца у зависности од броја посета. АНОВА анализа потврдила је значајну разлику у оцени квалитета музике између оних који су посетили фестивал више пута и оних који су на фестивалу били први пут. Упркос опадању квалитета музике, посетиоци и даље долазе, што сугерише да фактори као што су дружење и амбијент локације имају већи утицај на поновне посете. Закључено је да постоји потреба за диверсификацијом музичког програма и увођењем нових извођача како би се повећало задовољство посетилаца, те да дизајнерски и друштвени фактори имају кључну улогу у привлачењу посетилаца и њиховом повратку на фестивал. Даља истраживања треба да се фокусирају на улогу атрибута као што су „бекство“ и „цена/вредност“ у задовољству и лојалности посетилаца како би се унапредио квалитет фестивалског искуства и привукао већи број посетилаца у будућности.

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THE IMPACT OF THE TAX SYSTEM ON SERBIA'S COMPETITIVENESS

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Abstract

Foreign direct investment (FDI) is an effective strategy for exploiting a country's competitive advantages. This paper aims to assess the importance of certain factors of the tax system for the activity of foreign investors in Serbia. In particular, it aims to determine how the national tax structure affects Serbia's ability to improve its competitiveness in attracting FDI. The research was conducted in the second quarter of 2023 and included an online survey of 88 foreign companies that had invested in Serbia between 2001 and 2019. The study used the one-way analysis of variance (ANOVA) and the independent samples t-test. Four factors were analysed, namely the tax rate and the corporate tax base, as well as the tax rate and the personal income tax base. The results show that the corporate tax rate is the most important factor influencing the decision of foreign investors to invest in Serbia.

Key words: tax system, competitiveness, foreign direct investment, corporate income tax, personal income tax.

УТИЦАЈ ПОРЕСКОГ СИСТЕМА НА КОНКУРЕНТНОСТ СРБИЈЕ

Апстракт

Стране директне инвестиције (СДИ) представљају један од ефикаснијих начина стварања компаративне предности једне земље. Циљ рада јесте да утврди значај појединих фактора пореског система на пословање страних инвеститора у Србији, односно у којој мери домаћи порески систем утиче на јачање националне конкурентности Србије када је у питању привлачење СДИ. Истраживање је спроведено у другом кварталу 2023. године путем онлајн анкетирања 88 страних компанија које су инвестирале у Србију у периоду од 2001. до 2019. године. Методологија кориш-

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ћена у овом истраживању базирана је на једнофакторској анализи варијансе различитих група (АНОВА) и т-тесту независних узорака. Анализа је обухватила четири фактора: пореску стопу и пореску основицу код пореза на добит предузећа, и пореску стопу и пореску основицу код пореза на доходак грађана. Резултати истраживања су показали да је стопа пореза на добит предузећа најзначајнији фактор за стране инвеститоре приликом одлучивања о инвестирању у Србију.

Кључне речи: порески систем, конкурентност, стране директне инвестиције, порез на добит предузећа, порез на доходак грађана.

INTRODUCTION

Foreign direct investment (FDI) is a key force in the global economy, driving economic, technological and social progress. It promotes integration between nations, shaping the global economic landscape. Multi-national enterprises play an important role in FDI, highlighting the interconnectedness of economies and the potential for mutual benefit. FDI promotes economic growth, job creation and competitiveness, making it important for both developed and developing countries (Domazet et al., 2022).

Tax policy is an effective tool for governments to influence economic conditions and attract FDI. By strategically adjusting tax policy, governments can create an environment that is conducive to FDI while balancing the need for revenue for essential public services. Striking the right balance is important, as both high and low taxes can have unintended effects on investment and economic growth. A sustainable and balanced tax policy is crucial to promoting long-term economic health and competitiveness on the global stage.

The main objective of this paper is to determine how the national tax system affects Serbia's ability to improve its competitiveness in attracting FDI. The research was conducted in the second quarter of 2023 and involved an online survey of 88 foreign companies that had invested in Serbia between 2001 and 2019. The study used one-way analysis of variance (ANOVA) and the independent samples t-test. Four factors were analysed, including the tax rate and tax base for corporate income tax, and the tax rate and tax base for personal income tax.

The paper comprises five sections. After the introduction, the second section provides a thorough overview of the recent literature on the competitiveness of national tax systems and their impact on FDI inflows. The third section describes the research methodology, and the fourth section presents the results and discussion. Finally, the fifth section contains concluding remarks.

LITERATURE REVIEW

FDI is generally recognised as an important driver of economic growth (Haudi et al., 2020). Global capital flows emphasise its indispensable role in promoting national economic expansion, making it essential for all countries to attract foreign investment (Marjanović & Domazet, 2021a; Stevanović et al., 2022). This requires prioritising production and exports to ensure sustainable economic progress (Djaković et al., 2023), with FDI being a key component in achieving this goal (Xiong & Sun, 2021). Impact investment and industrial policy measures further accelerate economic growth and structural transformation (Domazet et al., 2024), with FDI being consistently recognised as a catalyst for growth in the host economy (Majeed et al., 2021).

Foreign investment has significantly grown in importance over the last decade (Osei & Kim, 2023) and exerts a considerable influence on global economic activity. Countries have increasingly opened to FDI through deregulation, financial incentives, and international agreements (Pandya, 2016) to attract long-term investment for sustainable economic growth, especially in emerging economies (Marjanović et al., 2022). A slowdown in investment can lead to structural inflation, which underlines the importance of FDI and infrastructure development as key drivers of investment.

Various factors such as the size of the market, gross capital formation and corporate tax rates affect the flow of FDI. Bruno et al. (2021) found that EU membership increases FDI into the host economy by about 60% from non-EU sources, and by about 50% from the EU, applying a structural gravity framework to annual bilateral FDI data from 1985 to 2018. Countries are actively seeking FDI as they believe that MNEs will boost economic growth by creating jobs, increasing capital accumulation and improving productivity (Desbordes & Wei, 2017). Economic status is an important determinant of investment decisions, and the availability of an educated workforce can reduce the cost of doing business abroad (Marjanović et al., 2022). Although FDI in developing countries has risen sharply, its share of global foreign direct investment remains unchanged (Pankova & Pekhalskiy, 2023). Factors such as technological progress, competitiveness, labour market characteristics and economic potential have a significant impact on the destinations of FDI, while labour regulations and market size have less influence (Contractor et al., 2020; Domazet et al., 2023).

By offering tax breaks to multinational corporations (MNCs), the governments of many developing countries hope to attract FDI. The tax laws of the MNCs' home countries have a significant impact on how beneficial these tax breaks are, especially if these countries tax foreign revenues globally (Da Fonseca & Jucá, 2020; Marjanović et al., 2020).

In developed countries, market size is a more important factor for companies when allocating capital under FDI programs (Jovanović et al., 2023). Lower corporate tax rates in industrialised countries should strengthen the national economy and not stimulate competition between countries for FDI (Sujarwati & Qibthiyyah, 2020). Egger and Raff (2015) found that governments strategically adjust corporate tax rates in response to changes in other countries' tax policies, especially after regional trade integration. Gamze (2020) observed a statistically significant negative correlation between corporate tax rates and FDI inflows in a panel of 35 countries between 2005 and 2016. Bella and Yudianto (2021) examined the impact of tax incentives such as tax exemptions and corporate tax rates on FDI in Indonesia from 1981 to 2020. They found that tax exemptions have a positive effect on FDI inflows, while corporate tax rates have a negative effect. Dewi et al. (2023) examined the effects of macroeconomic variables and corporate tax rates on FDI inflows in the ASEAN region from 2013 to 2019 and found significant effects of both factors. Pesiri (2023) examined the complex relationship between tax rates, especially corporate income tax, and FDI, and concluded that not all tax incentives have the same effect. Policy makers should consider this relationship and invest in additional factors beyond taxation to increase the attractiveness of their region.

RESEARCH METHODOLOGY

This study examined how factors of the Serbian tax system, including the corporate tax rate and tax base, as well as the personal income tax rate and tax base affect the country's competitiveness. The research, which was conducted from April to June 2023, used a quantitative approach through online surveys. The survey method, facilitated by structured questionnaires, was chosen for its advantages, including faster response times, data accessibility, improved data quantity and quality, cost-effectiveness, reduced interviewer bias and the ability to monitor survey progress. By limiting the respondents' choices, the survey ensures consistent data collection.

Due to the email distribution and the large target group, we included all 300 largest foreign investors (FIs) in the survey instead of using a random sample. The Ministry of Economy of the Republic of Serbia provided the list of large investors between 2001 and 2019. The questionnaires were sent electronically to all 300 official email addresses of FIs, addressed to investment managers, managing directors or company owners. Only authorised personnel familiar with the company's operations in Serbia were invited to complete the questionnaire. Of the 300 FIs included in the study, 88 responded within the given timeframe, which corresponds to a response rate of 29.3%.

The characteristics of the FIs that took part in the survey are presented according to the frequency and percentage scheme as follows (Figure 1):

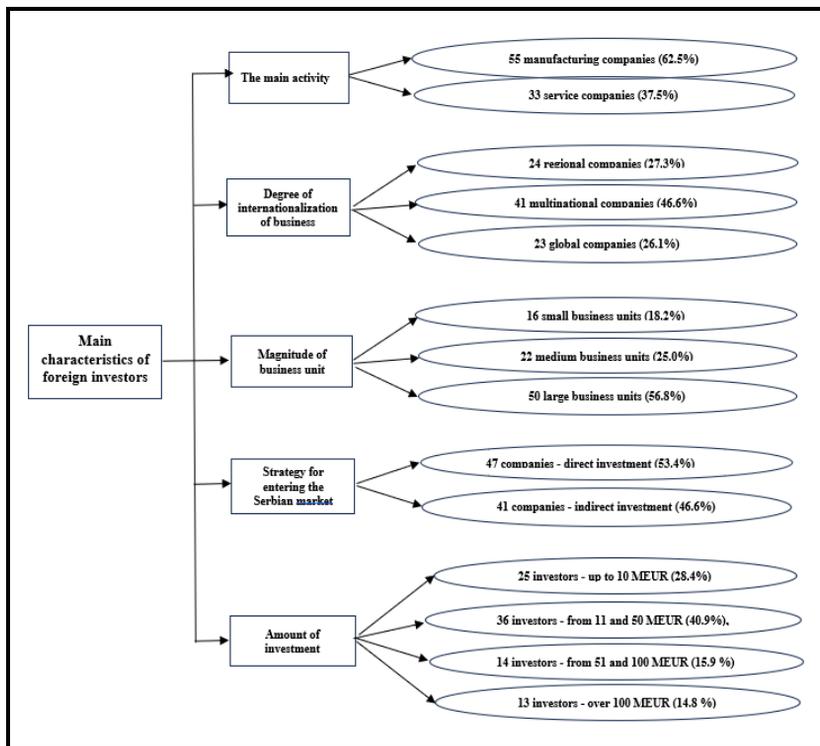


Figure 1. Main characteristics of foreign investors (FI)
Source: Authors' research

The research methodology was based on t-tests and a one-way ANOVA.

RESULTS AND DISCUSSION

The study examined the views of FIs operating in Serbia regarding the importance of certain elements of the national tax system. These elements included the corporate income tax (CIT) rate, personal income tax (PIT) rate, and the tax base determination systems (SDTB) for both CIT and PIT. Figure 2 shows the results of this analysis.

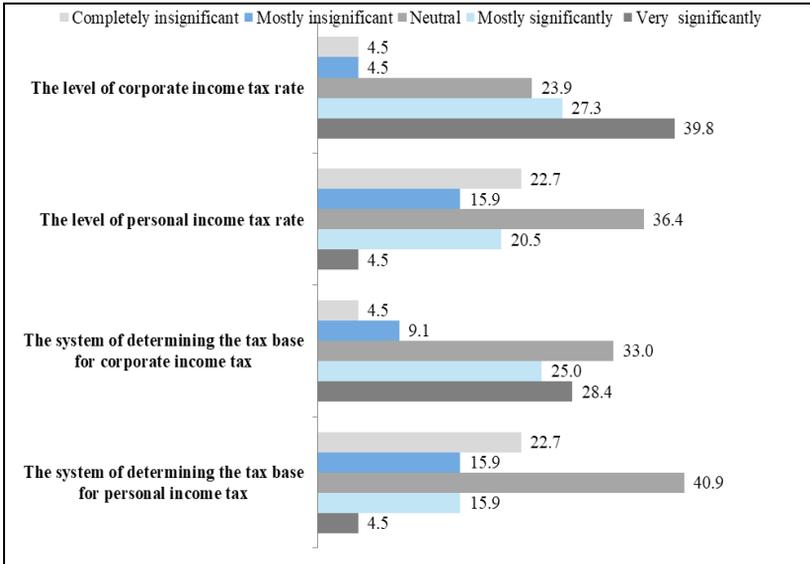


Figure 2. Analysis of the factors of the national tax system

Source: Authors' research

The results show that most FIs (39.8%) believe that the CIT rate has a very large impact on Serbia's overall tax competitiveness and, thus, on their investments and business in Serbia. On the other hand, a significant number of FIs (36.4%) believe that the impact of the PIT rate on the overall tax competitiveness of Serbia is neutral. FIs assess the influence of SDTB for CIT as neutral (33.0%), as they do the influence of SDTB for PIT (40.9%). More detailed data on the results of the importance of factors of the national tax system for the tax competitiveness of Serbia are presented in Table 1.

Table 1. Analysis of factors of the national tax system - descriptive statistics

	Degree of valuation					M	SD	V
	1	2	3	4	5			
	f(%)	f(%)	f(%)	f(%)	f(%)			
The level of CIT rate	4 (4.5)	4 (4.5)	21 (23.9)	24 (27.3)	35 (39.8)	3.9318	1.11206	1.237
The level of PIT rate	20 (22.7)	14 (15.9)	32 (36.4)	18 (20.5)	4 (4.5)	2.6818	1.16998	1.369
SDTB for CIT	4 (4.5)	8 (9.1)	29 (33.0)	22 (25.0)	25 (28.4)	3.6364	1.12630	1.269
SDTB for PIT	20 (22.7)	14 (15.9)	36 (40.9)	14 (15.9)	4 (4.5)	2.6364	1.13646	1.292

Note: CIT (corporate income tax); PIT (personal income tax);
SDTB (the system of determining the tax base).

Source: Authors' research

The statistically significant differences between FIs in determining the degree of relevance of national tax system variables for Serbia's tax competitiveness were analysed using the ANOVA and t-test. The analysis included (a) the activity of FIs, (b) the degree of the internationalisation of FI business, (c) the way FIs entered the Serbian market, (d) the size of the business unit in Serbia, and (e) the amount of investment of FIs in Serbia.

The Influence of National Tax System Factors on Serbia's Tax Competitiveness, Depending on the Activities of FIs

Table 2 shows the results of the t-test regarding the existence of statistically significant differences between FIs whose main activity is in the manufacturing sector and those whose main activity is in the service sector.

Table 2. Importance of national tax system factors depending on the activities of FIs

	<i>M</i>		<i>MD</i>	95 %		<i>t</i>	<i>p</i> *
	<i>(SD)</i>			<i>CID</i>			
	M.A. <i>N</i> =55	S.A. <i>N</i> =33		Lower	Upper		
The level of CIT rate	4.0727 (0,97856)	3.6970 (1.28659)	0.37576	-0.14536	0.89687	1.446	0.154
The level of PIT rate	2.8364 (1.19820)	2.4242 (1.09059)	0.41212	-0.09535	0.91959	1.614	0.110
SDTB for CIT	3.8000 (1.09545)	3.3636 (1.14067)	0.43636	-0.05060	0.92333	1.781	0.078
SDTB for PIT	2.7091 (1.21217)	2.5152 (1.00378)	0.19394	-0.30467	0.69255	0.773	0.442

*At the level $p < 0.05$, a statistically significant difference is present

Note: M.A. (manufacturing activity); S.A. (service activity); CIT (corporate income tax); PIT (personal income tax); SDTB (the system of determining the tax base).

Source: Authors' research

Depending on the activities of the FIs, the results of the t-test showed that there are no statistically significant differences between the FIs in the assessment of the degree of relevance of specific aspects of the national tax system for Serbia's tax competitiveness.

In other words, no statistically significant difference ($p < 0.05$) was found in the assessment of the importance of certain components of the Serbian tax system for tax competitiveness by foreign investors (FI) in the manufacturing sector group and in the services sector group. These components include the corporate income tax (CIT) rate, personal income tax (PIT) rate, and the tax base determination systems (SDTB) for both CIT and PIT for foreign investors (FI) in the manufacturing and services sectors.

The Influence of Factors of the National Tax System on the Tax Competitiveness of Serbia, Depending on the Degree of the Internationalisation of FI Companies

Table 3 shows the results of ANOVA conducted to determine whether there are statistically significant differences in the perception of the importance of certain factors of the Serbian tax system for tax competitiveness, depending on the degree of the internationalisation of the business activities of FIs.

Table 3. Importance of factors of the national tax system depending on the degree of the internationalisation of business activities of FI companies

		<i>M</i> (<i>SD</i>)	<i>95 %</i> <i>CIM</i>		<i>F</i>	<i>p</i> *
			Lower	Upper		
The level of CIT rate	R.C. <i>N</i> =24	4.0833 (1.21285)	3.5712	4.5955	0.714	0.493
	M.C. <i>N</i> =41	3.7805 (1.21475)	3.3971	4.1639		
	G.C. <i>N</i> =23	4.0435 (0.76742)	3.7116	4.3753		
The level of PIT rate	R.C. <i>N</i> =24	2.6667 (1,27404)	2.1287	3.2046	1.292	0.280
	M.C. <i>N</i> =41	2.5122 (1.07522)	2.1728	2.8516		
	G.C. <i>N</i> =23	3.0000 (1.20605)	2.4785	3.5215		
SDTB for CIT	R.C. <i>N</i> =24	3.6667 (1.12932)	3.1898	4.1435	0.081	0.922
	M.C. <i>N</i> =41	3.5854 (1.20365)	3.2054	3.9653		
	G.C. <i>N</i> =23	3.6957 (1.01957)	3.2548	4.1365		
SDTB for PIT	R.C. <i>N</i> =24	2.8333 (1.16718)	2.3405	3.3262	2.268	0.110
	M.C. <i>N</i> =41	2.3659 (1.06668)	2.0292	2.7025		
	G.C. <i>N</i> =23	2.9130 (1.16436)	2.4095	3.4165		

*At the level $p < 0.05$, a statistically significant difference is present

Note: R.C. (regional companies); M.C. (multinational companies);

G.C. (global companies); CIT (corporate income tax); PIT (personal income tax);

SDTB (the system of determining the tax base).

Source: Authors' research

The ANOVA results indicate that there are no statistically significant differences in the assessment of the importance of certain elements

of the Serbian tax system for tax competitiveness based on the extent of the globalisation of their business activities.

When assessing the importance of certain elements of the Serbian tax system for tax competitiveness, no statistically significant differences at the level of $p < 0.05$ were found. This includes variations in the corporate income tax (CIT) rate, personal income tax (PIT) rate, CIT base determination system and PIT base determination system among foreign investors (FIs) in different groups: R.C., M.C., and G.C.

The Influence of Factors of the National Tax System on the Tax Competitiveness of Serbia, Depending on the Way FI Enters the Serbian Market

Table 4 shows the results of the t-test used to determine whether there are significant differences between FIs who entered the Serbian market directly or indirectly in terms of the perceived importance of certain factors within the national tax system for Serbia's tax competitiveness.

Table 4. Importance of factors of the national tax system depending on the type of entry of FI into the Serbian market

	<i>M (SD)</i>		<i>MD</i>	<i>95 % CID</i>		<i>t</i>	<i>p*</i>
	<i>D.I.</i> <i>N=47</i>	<i>I.I.</i> <i>N=41</i>		<i>Lower</i>	<i>Upper</i>		
The level of CIT rate	3.7660 (1.10754)	4.1220 (1.09989)	-0.35599	-0.82499	0.11300	-1.509	0.135
The level of PIT rate	2.9574 (1.14127)	2.3659 (1.13481)	0.59159	0.10804	1.07515	2.432	0.017
SDTB for CIT	3.6170 (1.11420)	3.6585 (1.15347)	-0.04152	-0.52268	0.43965	-0.172	0.864
SDTB for PIT	2.9149 (1.11958)	2.3171 (1.08257)	0.59782	0.12945	1.06619	2.537	0.013

* At the level $p < 0.05$, a statistically significant difference is present

Note: D.I. (direct investment); I.I. (indirect investment); CIT (corporate income tax); PIT (personal income tax); SDTB (the system of determining the tax base).

Source: Authors' research

The following statistically significant differences were determined by the results of the t-test:

1. When evaluating the influence of the PIT rate $t(86)=2.432$, $p=0.017$, $MD=0.59159$, 95% CID: from 0.10804 to 1.07515 between FIs that invested directly in the Serbian market ($M=2.9574$, $SD=1.14127$) and those that invested indirectly in the Serbian market ($M=2.3659$, $SD=1.13481$). As can be seen from the Eta-squared indicator, the difference between these two FI groups is $\eta^2=0.064$, which can be considered a mean difference.

This means that FIs that have invested directly in the Serbian market attach greater importance to the influence of the PIT rate on Serbia's tax competitiveness than FIs that have invested indirectly in the Serbian market.

2. When evaluating the influence of the income tax base determination system $t(86)=2.537$, $p=0.013$, $MD=0.59782$, 95% CID: from 0.12945 to 1.06619 between FIs that invested directly in the Serbian market ($M=2.9149$, $SD=1.11958$) and those that invested indirectly in the Serbian market ($M=2.3171$, $SD=1.08257$). According to the Eta-squared indicator, the difference between these two FI groups is $\eta^2=0.069$, which corresponds to a medium difference. According to the Eta-squared indicator, the difference between these two FI groups is $\eta^2=0.069$, which can be regarded as a mean difference.

This indicates that foreign investors who have entered the Serbian market directly consider the impact of the income tax base determination system on Serbia's tax competitiveness to be higher than foreign investors who have entered the market indirectly.

The influence of Factors of the National Tax System on the Tax Competitiveness of Serbia, Depending on the Size of the Business Unit of FI in Serbia

Table 5 shows the results of the ANOVA, along with the tests performed to see if there are statistically significant differences in the assessment of the relative importance of specific national tax system factors on the tax competitiveness of Serbia, based on the size of the FI's business unit in Serbia.

The ANOVA results show that, based on the size of FI's business unit in Serbia, there were no statistically significant differences in the perceived importance of specific components within the national tax system for Serbia's tax competitiveness.

In another words, no statistically significant differences were found ($p < 0.05$) in assessing the significance of specific national tax system components for Serbia's tax competitiveness. This includes differences in the corporate income tax (CIT) rate, personal income tax (PIT) rate, CIT base determination system, and PIT base determination system between the FI in the Small Business Entity (S.B.E.) group and those in the Medium Business Entity (M.B.E.) group, between FI in the M.B.E. group and those in the Large Business Entity (L.B.E.) group, and between FI in the S.B.E. group and those in the L.B.E. group.

Table 5. Importance of factors of the national tax system depending on the size of the business entity of FI in Serbia

		<i>M</i> (<i>SD</i>)	95% <i>CIM</i>		<i>F</i>	<i>p</i> *
			Lower	Upper		
The level of CIT rate	S.B.E. <i>N</i> =16	4.1250 (0.88506)	3.6534	4.5966	0.624	0.538
	M.B.E. <i>N</i> =22	3.7273 (1.51757)	3.0544	4.4001		
	L.B.E. <i>N</i> =50	3.9600 (0.96806)	3.6849	4.2351		
The level of PIT rate	S.B.E. <i>N</i> =16	3.2500 (0.44721)	3.0117	3.4883	2.380	0.099
	M.B.E. <i>N</i> =22	2.5455 (1.47122)	1.8932	3.1978		
	L.B.E. <i>N</i> =50	2.5600 (1.14571)	2.2344	2.8856		
SDTB for CIT	S.B.E. <i>N</i> =16	3.8750 (0.88506)	3.4034	4.3466	0.468	0.628
	M.B.E. <i>N</i> =22	3.6364 (1.46533)	2.9867	4.2861		
	L.B.E. <i>N</i> =50	3.5600 (1.03332)	3.2663	3.8537		
SDTB for PIT	S.B.E. <i>N</i> =16	3.1250 (0.34157)	2.9430	3.3070	1.913	0.154
	M.B.E. <i>N</i> =22	2.4545 (1.40500)	1.8316	3.0775		
	L.B.E. <i>N</i> =50	2.5600 (1.14571)	2.2344	2.8856		

* At the level $p < 0.05$, a statistically significant difference is present

Note: S.B.E. (small business entity); M.B.E. (medium business entity); L.B.E. (large business entity); CIT (corporate income tax); PIT (personal income tax); SDTB (the system of determining the tax base).

Source: Authors' research

The Influence of Factors of the National Tax System on the Tax Competitiveness of Serbia, Depending on the Level of Investment of FI in Serbia

Table 6 shows the results of ANOVA regarding the possible existence of statistically significant differences in the assessment of the importance of specific national tax system factors for Serbia's tax competitiveness based on the amount of investment in Serbia.

The results of the ANOVA revealed the following statistically significant differences.

Table 6. Importance of factors of the national tax system depending on the amount of investment made in Serbia

		<i>M</i> (<i>SD</i>)	95 % <i>CIM</i>		<i>F</i>	<i>p</i> *
			Lower	Upper		
The level of CIT rate	≤10	4.2800	3.8756	4.6844	9.246	0.002
	No=25	(0.97980)				
	11-50	3.6944	3.2915	4.0974		
	No=36	(1.19090)				
	51-100	3.2857	2.6685	3.9030		
	No=14	(1.06904)				
The level of PIT rate	≥100	3.1954	2.3094	3.9214	0.341	0.796
	No=13	(0.50637)				
	≤10	2.8400	2.2852	3.3948		
	No=25	(1.34412)				
	11-50	2.6944	2.3436	3.0453		
	No=36	(1.03701)				
The level of PIT rate	51-100	2.5714	1.8656	3.2773		
	No=14	(1.22250)				
	≥100	2.4615	1.7374	3.1857		
	No=13	(1.19829)				

* At the level $p < 0.05$, a statistically significant difference is present
 Note: ≤10 (less than 10 MEUR); 11-50 (from 11 to 50 MEUR); 51-100
 (from 51 to 100 MEUR);

≥100 (over 100 MEUR); CIT (corporate income tax); PIT (personal income tax).

Source: Authors' research

When evaluating the influence of the CIT rate, the result is $F(3,84)=9.246$, $p=0.002$, whereby the size of the variation between the different FI groupings, expressed by the Eta-squared indicator, is $\eta^2=0.061$ and can be regarded as a mean difference. The following comparison using the T-HSD test, the results of which are presented in Table 7, shows that a statistically significant differences exist between the group of FIs that invested up to 10 MEUR ($M=4.2800$, $SD=0.97980$), on the one hand, and those that invested between 51 and 100 MEUR ($M=3.2857$, $SD=1.06904$) and over 100 MEUR ($M=3.1954$, $SD=0.50637$), on the other.

This means that FIs who have invested up to 10 MEUR place greater importance on the effects of the CIT rate than those who have invested between 51 and 100 MEUR and over 100 MEUR.

When evaluating the impact of the CIT base determination system, $F(3,84)=4.740$, $p=0.004$, the magnitude of the variation among the various FI groupings, expressed by the Eta-squared indicator, is $\eta^2=0.081$ and can be considered a difference of medium magnitude. The comparison that follows makes use of the T-HSD test, the results of which are presented in Table 8 and showed a statistically significant difference between the group of FI who invested up to 10 MEUR ($M=4.2800$, $SD=0.89069$) and those who invested from 11 to 50 MEUR ($M=3.3889$, $SD=1.24849$), from 51 to 100 MEUR ($M=3.1429$, $SD=1.02711$) and over 100 MEUR ($M=3.1154$, $SD=0.76795$).

Table 7. Results of the T-HSD test on the differences between FI depending on the amount of investment made in Serbia when assessing the impact of the CIT rate level

	(I)	(J)	MD (I-J)	p*	95 % CIM	
					Lower	Upper
The level of CIT rate	≤10	11-50	0.58556	0.141	-0.1232	1.2943
		51-100	0.99429	0.026	0.0855	1.9031
		≥100	1.28460	0.001	0.2663	1.5955
	11-50	≤10	-0.58556	0.141	-1.2943	0.1232
		51-100	0.40873	0.597	-0.4488	1.2662
		≥100	0.49976	0.336	-1.8019	-0.0400
	51-100	≤10	-0.99429	0.026	-1.9031	-0.0855
		11-50	-0.40873	0.597	-1.2662	0.4488
		≥100	-1.32967	0.057	-2.3783	-0.2811
	≥100	≤10	-1.28460	0.001	-0.5955	1.2663
		11-50	0.49976	0.336	0.0400	1.8019
		51-100	1.32967	0.057	0.2811	2.3783

* At the level $p < 0.05$, a statistically significant difference is present

Note: ≤10 (less than 10 MEUR); 11-50 (from 11 to 50 MEUR);

51-100 (from 51 to 100 MEUR);

≥100 (over 100 MEUR); CIT (corporate income tax)

Source: Authors' research

Table 8. Results of the T-HSD test on the differences between FI depending on the amount of investment made in Serbia when assessing the impact of the CIT base determination system

	(I)	(J)	MD (I-J)	p*	95% CIM	
					Lower	Upper
SDTB for CIT	≤10	11-50	0.89111	0.009	0.1677	1.6145
		51-100	1.13714	0.010	0.2096	2.0646
		≥100	1.16466	0.005	-0.2855	1.6147
	11-50	≤10	-0.89111	0.009	-1.6145	-0.1677
		51-100	0.24603	0.882	-0.6291	1.1212
		≥100	-0.22650	0.912	-1.1256	0.6726
	51-100	≤10	-1.13714	0.010	-2.0646	-0.2096
		11-50	-0.24603	0.882	-1.1212	0.6291
		≥100	-0.47253	0.655	-1.5427	0.5977
	≥100	≤10	-1.16466	0.005	-1.6147	0.2855
		11-50	0.22650	0.912	-0.6726	1.1256
		51-100	0.47253	0.655	-0.5977	1.5427

* A statistically significant difference exists at the level $p < 0.05$

Note: ≤10 (less than 10 MEUR); 11-50 (from 11 to 50 MEUR);

51-100 (from 51 to 100 MEUR);

≥100 (over 100 MEUR); SDTB (the system of determining the tax base);

CIT (corporate income tax)

Source: Authors' research

This means that FI who invested up to 10 MEUR place more importance on the system for determining the CIT rate than those who invested from 11 to 50 MEUR, from 51 to 100 MEUR and over 100 MEUR.

The research findings highlight the importance of national tax system factors for Serbia's competitiveness, especially regarding the investment decisions of FIs. Our analysis highlights the central role of the CIT rate in influencing Serbia's overall tax competitiveness. FIs, especially those with investments below 10 million euros, perceive the CIT rate as very influential. This underlines the importance of competitive corporate tax rates in attracting foreign investment and promoting economic growth.

Conversely, the results indicate a more nuanced view of the impact of the PIT rate on Serbia's tax competitiveness. The majority of FIs believe the income tax rate has a neutral effect, suggesting that it may not be a primary factor influencing investment decisions. Similarly, FIs' assessments of the CIT and PIT base determination system are mostly neutral, suggesting that other factors may play a more important role in shaping Serbia's overall tax competitiveness.

In addition, our analysis shows that the attitude of FIs differs depending on the nature of their entry into the Serbian market. FIs that make direct investments emphasise the influence of the tax rate more than those that enter the market indirectly. This underlines the importance of considering the type of market entry when assessing the impact of tax policy on investment decisions.

CONCLUSION

The research results illustrate the complex interplay between national tax policy and Serbia's competitiveness in attracting foreign investment. While the CIT rate emerges as a critical factor, other aspects of the tax system, such as the PIT rate and the tax base determination system, should be further investigated. In addition, understanding the different perspectives of FIs depending on the mode of entry can provide valuable insights for policy makers trying to make Serbia more attractive for foreign investors.

Despite an important limitation, namely the response rate of the questionnaire, which was one third of the sample, the study nevertheless provides valuable insights into the factors that influence the decisions of foreign investors in Serbia.

Future research efforts should focus on overcoming this limitation by using larger sample sizes. This will allow policy makers to make more informed decisions aimed at increasing Serbia's attractiveness to foreign investors and promoting economic growth.

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УТИЦАЈ ПОРЕСКОГ СИСТЕМА НА КОНКУРЕНТНОСТ СРБИЈЕ

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Резиме

Стране директне инвестиције могу имати јак утицај како на земљу домаћина (где се улагање врши) тако и на матичну земљу (земљу инвеститора). Оне играју веома важну улогу у обликовању глобалне економије, подстицању економског развоја, промовисању међународне пословне сарадње, позиционирању на глобалном тржишту, али и јачању конкурентности земље. Позитивни ефекти преливања страних директних инвестиција доприносе економском развоју и помажу у стратешком позиционирању земље на глобалном тржишту. Земље које ефикасно привлаче стране директне инвестиције и управљају њима у већини случајева имају конкурентске предности у односу на неке друге земље, што доприноси њиховом одрживом економском расту. Порески систем игра кључну улогу у утицају на конкурентност једне земље. Добро осмишљен, конкурентан и ефикасан порески систем значајно доприноси позитивном пословном окружењу, привлачи инвестиције и глобално повећава укупну конкурентност земље. Порески систем значајно обликује пословно окружење за стране инвеститоре, утичући на њихову одлуку да инвестирају и послују у одређеној земљи. Порески систем је веома важан за пословање страног инвеститора у једној земљи и као такав може утицати на инвестиционе одлуке, оперативне трошкове и укупне пословне стратегије. У раду су анализирани одабрани фактори пореског система кроз утицај који могу имати на страног инвеститора приликом доношења одлуке о инвестирању у Србији. Анализа је обухватила пореску стопу и пореску основицу код пореза на добит предузећа, као и пореску стопу и пореску основицу код пореза на доходак грађана. Истраживање је спроведено у периоду од априла до јуна 2023. године, при чему је основни скуп у истраживању чинило 300 највећих инвеститора који су инвестирали у Србију у периоду од 2011. до 2019. године (не рачунајући године 2020–2022, с обзиром да је ово период пандемије корона вируса). Од укупног броја страних инвеститора којима је послат електронски упитник, 88 инвеститора је попунило упитник и доставило га у назначеном року. У истраживању је коришћена методологија заснована на т-тесту независних узорака и једнофакторској анализи варијансе различитих група (АНОВА). На основу добијених резултата може се закључити да је стопа пореза на добит предузећа веома значајан фактор за страног инвеститора приликом одлучивања о улагању капитала у Србију. Што се тиче осталих фактора пореског система, анализа је показала да су они углавном неутрални, односно да нису од круцијалног значаја за стране инвеститоре када је у питању њихово инвестирање у Србију.

THE MANAGEMENT OF FACTORS STIMULATING DEMAND FOR WALKING TOURISM IN RURAL AREAS

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Abstract

Due to its economic, social, environmental, and health significance, walking in rural areas provides plenty of benefits that contribute to the sustainable development and well-being of both visitors and local communities. The aim of this research is to analyse the influence of accommodation, gastronomy, and local guides on stimulating demand for walking tourism in rural areas, and to propose instruments for enhancing the management of these factors. Tourism demand describes the desires or needs of tourists for specific destinations, services, or activities. The geographical focus of the research is global. The survey was disseminated to a broad audience via academic platforms and social media networks. A total of 467 responses were gathered between March and May 2022. Data was processed using descriptive statistics and parametric statistics: the Independent Samples T-test, and the One-factorial Analysis of Variance (One-way ANOVA). Due to their key role in creating an authentic tourist experience, the research focused on three factors stimulating tourist demand for walking in rural areas: accommodation, gastronomy, and guides. The paper indicated that walkers in rural areas prefer to consume traditional meals, stay in traditional households, and get to know nature with the support of local guides. This paper contributes to the understanding of the key elements that attract tourists to rural areas, providing recommendations for the sustainable management of walking tourism and supporting local communities. Future studies will explore natural and cultural resources, walking infrastructure, and environmental awareness as factors.

Key words: accommodation, local guides, management instruments, tourist demand factors, traditional gastronomy.

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УПРАВЉАЊЕ ФАКТОРИМА СТИМУЛИСАЊА ТРАЖЊЕ ЗА ПЕШАЧКИМ ТУРИЗМОМ У РУРАЛНИМ ПОДРУЧЈИМА

Апстракт

Због економског, социјалног, еколошког и здравственог значаја, пешачење у руралним подручјима пружа бројне користи које доприносе одрживом развоју и благостању истовремено и посетиоцима и локалној заједници. Циљ овог истраживања је да се испита утицај смештаја, гастрономије и локалних водича на стимулисање тражње за пешачким туризмом у руралним подручјима, као и да се предложи средства за унапређење управљања овим факторима. Туристичка тражња описује жеље или потребе туриста за специфичним дестинацијама, услугама или активностима. Географски фокус истраживања је глобалан. Упитник је дистрибуиран широкој публици путем академских платформи и друштвених мрежа. Укупно 467 одговора је прикупљено од марта до маја 2022. године. Подаци су обрађени коришћењем дескриптивне статистике и параметарске статистике: т-тест независних узорака и једнофакторска анализа варијансе (One-way ANOVA). Због кључне улоге у стварању аутентичног туристичког доживљаја, у фокусу истраживања била су три фактора стимулисања туристичке тражње за пешачењем у руралним срединама: смештај, гастрономија и водичи. Рад је указао да шетачи у руралним подручјима преферирају конзумирање традиционалних јела, боравак у традиционалним домаћинствима и упознавање природе уз подршку локалних водича. Рад доприноси разумевању кључних елемената који привлаче туристе у руралне области, пружајући препоруке за одрживо управљање пешачким туризмом и подршку локалним заједницама. Будуће студије ће истраживати факторе као што су природни и културни ресурси, пешачка инфраструктура и еколошка свест.

Кључне речи: смештај, локални водичи, менаџмент инструменти, фактори туристичке тражње, традиционална гастрономија.

INTRODUCTION

Walking tourism in rural areas has emerged as a significant activity due to its multifaceted benefits, encompassing economic, social, environmental, and health dimensions. Besides the promotion of sustainable development, this specific tourism form enhances the well-being of both visitors and local communities. By encouraging low-impact travel and fostering a deeper connection with nature, walking tourism aligns with global efforts to achieve sustainability while supporting rural economies and preserving cultural heritage.

The increasing interest in walking tourism highlights the need to understand and manage the factors that effectively stimulate demand for this specific form of rural tourism. In this context, tourism demand refers to the tourists' preferences, desires, or needs for rural destinations, services, and activities. Identifying and managing these factors is critical to optimising the experience for visitors while maximising the economic and social benefits for rural communities.

This paper examines the key factors influencing the demand for walking tourism in rural areas, focusing on three main elements: accommodation, gastronomy, and tour guides. The selection of these factors is based on previous research highlighting their importance in attracting tourists. According to Antić et al. (2025, p. 17), “the most common reason for staying in rural areas is healthy food.” Additionally, Sharpley (2000) found that tourists expect quality accommodation, food, and additional facilities, emphasising the role of accommodation in attracting visitors. Furthermore, Song et al. (2019, p. 1) report “a 15.4% increase in an attraction’s online popularity after the entry of accommodation sharing.” Finally, Rabotić (2009, p. 17) states that “guides should be considered as tourism players who fulfil a very important mission on behalf of the destination.” Based on these findings, this paper analyses how accommodation, gastronomy, and tour guides contribute to the development and popularity of walking tourism in rural areas.

The study draws on data collected from 467 questionnaires distributed to participants during the post-COVID pandemic period, from March to May 2022. These responses were analysed using descriptive and parametric statistical methods, including the Independent Samples T-test and One-way ANOVA. The findings reveal that walkers in rural areas strongly prefer consuming traditional meals, staying in traditional households, and exploring nature with the assistance of local guides.

The research identifies the core factors that stimulate demand for walking tourism and provides practical recommendations for managing them. By employing direct and indirect management instruments, stakeholders can enhance the appeal of rural walking destinations while ensuring sustainable practices.

Future studies will expand on this work by exploring additional factors such as natural and cultural resources, walking infrastructure, and environmental awareness. These dimensions are crucial for building a comprehensive framework to support the growth of walking tourism in rural areas while addressing sustainability challenges and meeting the evolving expectations of modern tourists. The paper aims to contribute to the understanding and practical application of effective management strategies in walking tourism, providing valuable insights for researchers, policymakers, and practitioners.

LITERATURE REVIEW

Walking in rural areas has multiple levels of importance, which can be divided into ecological, economic, health, and social aspects (Molgo&Etfi, 2021). Walking in rural areas is ecologically important as it preserves the natural environment through an eco-friendly recreation form. It avoids pollution and promotes the awareness of nature by educating people on the importance of conserving natural resources and biodiversity (Isabel, & Antonio, 2022; Zhang, Fisher, & Wang, 2023). The economic importance of walking

in rural areas lies in boosting the local economy by increasing demand for businesses like accommodations, restaurants, guides, and souvenir shops, while also creating jobs in tourism and hospitality (Cai et al., 2019; Bošković, & Maksimović, 2019; Stančić et al., 2022). Walking in nature reduces stress, boosts mood, and improves overall mental health (Buehler, Pucher, & Bauman, 2020; Kotera et al., 2020; Mau et al., 2020). Rural walking tourism strengthens community bonds and fosters interaction between residents and visitors. It also promotes cultural exchange, allowing visitors to learn about and appreciate local customs, which encourages understanding and tolerance (Belligiano, Bindi, & Ievoli, 2021).

Several specific factors directly stimulate tourist demand for walking in rural areas (Mao et al., 2021). The accessibility and attractiveness of natural beauties such as mountains, forests, lakes, rivers, and other natural sights can significantly increase interest in walking. Scenic and photogenic landscapes attract nature and walking enthusiasts (Namazov, 2021). Well-maintained, clearly marked trails with detailed information enhance safety and appeal. Additionally, cultural and natural attractions further stimulate tourist demand. Cultural landmarks, historical sites, traditional villages, and local events can enrich the walking experience and attract tourists (Kusumah, 2023). Natural and cultural harmony is an important incentive for rural walking development (Wolf, Croft, & Green, 2019; Fafurida et al., 2023). Farmhouses, guesthouses, and restaurants with authentic local food add value to the experience (Zhang, Chen, & Hu, 2019). Organised guided tours, which can provide information on local flora, fauna, geology, and history, can increase the appeal of walking (Denkovska, & Dimitrijovska-Jankulovska, 2023). Educational programs and workshops about nature can further motivate visitors (Yousaf, Amin, & Santos, 2018). Safety and accessibility are a factor that includes ensuring safety on trails, including rescue services, first aid, and marked routes, which can increase the tourists' sense of security (Buehler, & Pucher, 2023). Environmental awareness also plays a role, as tourists increasingly prefer destinations that support nature conservation and sustainable practices (Trišić, 2021). Students typically look for affordable housing that supports social activities and adventure experiences, with internet access for communication and learning, and proximity to outdoor activities like hiking or camping (Priat et al., 2023; Haris & Gan, 2021). Factors that stimulate tourist demand for farmhouses, guesthouses, and restaurants with authentic local food add value to the experience (Palacios-Florencio et al., 2021). Tourist reviews, social media, and influencer impressions can directly boost interest in walking in specific rural areas (Idbenssi et al., 2023).

METHODS

The research was conducted using both quantitative empirical methods and qualitative analysis, including analytical-synthetic, hypothetical-

deductive, and statistical methods. The modular questionnaire, based on the “Va’ Sentiero” project model (Simeoni, 2019), covers personal data, indoor and outdoor activities, travel and vacation expectations, and perceptions of financial support for rural walking tourism development. The model was chosen for its relevance to rural walking tourism, addressing key aspects like activity preferences and expectations. Qualitative data was collected through open-ended questions included in the survey.

A total of 467 electronic questionnaires were collected over three months (from March to May 2022) following the easing of COVID-19 movement restrictions. The survey was designed to provide equal selection opportunities for all participants. Distributed through academic platforms and social media, the online survey was available in both Serbian and English, allowing for a geographically diverse sample. The target group consisted of individuals with access to the survey who voluntarily participated, regardless of their country of origin. The key factors defining this group include digital literacy, language proficiency, interest in the topic, and geographic inclusivity. Consequently, the sample is broad and heterogeneous, with participant characteristics influenced by the survey’s promotion and distribution platforms. All collected questionnaires are valid and were included in the analysis.

The study used the Independent Samples T-test and One-way ANOVA to analyse demographic variables. The T-test identified differences between two independent groups (e.g., men and women), while One-way ANOVA examined variations across multiple groups based on factors like age, marital status, children, education, employment, and annual investment in tourism. The Life Orientation Test (LOT) measured dependent variables and the Tukey HSD test identified statistically significant differences. Data was analysed using SPSS software, and the results offer valuable insights for enhancing and promoting rural walking tourism, providing guidance for policymakers and practitioners.

The following hypotheses were defined in the research:

H1 – Walkers in rural areas desire traditional dishes, stay in traditional households, and have nature experiences with local guides;

H2 – Demographic and socioeconomic factors, including gender, age, marital status, number of children, and personal investment opportunities, significantly influence tourists’ preferences for food, accommodation, and nature experiences during active rural vacations; and

H3 – The level of educational and employment status influence differences in tourists’ desires or needs for walking in rural areas.

RESULTS

Demand stimulators for rural walking tourism were analysed by examining dependent variables related to food and accommodation choices during rural vacations, as well as the manner in which visitors

familiarise themselves with the rural environment. Independent variables included the demographic characteristics of the respondents (Table 1). Women represented over 66% of the sample. The majority of the respondents were between 36 and 55 years old, married, with children, holding a university degree, and employed (52%, 51%, 61%, 66%, and 70% respectively). Additionally, 73% of the respondents were willing to invest up to 1,000 euros annually in their vacation.

Table 1. Overview and definitions of independent variables

Independent variable name	Independent variable code	Variable descriptive statistics
Gender	G	
Female	G1	66%
Male	G2	34%
Age	A	
≤25	A1	18%
26–35	A2	12%
36–45	A3	25%
46–55	A4	27%
≥56	A5	18%
Marital status	MS	
Single	MS1	27%
Cohabitation	MS2	13%
Married	MS3	51%
Divorced	MS4	6%
widow/widower	MS5	3%
Number of children	NoC	
0	NoC0	39%
1	NoC1	21%
2	NoC2	30%
3	NoC3	9%
≥4	NoC4	1%
Education	E	
Without formal education	E1	0%
Primary education	E2	1%
Secondary education	E3	20%
College	E4	13%
University	E5	66%
Work status	WS	
Student	WS1	15%
Unemployed	WS2	6%
Self-employed	WS3	10%
Employed	WS4	60%
Retired	WS5	7%
Other	WS6	2%
Yearly personal tourist investment	YPTI	
<500 EUR	YPTI1	39%
500–1000 EUR	YPTI2	34%
>1,000 EUR	YPTI3	27%

Source: Author's calculations

Descriptive statistics show that visitors in rural areas prefer traditional regional dishes (55%) or self-prepared food (36%), with fewer opting for restaurants or fast food (9%) (Table 2). For accommodation, traditional local homes are most favoured (51%), followed by hotels and apartments (38%), with minimal interest in tents, recreational vehicles, and hostels (11%). When experiencing nature, 71% prefer a knowledgeable local guide, 24% use maps, and only 5% choose accredited tour guides. Hypothesis H1 was confirmed, as visitors’ preferences focus on traditional dishes, staying in traditional homes, and exploring nature with local guides.

Table 2. Descriptive statistic of dependent variables versus independent variable G

Dependent Variable	Variable code	N	Mean	Median	Std. deviation	Minimum	Maximum
What kind of food would you eat during your trip and active vacation?	V1	467	2,76	4	1,41	1	4
Valid		Percent		Valid Percent		Cumulative percent	
homemade meals	V11	35.8		35.8		35.8	
restaurant food	V12	7.5		7.5		43.3	
fast food	V13	1.9		1.9		45.2	
traditional regional dishes	V14	54.8		54.8		100.0	
Dependent Variable		N	Mean	Median	Std. Deviation	Minimum	Maximum
What type of accommodation would you prefer for your active vacation?	V2	467	4,79	6	1,53	1	6
Valid		Percent		Valid Percent		Cumulative percent	
recreational vehicle	V21	3.2		3.2		3.2	
tent	V22	6.0		6.0		9.2	
hotel	V23	19.9		19.9		29.1	
hostel	V24	1.3		1.3		30.4	
apartment	V25	18.4		18.4		48.4	
traditional local house	V26	51.2		51.2		100.0	
Dependent Variable		N	Mean	Median	Std. Deviation	Minimum	Maximum
How would you like to experience pristine nature?	V3	467	2,47	3	,85	1	3

Valid		Percent	Valid Percent	Cumulative percent
navigating with a map	V31	24.0	24.0	24.0
utilizing the services of an accredited tour guide from a professional company	V32	4.9	4.9	28.9
employing a knowledgeable local guide familiar with the region	V33	71.1	71.1	100.0

Source: Author's calculations

Using the Independent Samples T-test, the existence of significant differences between the mean values of V1, V2, and V3 in G1 and G2 was analysed (Table 3). The analysis of the results indicates no significant difference in the attitudes of women and men in the choice of accommodation in the rural area, but there is a significant difference in the selection of food and the way in which they get to know untouched nature. Compared to men, women prefer traditional gastronomy and the services of local guides.

Table 3. Independent Samples T-test

Dependent Variable	Levene's Test for Equality of Variances		T-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
V1	,145	,704	,832	465	,406	,11525	,13855	-,15702	,38751
V2	31,047	,000	3,043	261,407	,003	,48350	,15890	,17062	,79638
V3	64,556	,000	4,461	258,395	,000	,39303	,08811	,21953	,56654

Source: Author's calculations

The influence of *age* on the dependent variables V1, V2, and V3 measured by the LOT was investigated using the One-way ANOVA of different groups (Table 4). The respondents were divided into five groups – A1, A2, A3, A4, and A5, according to their age. A statistically significant difference at the $p < 0.05$ level was found in the LOT results of the five age groups per the following dependent variables: V2 and V3. Re-

spondents aged 25 and under are more likely to prefer traditional accommodation compared to those over 36 years of age, while respondents aged 26 to 35 tend to favour accommodation in traditional households more than those over 46. Additionally, respondents aged 25 and under are slightly more inclined to choose a local guide to explore a rural area than those aged 36 to 45.

Table 4. One-way ANOVA results of dependent variables versus independent variable A

Dependent Variable		Sum of Squares	df	Mean Square	F	Sig.
V1	Between Groups	7.96	4	1.99	1.00	0.41
	Within Groups	923.70	462	2.00		
	<i>Total</i>	<i>931.66</i>	<i>466</i>			
V2	Between Groups	114.39	4	28.60	13.56	0.00
	Within Groups	974.47	462	2.11		
	<i>Total</i>	<i>1088,852</i>	<i>466</i>			
V3	Between Groups	9.02	4	2.25	3.14	0.01
	Within Groups	331.34	462	0.72		
	<i>Total</i>	<i>340.36</i>	<i>466</i>			

Source: Author's calculations

The influence of *marital status* on the dependent variables V1, V2, and V3 measured by the LOT was investigated using the One-way ANOVA of different groups (Table 5). The respondents were divided into five groups – MS1, MS2, MS3, MS4, and, MS5, according to their marital status. A statistically significant difference at the $p < 0.05$ level was found in the LOT results of the five marital status groups per the following dependent variables: V1, V2, and V3. Respondents who identified as single slightly preferred traditional gastronomy compared to those in cohabiting relationships. Single respondents also moderately favoured accommodation in traditional households over those who were married or divorced. Additionally, single respondents were slightly more likely than divorced individuals to choose a local guide for exploring untouched nature.

The influence of the *number of children* on the dependent variables V1, V2, and V3 measured by the LOT was investigated using the One-way ANOVA of different groups (Table 6). The respondents were divided into five groups – NoC0, NoC1, NoC2, NoC3, and NoC4, according to the number of children. A statistically significant difference at the $p < 0.05$ level was found in the LOT results of the five children groups per the following dependent variables: V2 and V3. Respondents without children moderately preferred traditional accommodation in rural areas and the services of a local guide for exploring the rural environment, compared to those with two or three children.

Table 5. One-way ANOVA results of dependent variables versus independent variable MS

Dependent Variable		Sum of Squares	df	Mean Square	F	Sig.
V1	Between Groups	28.92	4	7.23	3.70	0.01
	Within Groups	902.74	462	1.95		
	<i>Total</i>	<i>931.66</i>	<i>466</i>			
V2	Between Groups	78.43	4	19.61	8.97	0.00
	Within Groups	1010.42	462	2.19		
	<i>Total</i>	<i>1088.85</i>	<i>466</i>			
V3	Between Groups	8.76	4	2.19	3.05	0.02
	Within Groups	331.60	462	,718		
	<i>Total</i>	<i>340,36</i>	<i>466</i>			

Source: Author's calculations

Table 6. One-way ANOVA results of dependent variables versus independent variable NoC

Dependent Variable		Sum of Squares	df	Mean Square	F	Sig.
V1	Between Groups	1.78	4	0.45	0.22	0.93
	Within Groups	929.87	462	2.01		
	<i>Total</i>	<i>931.66</i>	<i>466</i>			
V2	Between Groups	73.08	4	18.27	8.31	0.00
	Within Groups	1015.78	462	2.20		
	<i>Total</i>	<i>1088.85</i>	<i>466</i>			
V3	Between Groups	15.54	4	3.88	5.52	0.00
	Within Groups	324.82	462	,703		
	<i>Total</i>	<i>340.36</i>	<i>466</i>			

Source: Author's calculations

The influence of *yearly personal tourist investment* on the dependent variables V1, V2, and V3 measured by the LOT was investigated using the One-way ANOVA of different groups (Table 7). The respondents were divided into YPTI1, YPTI2, and YPTI3 groups according to yearly personal tourist investment. A statistically significant difference at the $p < 0.05$ level was found in the LOT results of the three yearly personal tourist investment groups per the following dependent variables: V1 and V3. Respondents who invest up to 1,000 EUR annually in tourism are slightly more likely to prefer traditional gastronomy than those who invest more. Additionally, respondents who invest less than 500 EUR per year in tourism are slightly more likely to choose a local guide for exploring untouched nature than those who invest up to 1,000 EUR.

Table 7. One-way ANOVA results of dependent variables versus independent variable YPTI

Dependent Variable		Sum of Squares	df	Mean Square	F	Sig.
V1	Between Groups	23.99	2	11.99	6.13	.002
	Within Groups	907.67	464	1.96		
	<i>Total</i>	<i>931.66</i>	<i>466</i>			
V2	Between Groups	6.72	2	3.36	1.44	.238
	Within Groups	1082.13	464	2.33		
	<i>Total</i>	<i>1088.85</i>	<i>466</i>			
V3	Between Groups	4.64	2	2.32	3.21	.041
	Within Groups	335.72	464	.724		
	<i>Total</i>	<i>340.36</i>	<i>466</i>			

Source: Author’s calculations

Considering the above-mentioned separate analyses of the research results, the overall analysis of the results confirms the validity of hypothesis H2.

The influence of *education* on the dependent variables V1, V2, and V3 measured by the LOT was investigated using the One-way ANOVA of different groups (Table 8). The respondents were divided into five groups – E1, E2, E3, E4, and E5, according to the level of education. A statistically significant difference at the $p < 0.05$ level was not found in the LOT results of the five education groups. The analysis of the research results indicates that the level of education has no significant impact on differences in visitors’ preferences or needs for walking in rural areas.

Table 8. One-way ANOVA results of dependent variables versus independent variable E

Dependent Variable		Sum of Squares	df	Mean Square	F	Sig.
V1	Between Groups	8.16	4	2.04	1.02	0.40
	Within Groups	923.49	462	2.00		
	<i>Total</i>	<i>931.66</i>	<i>466</i>			
V2	Between Groups	17.16	4	4.30	1.85	0.12
	Within Groups	1071.69	462	2.32		
	<i>Total</i>	<i>1088.85</i>	<i>466</i>			
V3	Between Groups	4.63	4	1.16	1.59	0.18
	Within Groups	335.73	462	.727		
	<i>Total</i>	<i>340.36</i>	<i>466</i>			

Source: Author’s calculations

The influence of *work status* on the dependent variables V1, V2, and V3 measured by the LOT was investigated using the One-way ANOVA of different groups (Table 9). The respondents were divided into five groups – WS1, WS2, WS3, WS4, and WS5, according to their employment status. A statistically significant difference at the $p < 0.05$ level was found in the LOT results of the five work status groups per the dependent variable V2. Respondents who identified as students were moderately more likely to prefer traditional accommodation during travel and active vacations compared to the unemployed, employed, and retired respondents.

Table 9. One-way ANOVA results of dependent variables versus independent variable WS

Dependent Variable		Sum of Squares	df	Mean Square	F	Sig.
V1	Between Groups	15.03	5	3.01	1.51	0.18
	Within Groups	916.63	461	1.99		
	<i>Total</i>	<i>931.66</i>	<i>466</i>			
V2	Between Groups	62.31	5	12.46	5.60	0.00
	Within Groups	1026.54	461	2.23		
	<i>Total</i>	<i>1088.85</i>	<i>466</i>			
V3	Between Groups	4.76	5	,952	1.31	0.26
	Within Groups	335.60	461	,728		
	<i>Total</i>	<i>340.36</i>	<i>466</i>			

Source: Author's calculations

Considering the above-mentioned separate analyses of the research results, the overall analysis of the results does not confirm the validity of hypothesis H3.

DISCUSSION

The research focuses on three key factors driving demand for rural walking tourism: accommodation, gastronomy, and guides. It reveals that visitors prefer traditional meals, staying in traditional households, and exploring nature with local guides. The study also compares preferences for rural walking based on various demographic factors.

The research, using a simple random sample, found that women showed more interest in rural walking tourism than men. Gender differences in accommodation and guide preferences in favour of females, along with similar food preferences, are expected to stimulate interest in rural walking tourism.

People under the age of 35 prefer authentic experiences, such as staying in traditional houses, for their cultural value. Informed by digital platforms, they favour sustainable tourism that aligns with their environmental and community-focused values.

Singles show distinct preferences for food, guide services, and accommodation compared to couples and divorced individuals. They are more inclined to explore local culture through traditional gastronomy and guides, seeking authentic experiences and social interactions due to their flexibility and fewer obligations. Childless individuals favour private, authentic accommodations and adventurous activities, while families prefer spacious, child-friendly lodgings and guided tours.

Visitors share a universal interest in rural walking, regardless of education level. However, students prefer affordable, internet-equipped housing, while the unemployed seek peaceful, budget-friendly accommodations. Employed individuals favour comfortable stays near nature, and retirees prioritise comfort and health services. Spending habits show minor differences in food and exploration preferences. Tracking solo and family travel trends is recommended for managing rural walking tourism demand.

Local gastronomy, accommodation, and guides are key to boosting tourist demand. Quality lodging and authentic cuisine enhance the rural experience, while guides offer organised tours highlighting local nature and history. Effective promotion through digital platforms can attract walking enthusiasts. The recommended management instruments include surveys, focus groups, social network analysis, and benchmarking.

CONCLUSIONS

This research provides valuable insights into the factors driving demand for rural walking tourism, emphasising the role of accommodation, gastronomy, and guides. It highlights how demographic variations shape tourism preferences, offering actionable recommendations for stakeholders to develop targeted strategies. The findings contribute to the growing field of sustainable tourism by identifying key preferences and trends.

Despite its contributions, the study faced several limitations. A simple random sample may not fully capture the diversity of rural walking tourists. Additionally, the research focuses on broad demographic categories, which may overlook more specific behavioural patterns or regional differences. The research was conducted in the initial stage of the post-COVID-19 pandemic, so the results may not reflect the same factors in demand for rural tourism in the following period. The limited exploration of external factors such as infrastructure, accessibility, and environmental conditions also constrains the findings.

Future research should address these limitations by incorporating diverse sampling methods and exploring additional factors such as natural and cultural resources, walking infrastructure, and environmental awareness. This will ensure a more comprehensive understanding of rural walking tourism and its potential to contribute to sustainable development.

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УПРАВЉАЊЕ ФАКТОРИМА СТИМУЛИСАЊА ТРАЖЊЕ ЗА ПЕШАЧКИМ ТУРИЗМОМ У РУРАЛНИМ ПОДРУЧЈИМА

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Резиме

Шетња у руралним подручјима доноси бројне користи за одрживи развој и добробит посетилаца и локалних заједница. Овај рад истражује управљање факторима који стимулишу тражњу за пешачким туризмом у руралним срединама, користећи податке из 467 упитника. Фокус истраживања су смештај, гастрономија и водичи. због њихове кључне улоге у стварању аутентичног туристичког искуства.

Резултати показују да шетачи преферирају традиционалну храну, боравак у аутентичним домаћинствима и локалне водиче. Анализа је указала на разлике у преференцијама смештаја и водича између жена и мушкараца у корист жена, док су преференције за традиционалну храну сличне. Млађе генерације траже аутентична искуства, а традиционалне куће их привлаче због културно-историјске вредности. Особе без партнера више су заинтересоване за истраживање локалне културе кроз храну и водиче, док људи без деце преферирају приватнији смештај попут традиционалних кућа. Без обзира на степен образовања, испитаници имају сличне жеље за руралним шетњама. Студенти преферирају приступачан смештај с друштвеним активностима и интернетом, док незапослени бирају економичан смештај и мирно окружење. Запослени траже удобан смештај за краће боравке, док пензионери преферирају мирно окружење с приступом здравственим услугама. Разлике у преференцијама исхране и водича су мале између оних који троше до 1.000 евра и оних који троше више.

Препоручује се примена менаџмент инструмената за управљање тражњом, укључујући анкете, фокус групе, анализе друштвених мрежа и бенчмаркинг. Истовремено, ово истраживање може указати на потенцијалне препреке и слабости у тренутним понудама, омогућавајући правовремено прилагођавање стратегија и производа, те може допринети ефикаснијем управљању факторима који стимулишу тражњу за руралним пешачким туризмом. Будућим истраживањима биће обухваћени фактори који се односе на природне и културне ресурсе, инфраструктуру и сколошку свест.

AVAILABILITY OF CHOICE FOR PEOPLE WITH MODERATE INTELLECTUAL DISABILITY IN DIFFERENT TYPES OF HOUSING IN SERBIA

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Abstract

This research aimed to determine the availability of choice for people with moderate intellectual disability in different types of housing in the Republic of Serbia. The sample included 87 male and female adults with moderate intellectual disability, living in one out of three types of housing: a family home, an institution, or within the supported community living program. The Choice Questionnaire (Stancliffe & Parmenter, 1999) was used to determine the availability of choice in their daily lives. The results indicated that the overall availability of choice was significantly higher in people with moderate intellectual disability living within the supported community living program than in those living in family homes or institutions. The differences in choice opportunities were also found in particular life domains. The practical implications of this research involve the need to provide people with moderate intellectual disability with more frequent opportunities to make personal decisions and choices.

Key words: availability of choice, moderate intellectual disability, type of housing.

ДОСТУПНОСТ ИЗБОРА ОСОБАМА СА УМЕРЕНОМ ИНТЕЛЕКТУАЛНОМ ОМЕТЕНОШЋУ У РАЗЛИЧИТИМ ТИПОВИМА СТАНОВАЊА У СРБИЈИ

Апстракт

Циљ истраживања је био утврђивање доступности избора за особе са умереном интелектуалном ометеношћу које станују у различитим типовима становања. Узорак је обухватио 87 одраслих мушкараца и жена са умереном интелектуалном омете-

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nošću, koje живе u jednom od tri tipa stanovaња: u porodičnom domu, instituciji ili u programu stanovaња uz podršku. Upitnik o izboru (Stancliffe & Parmenter, 1999) je primenjen za utvrđivanje dostupnosti izbora u svakodnevnom životu ispitanika. Rezultati su pokazali da je ukupna dostupnost izbora značajno viša kod osoba sa umerenom intelektualnom ometenošću koje живе u okviru programa stanovaња uz podršku u odnosu na one koji живе u porodičnim domovima ili institucijama. Razlike u prilikama za izbor su takođe utvrđene u pojedinim životnim domenima. Praktične implikacije ovog istraživanja uključuju potrebu za obezbeđivanjem veće dostupnosti donošenja odluka i vršenja izbora osobama sa umerenom intelektualnom ometenošću.

Кључне речи: доступност izbora, умерена интелектуална ометеност, тип становања.

INTRODUCTION

Choice-making is of great importance for people with intellectual disability (ID) since it gives them a sense of independence, personal dignity and satisfaction. Situations in which they need to make a decision are important opportunities to learn and practice new social knowledge and skills (Agran et al., 2010). The significance of choice availability is reflected in its predictive role for behavioural autonomy in adults with moderate intellectual disability (MID) (Author, 2021), and in the fact that choice-making and self-advocacy skills are the basis for the development of more complex manifestations of self-determination (Shogren et al., 2015).

Despite the proven long-term benefits of autonomous behaviour for the quality of life (Shogren et al., 2017), people with ID have limited opportunities to acquire and practice volitional skills, such as autonomous choice-making, compared to their typically developing peers (Mumbardó Adam et al., 2018). Support providers for people with moderate and severe ID often shape the decisions of these persons, trying to ensure that the decision made is in accordance with what they believe is in the best interest of a person with ID, and to reduce the risk of making a decision they consider inadequate (Pilnick et al., 2010). The insufficient attention paid to the importance of providing choices to people with ID is arguably driven by an age-old assumption that concepts relating to self-determination and autonomy have no relevance to these people, due to perceived lack of decision-making capacity (Jameson et al., 2015). It is considered that limited opportunities reduce the possibility of acquiring choice-making and decision-making skills, and functionally applying them in different social circumstances. Data shows that people with mild and MID are able to exercise their rights to choose in everyday life through the process of supported decision-making, and that this is a very complex process that must be adequately regulated so as not to become substituted decision-making (Devi et al., 2020). The role of a person providing support is to explain a problem or a question, explore available options, and help with expressing preferences (Carney & Beaupert, 2013).

Availability of Choice for People with ID

Previous studies that aimed to determine the level of choice availability, decision-making, and control in the daily life of people with ID indicate that choice opportunities vary according to the domain within which a decision has to be made. People with ID usually do not make the majority of important decisions independently but under the influence of significant others (Wong & Chow, 2021). Availability of choice is greater for activities related to satisfying basic needs, housekeeping, and leisure activities, while choices related to more complex life domains, such as health, employment, schooling, money management, and housing are primarily made by parents or service providers, with relatively low involvement of people with ID (Lakin et al., 2008; Tichá et al., 2012).

In analysing the available studies on choice-making and autonomy of people with ID, research in which the informants were people with ID, and where the problem of choice-making and control is given from their perspective is particularly valuable. The results of such studies indicate that people with ID point out the lack of autonomy and freedom of choice related to their health (Bollard et al., 2018), lack of control over their finances, and involvement in making decisions related to money management (Buhagiar & Lane, 2020). Furthermore, they emphasise that they face disregarding their wishes and limiting choices, and control in their everyday lives, even in the context of common life activities such as self and household care, recreational activities, communication, and social interactions (Gjermestad et al., 2017).

People with ID have fewer social opportunities in different areas of life compared to people without disabilities, as they generally live in a more restrictive social environment (Umb Carlsson, 2021). Ensuring optimal living conditions and providing opportunities to choose activities according to interests, age, needs and abilities are important factors in improving the quality of life of people with ID (Tamaš, 2016). Different types of housing provide different perspectives. Thus, people with ID living within a community have significantly greater social participation in employment, recreation and leisure activities, and involvement in community groups (e.g. church, school, sports, local government) than those living in a segregated setting (Verdonschot et al., 2009). According to research results, the right of people with ID to personal choice, independent decision-making, and taking control over their lives is significantly related to their living conditions. Compared to other types of housing, such as living in a family home, independent living, and supported community living, people with ID who live in institutions, where they share their living space with many other individuals, have the fewest choice opportunities related to daily activities (daily schedules, leisure time, spending money) (Tichá et al., 2012). Institutional practices, such as performing routine daily activities according to a fixed schedule, restricting access to certain parts of the living space, being

excluded from making decisions about who to share a room with, and arranging the activities according to staff availability indicate a constant control and disempowerment of people with ID (Murphy & Bantry-White, 2021). On the other hand, supported living has a stimulating effect on improving problem solving, choice-making and decision-making skills of people with ID, and these skills are necessary for their adequate inclusion in the life of the local community (Petrović et al., 2016). Furthermore, research results show that people with MID included in the supported community living program show a significantly lower level of stress and aggressive behaviour than those living in family homes or institutions (Tamaš et al., 2016).

Research on the availability of choice for people with ID is of great importance since it is a starting point for improving this population's choice-making, control, and self-determination (Palmer et al., 2013). Since several studies identified the type of housing as a significant factor in the existence of choice opportunities related to everyday life and important life decisions (Murphy & Bantry-White, 2020; Stancliffe et al., 2011; Ticha et al., 2012), we tried to determine the role of the type of housing in choice availability for people with ID in the Republic of Serbia, where similar studies have not been done before.

The Serbian Context

In the Republic of Serbia, there is a history of institutionalisation of persons with ID. Although modern legislation tends to reduce the institutional placement of these persons, changes in practice are slow. Adults with MID mostly live with their immediate family due to the lack of a more adequate solution, or if they have no family, in institutions that are usually isolated from the community. Very few people with MID are included in the supported community living program, which usually involves several people living together in one apartment where they have the necessary support and try to get involved in the wider community as much as possible. Such programs are available only in a few, mostly larger cities, and an insufficient number of users are included in this type of housing (Matković & Stranjaković, 2020).

With regard to all of the above mentioned, our research aimed to determine the availability of choice for people with MID in different types of housing. There are two reasons why this research problem could be significant. The first refers to the fact that the results of similar studies have not been published so far in our surroundings. The second, and probably more important reason is the limited network of independent living support services for people with ID in the Serbian context. The results of this study could be significant for directing housing policy for people with ID in the future in Serbia, and can affect the improvement of the services available to them.

METHODOLOGY

Sample

The sample included participants who met the following three criteria: (1) 20-60 years of age; (2) living in one out of three types of housing (immediate family, institution, supported community living); and (3) diagnosed MID. With regard to verbal abilities, all participants were able to participate in a simple conversation about everyday experiences. Participants with autism spectrum disorder and severe sensory and motor impairments were excluded from the sample.

The sample consisted of 87 people with MID – 50 men (57.5%) and 37 women (42.5%). Of the total number of participants, 31 live within the supported community living program (35.6%), 21 in their immediate families (24.1%), and 35 in an institution (40.2%). The distribution of the sample according to gender and type of housing is given in Table 1. The Chi-squared test indicated no statistically significant differences between the subsamples of the participants living in different types of housing with regard to gender ($\chi^2=3.064$, $df=2$; $p=.216$).

Table 1. Distribution of the sample according to gender and type of housing

Type of housing	Gender	N	%
Supported living	male	14	28.0%
	female	17	45.9%
Family	male	14	28.0%
	female	7	18.9%
Institution	male	22	44.0%
	female	13	35.1%

The age range of the participants in the whole sample was between 21 and 57 years ($M=33.77$; $SD=9.27$). Table 2 shows the comparison of the participants' age according to the type of housing. One-way analysis of variance determined that the subsamples of the participants from different types of housing were not statistically significantly different with regard to age ($F=2.825$; $df=2$; $p=.065$).

Table 2. Age of the participants in different type of housing

Type of housing	M	SD
Supported living	37.48	9.93
Family	31.53	5.09
Institution	33.82	10.30

Instrument

The Choice Questionnaire (Stancliffe & Parmenter, 1999) was used to determine the availability of choice in different life domains. This instrument consists of 26 items describing various activities divided into the following groups: (1) Domestic activities, co-residents and staff; (2) Money and spending; (3) Health; (4) Social activities, community access, and personal relationships; (5) Work/day activities; and (6) Overall choice. By selecting one of the three given answers, the participants were asked to evaluate to what extent each activity was available to them. The answers referred to complete freedom of choice (3 points), partial freedom of choice (2 points), and the absence of opportunities for choice-making (1 point). The total score was obtained by summing up the responses to all 26 items, with a higher total score indicating a higher level of choice availability in daily life. The authors of the scale (Stancliffe & Parmenter, 1999) report a high internal consistency reliability of the scale ($\alpha=.81$), and high test-retest reliability ($r=.95$) for the application in the population of adults with mild, moderate, and severe ID. Our research confirmed the high internal consistency reliability of the scale ($\alpha=.896$).

Procedure

The research was conducted in institutions where the participants lived, day-care centres that the participants living with their families visited, supported living services, and the participants' apartments. The instrument was applied through individual interviews, with repeating questions and providing additional explanations when necessary. The interview was conducted in a separate room with no distractors, and lasted about 45 minutes. Data on age and the level of intellectual functioning was taken from the participants' records in institutions, day-care centres, or organisations. After being presented with the research aim and description, the participants and their guardians consented to participating in the research and sharing the data from the participants' record. The ethical guidelines of the Special Education and Rehabilitation Code of Ethics in Science and Research – Good Scientific Practice, required for the conduct of this type of research, were followed during the selection of participants.

Statistical Analysis

The following statistical measures were used to describe the obtained data: minimum and maximum values, mean, standard deviation, frequency, and percentage. The Chi-squared test and One-way analysis of variance, followed by the Tukey test were used to determine the differences between groups. IBM SPSS Statistics, version 25 was used for data processing.

RESULTS

One-way analysis of variance was used to examine the statistical significance of differences in availability of choice in different life domains, and as a whole, between different types of housing.

Levene's test of homogeneity of variance determined that the variance of subsamples was homogenous in Domestic activities ($p=.102$), Health ($p=.312$), and Social activities ($p=.157$), while it was not homogenous in Money and spending ($p=.000$), Work/day activities ($p=.006$), Overall choice ($p=.000$), and the total availability of choice ($p=.024$). Thus, the additional Welch test, resistant to the violation of variance homogeneity assumption, was applied for the domains of Money and spending, Work/day activities, Overall choice, and the total availability of choice. Statistically significant differences were determined in all evaluated domains and the scale as a whole (Table 3).

Table 3. Differences in availability of choice according to the type of housing

Subscale	Type of housing	N	M	SD	F	df	p
Domestic activities, co-residents and staff	SL	21	17.00	3.33	24.889	2	.000
	F	31	20.45	4.17			
	I	35	14.51	2.64			
Money and spending	SL	21	5.00	0.95	13.591 ^a	2	.000
	F	31	7.55	2.84			
	I	35	6.11	1.41			
Health	SL	21	4.76	1.30	18.739	2	.001
	F	31	6.45	1.59			
	I	35	6.06	1.61			
Social activities, community access, and personal relationships	SL	21	8.71	2.03	43.943	2	.000
	F	31	10.52	2.51			
	I	35	8.29	1.84			
Work/day activities	SL	21	4.19	1.29	4.054 ^a	2	.023
	F	31	5.55	2.14			
	I	35	4.77	1.61			
Overall choice	SL	21	2.10	0.89	10.772 ^a	2	.000
	F	31	2.81	0.48			
	I	35	2.20	0.76			
Total availability of choice	SL	21	41.76	7.96	11.918 ^a	2	.000
	F	31	53.32	11.63			
	I	35	41.94	7.55			

^a Welch test; F=family; I=institution, SL=supported living

The subsequent Tukey test determined which groups, formed according to the type of housing, statistically significantly differed in the availability of choice in everyday life (Table 4). The participants living

within the supported living program had more choice opportunities than those living in families and institutions in the domains related to domestic activities, managing money, social relationships and community access, and the total availability of choice. Also, the participants within the supported living program generally perceived available choices as higher (Overall choice domain) than those living in immediate families or institutions.

In the Work/day activities domain and Health domain, the difference was determined in the available choice between the participants in the supported living program and those living with families, to the advantage of supported living. Apart from the advantages of supported living compared to two other types of housing, it was also determined that the participants living in their immediate families had statistically significantly more choices than those living in institutions in the Domestic activities domain.

Table 4. Differences in choice availability according to the type of housing: comparison between groups

Subscale	Compared groups	Difference M	SE	p
Domestic activities, co-residents and staff	F – I	2.486	0.943	.027
	SL – F	3.452	0.966	.002
	SL – I	5.937	0.843	.000
Money and spending	F – I	-1.114	0.545	.108
	SL – F	2.548	0.558	.000
	SL – I	1.434	0.487	.011
Health	F – I	-1.295	0.423	.008
	SL – F	1.690	0.433	.001
	SL – I	0.394	0.378	.552
Social activities, community access, and personal relationships	F – I	0.429	0.593	.750
	SL – F	1.802	0.607	.011
	SL – I	2.230	0.530	.000
Work/day activities	F – I	-0.581	0.485	.457
	SL – F	1.360	0.496	.021
	SL – I	0.777	0.433	.178
Overall choice	F – I	-0.105	0.196	.854
	SL – F	0.711	0.200	.002
	SL – I	0.606	0.175	.002
Total availability of choice	F – I	-0.181	2.567	.997
	SL – F	11.561	2.628	.000
	SL – I	11.380	2.294	.000

F=family; I=institution, SL=supported living; difference M=difference between mean values, the value for the second type of housing is deduced from the value for the first; SE=standard error

DISCUSSION

Our results show that, at the level of the total score on the applied instrument, the availability of choice was significantly greater for people with MID within the supported living program than those living with immediate families or in institutions. These findings lead to the conclusion that supported community living is a stimulating environment for developing self-determination skills compared to the other two types of housing, since it provides more opportunities to make choices and decisions according to personal preferences and needs. Several studies report on the advantages of supported living over institutions and nursing homes, stating that community living is a more stimulating environment for the development of personal autonomy, which is manifested through independent choice and decision-making (Álvarez-Aguado et al., 2021), and greater control over important life topics, better social participation and quality of life (Kozma et al., 2009; Stancliffe et al., 2011).

The results of our study indicate the participants living in family homes had significantly fewer opportunities to select desired activities and decide on various life issues than the participants within the supported living program. According to Curryer et al. (2015), parents of adults with ID list the following reasons for limiting the choices of their children in different life activities: the reduced capacity to understand more complex situations and make decisions, limited awareness of the consequences of specific options, their children's vulnerability, and the risk of making the wrong decisions. These parents often face the complex task of balancing between the feelings of responsibility and concern for their children's well-being and a desire to allow them to take control over their lives, which sometimes leads to facilitating their children's choice and decision-making and limiting control (Curryer et al., 2020). It is also possible that living with parents/guardians prolongs the patterns of making choices and decisions for a person with ID established during childhood and adolescence. As a result of all of the above mentioned, adults with ID living with parents do not have enough opportunities to practice choice and decision-making skills, which leads to prolonged dependence on others, especially family members (Callus et al., 2019).

Domestic Activities, Co-residents and Staff

In our research, the availability of choice related to everyday domestic activities, such as household chores, preparing and having meals, daily routines, having a pet, using a phone, etc., was significantly higher in people with MID within the supported living program than in those living in two other types of housing. Furthermore, freedom of choice is more available to our respondents who live with family members, in comparison with those who live in institutions. These results are expected

since it has been determined that supported community living stimulates the acquisition of skills related to domestic activities and provides more choice opportunities for people with ID in this domain (Golding et al., 2005). Other studies indicate that the independent decisions and personal preferences of people with ID in institutions, even those related to the most basic needs and activities, such as choosing and preparing food and setting the table, are controlled by staff and adapted to the group's routine, and preferences and attitudes of the staff. According to the residents themselves, their freedom of choice is often associated with their reduced confidence, and need for the staff to approve and make a final decision about a particular activity (Kåhlin et al., 2016).

Money and Spending

Our results related to money management indicate that participants living in supported housing have more freedom to choose how to spend their money, in comparison with participants living in institutions or with family members, which is consistent with the finding that living in the community and choice-making in people with ID are generally strongly connected (Lakin et al., 2008). The money management of adults with intellectual disabilities is usually done by family members or support providers (Lussier-Desrochers, Lachapelle, & Caouette, 2014), which can probably be explained by the difficulties that people with MID have with understanding the concepts of money and time (Tassé et al., 2019). The higher availability of opportunities to decide how to spend their money in the supported living environment can probably be explained by the fact that some participants within the supported living program are employed and earn a salary. In addition, this housing concept encourages the independence of people with ID in various daily activities, including those related to money (Lakin et al., 2008).

Health

In the health domain, we found that the participants in the supported living environment and those living in institutions had more opportunities to make health-related decisions than those living with their families. The greater availability of health-related choices in the supported living environment compared to the family environment is not surprising if interpreted in the context of other studies stating that parents of people with ID are usually involved in the conversation between their children and health workers, and make decisions about their children's health (Tuffrey-Wijne, 2013; Wilkinson et al., 2013). On the other hand, our result, according to which people with MID living in institutions had greater availability of health-related choices than the participants living with their families, can be considered surprising since stationary institutions usually

have relatively rigid rules and procedures regarding the residents' behaviour (Kozma et al., 2009; Murphy & Bantry-White, 2021). This result may be explained by the fact that most participants living in institutions stated that they go to medical examinations and communicate with health workers independently, which is expected, because these medical examinations take place within the institutional housing complex where these participants live. They probably already know the medical staff well, which reduces barriers in communication and can be the reason why they usually go alone.

Social Activities, Community Access, and Personal Relationships

Our participants living in the supported community had significantly more choices related to social activities and community access than those living in institutions or with family members. Institutional living usually involves little contact with a wider community, and a limited range of social interactions and related choices, which makes the obtained finding expected. The question is why people with ID living with their immediate families had fewer choices related to social relationships and community access than those living in supported environments. As this domain includes choices related to leisure time, moving within a wider community, going on visits, etc., we assume that one of the reasons for the limited choices of the participants living with families is the need to organise the participants' wishes according to the plans, routines, and obligations of other family members. In addition, it is possible that limiting these people's choices is based on the parents' need to protect their adult children from the consequences of bad choices in the domain of social relationships and activities in the community. Research confirms that the limitations imposed on adults with ID by their parents in relation to intimate relationships, leisure time, online communication, and moving within the community are mainly the consequence of an overprotective attitude of parents toward their children, even though they are adults (Callus et al., 2019).

Work/day Activities

The results of our research showed that the participants within the supported living program had greater freedom of choice related to work and daily responsibilities than those living in institutions and families. Similar to our findings, Nota et al. (2007) found that people with ID who live in the community and attend day care centres exhibit greater autonomy in choosing their activities and a greater degree of self-determination in daily life routines, compared to their peers living in the institution. The concept of supported housing implies a specific approach of the staff and the empowerment of persons with ID for more intense inclusion in the wider community, making choices and self-determined actions (Kozma et al, 2009).

Overall Choice

The Overall choice domain in the used questionnaire referred to the participants' general assessment of choices regarding what they want in life, i.e., their personal experience and satisfaction with the availability of choice. The participants within the supported living program rated their satisfaction with choice availability significantly higher than those living in the other two types of housing. Since the results of the scale as a whole indicate greater availability of choice in this group of participants, we can conclude that the level of satisfaction in our participants is in accordance with the actual availability of choice. Other authors (Randell & Cumella, 2009) also point to a higher degree of independence, opportunities to make decisions and choices, as well as a higher degree of life satisfaction of people with ID during life in small home communities, compared to the period when they stayed in residential institutions.

CONCLUSION

This study aimed to determine and compare the availability of choice for people with MID in different types of housing from their perspective. The results showed that institutional living and living with family members were less stimulating environments for making choices and taking control in the daily lives of people with MID compared to the supported community living concept. As encouraging people with ID to practice choice-making and providing them with opportunities to apply that in everyday life are some of the key factors in improving the ability to make choices (Kozma et al., 2009), we assume that these characteristics of supported community living contributed to the obtained results. On the other hand, overprotection and highly-structured environments are identified as hindering factors in self-directed behaviour, taking control, and making choices in daily life (Wehmeyer & Metzler, 1995), which may have contributed to lower availability of choice in the other two types of housing.

The practical implications of this research primarily refer to the need for providing people with MID with more opportunities to make personal decisions and choices. It is necessary to work on improving the skill of decision-making with support, based on the belief that every person has the right to a certain level of autonomy and control over their lives, and that they can express personal desires and preferences related to choice-making in the context of trusting relationships.

Furthermore, it is necessary to provide conditions for the popularisation of supported community living, identified as the most suitable type of housing for choice-making, but also to transfer the positive practice of encouraging choice-making from this type of housing to other environments (institution and family home) as much as possible. Such an ap-

proach would be a step further in improving the dignity, self-esteem, and self-determination of this population.

The methodological design of our research involved determining the role of the type of housing in the choice-making of people with MID by comparing the availability of choice in different housing solutions. Since the subsamples of our participants, formed according to the type of housing, were not statistically significantly different with regard to gender, age, and intellectual abilities, we can conclude that the variations in choice availability should not be attributed to these factors. There is a possibility that factors other than the characteristics of a specific type of housing contributed to the obtained results, which is a limitation of this research. These factors may include comorbid mental health problems, behavioural problems of the participants, or their social skills, which should be examined in future studies.

In order to improve the social participation of people with ID, it is necessary to make changes in national legislation, and social support aims and programs. Instead of continuously questioning whether the acquired competencies are sufficient, the focus of support for people with ID should be providing them with opportunities to make everyday decisions independently and, based on that experience, to be able to self-advocate, make plans, and achieve goals. It is crucial that, at both formal and practical levels, we believe in their ability to control their own life and create a social environment in which this is possible (Williams & Porter, 2017).

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ДОСТУПНОСТ ИЗБОРА ОСОБАМА СА УМЕРЕНОМ ИНТЕЛЕКТУАЛНОМ ОМЕТЕНОШЋУ У РАЗЛИЧИТИМ ТИПОВИМА СТАНОВАЊА У СРБИЈИ

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Резиме

Вршење избора је за особе са интелектуалном ометеношћу од изузетне важности јер им пружа осећај независности, личног достојанства и задовољства и представља основу за развој сложенијих манифестација самоодређеног понашања. Студије указују да особе са умереном интелектуалном ометеношћу генерално имају низак ниво аутономије, личне контроле и доступности избора у животу. Ограничене прилике за избор умањују могућност увежбавања и усвајања вештина вршења избора и доношења одлука, као и функционалну примену ових вештина у различитим друштвеним околностима. Претходним иностраним истраживањима идентификовано је да се доступност избора у различитим областима живота за особе са умереном интелектуалном ометеношћу разликује у односу на начин њиховог становања.

Циљ истраживања био је да се утврди доступност избора за особе са умереном интелектуалном ометеношћу у различитим типовима становања у Републици Србији. Узорак је обухватио 87 одраслих мушкараца и жена са умереном интелектуалном ометеношћу који живе у једном од три типа становања: у породичном дому, институцији или у програму становања уз подршку. За утврђивање доступности избора у свакодневном животу примењен је Упитник о избору (енгл. The Choice Questionnaire; Stancliffe and Parmenter 1999). Добијени резултати указују да је укупна доступност избора значајно виша за особе са умереном интелектуалном ометеношћу из програма становања у заједници уз подршку него за особе које станују са својим примарним породицама или у институцијама. Разлике у приликама за избор су такође утврђене у појединим животним доменама. Практичне импликације истраживања односе на потребу за омасовљењем програма становања уз подршку, као подстицајног типа становања у контексту доступности избора, али и на учесалије омогућавање особама са умереном интелектуалном ометеношћу да доносе одлуке и врше изборе у своје име у другим условима становања (породичном и институционалном становању).

GREEN SOCIAL WORK AND COMMUNITY RESILIENCE

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Abstract

Consumerist culture, industrially oriented societies, and urban lifestyles have led to profound changes in the environment, resulting in climate change and natural disasters. The negative aspects of the ecological crisis are closely linked to the social functioning of individuals, causing issues in physical and mental health, housing, material security, nutrition, and more. Environmental sustainability represents not only an ecological but also a social problem, and consequently, a problem for the profession of social work. There is a need to mobilise the community towards building resilience in the face of various difficulties. Green social work, as a distinct field, focuses on recognising the interconnection between ecological and social issues, while striving to overcome disparities, empower individuals and communities, mobilise social capital, and prevent the further progression of environmental pollution consequences. This paper will address the ways in which the ecological crisis affects social communities and their members by examining the role of green social work in this field. Additionally, the importance of the concept of community resilience and how it can be built with the help of social work will be highlighted.

Key words: green social work, community, resilience, ecological crisis, empowerment, social capital.

ЗЕЛЕНИ СОЦИЈАЛНИ РАД И ОТПОРНОСТ ЗАЈЕДНИЦЕ

Апстракт

Конзументичка култура, индустријски оријентисана друштва и урбанистички начин живота довели су до корених промена у оквиру животне средине које резултирају климатским променама и природним катастрофама. Негативни аспекти еколошке кризе уско су повезани са социјалним функционисањем појединаца, узрокујући проблеме на пољу физичког и менталног здравља, становања, материјалне обезбејености, исхране и слично. Одрживост животне средине представља не

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само еколошки, већ и социјални проблем, те последично и проблем професије социјалног рада. Постоји потреба за активирањем заједнице ка изградњи отпорности за случај суочавања са разноврсним тешкоћама. Зелени социјални рад, као засебна делатност, усмерена је ка препознавању испреплетености еколошког и социјалног, улагању напора ка превладавању диспаритета, као и оснаживању појединаца и заједница, активирању друштвеног капитала и превенцији даљег узнапредовања последица загађења животне средине. У раду ће бити обрађен начин на који еколошка криза утиче на социјалне заједнице и њихове чланове кроз сагледавање улоге коју зелени социјални рад има на овом пољу. Додатно, указаће се на значај концепта отпорности заједнице и начину његове изградње уз помоћ социјалног рада.

Кључне речи: зелени социјални рад, заједница, отпорност, еколошка криза, оснаживање, друштвени капитал.

INTRODUCTION

The environment serves as the foundation for human functioning, yet, as a society, we often fail to recognise its importance. Significant economic and industrial advancements have been made possible through the irresponsible use of natural resources to the detriment of the environment, with an increasingly noticeable separation of individuals from nature since the beginning of industrialisation. As a result, we have adopted a culture of excessive consumerism that accompanies overproduction. Thus, in the context of the processes of excessive exploitation and the consequent suffering of the environment, we can speak of an ecological crisis reflected in climate change, the emission of harmful gases, air and soil pollution, a reduction in biodiversity, and numerous other unfavourable occurrences. Consequently, problems such as high temperatures, earthquakes, processed food, drinking water shortages, diseases caused by harmful sun rays, air, soil, and water, among many others, arise (Peeters, 2012). Thus, environmental pollution does not remain solely within the bounds of ecology but penetrates every aspect of an individual's life, significantly endangering the social security of citizens. The sustainability of the environment is a prerequisite for human functioning and meeting life needs, which is why there is a pressing need for collective action and the development of community mechanisms to address this issue. It is necessary to accept the ecological and social responsibility we have as members of the society, to understand the interdependence of systems, and to build resilience by nurturing community protective mechanisms. The profession of social work and green social work have a significant role in this field, striving to achieve sustainability in the relationship between individuals and the social environment. The subject of this paper is the impact of the ecological crisis on the functioning of people and the communities to which they belong, with a particular focus on the role that green social work as a profession has in responding to ecological risks, specifically through the development of community resilience. The aim of this paper is to highlight the role of green social work in responding to the direct

and indirect consequences of the ecological crisis on the functioning of individuals and communities. A particular goal is to emphasise the importance of preventive measures and the building of community resilience as a key tool for addressing ecological risks, including the development of strategies and programs based on the principles of empowerment and social capital. Examples of good practices from existing initiatives in the field of green social work will be considered, with the aim of identifying effective strategies and approaches that can serve as models for future activities, with a review of the limitations of practice.

THE ECOLOGICAL CRISIS AND THE SOCIAL FUNCTIONING OF PEOPLE

There is a social tendency to control, exploit, and establish dominance over the environment and its resources (Norton, 2012). Urbanisation and life in a capitalist society imply working and living away from nature, as well as against it, which consequently reflects on the quality of life of individuals. Numerous ecological problems create insecurity in daily life through difficult access to drinking water and nutritionally rich food, high temperatures, unpredictable weather conditions, and changes that threaten physical and mental integrity. Particularly, marginalised segments of the population, such as spatially segregated, financially deprived, ill, and socially and psychologically vulnerable individuals, groups, and communities, find themselves at a disproportionately greater risk from the adverse effects of ecological threats (World Bank, 2013). Often, locations lacking adequate resources, inhabited by marginalized and economically disadvantaged population groups, are most affected by ecological risks.

Illustratively, research conducted in rural Ethiopia and India indicates that droughts are a primary factor contributing to the maintenance of poverty among communities, while China cites natural disasters as a key factor hindering poverty reduction processes (Shepherd et al., 2013 as cited in World Bank, 2013). Also, with the increase in global temperature, we can expect more frequent instances of extreme rainfall in tropical regions. An example is Bangladesh, which has recorded 70 natural disasters caused by climate change in recent years (IPCC, 2013; Kemp et al., 2015). Conversely, in arid and subtropical regions, the same phenomenon leads to droughts and fire risks, indicating the dual nature of risks with the same ecological background (Kemp et al., 2015). The effects of these ecological disasters have thus expanded to include others, such as population migration, difficulties in sustaining agriculture, the instability of farmers' incomes, and similar challenges that significantly hinder daily life (Molyneux, 2010). Consequently, numerous ecological disasters necessitate relocation, implying a complete loss of part of one's identity and

usual way of life. Here, we can apply the term ecological refugees to describe those forced to migrate due to environmental changes that prevent safety and the meeting of life needs, conditioned by the ecological crisis. According to projections by the Environmental Justice Foundation in 2009, nearly 10% of the world's population will be in the role of ecological refugees and at risk of displacement due to climate change (Kemp et al., 2015). The risk of ecological disasters in the Republic of Serbia is also on the rise, with the number of natural disasters increasing from 100 to 2800 over a 10-year period compared to the 19th century. Floods represent the greatest risk among natural disasters in the Republic of Serbia, accounting for 62% of the total, while fires also rank as significant risks, as evidenced by the 2007 catastrophe that burned over 22,000 hectares of forests (Sekulić, Dimović, Kalman-Kranjski-Jović & Todorović, 2012).

Risks to citizen safety can also be observed in job and income insecurity, especially in industries threatened by climate change. Additionally, the degradation of food quality and nutritional value, as well as the availability of certain foods, is becoming an increasing risk (Kemp et al., 2015). Soil and marine life pollution, along with industrial food and livestock production, result in food that is less nutritious and constantly rising in price, making it inaccessible to the poor population. Another way in which the ecological crisis impacts human functioning is through negative effects on the physical and mental health of the population, evident in the increasing prevalence of diseases such as cancer, respiratory and cardiovascular diseases, infectious diseases, and others (Molyneux, 2010). Experiencing ecological disasters often leads to difficulties in emotional functioning, such as the presence of post-traumatic stress disorder or depression. Additionally, there is a highlighted need for professional assistance in overcoming crisis situations, given research results indicating a connection between the availability of mental support and positive outcomes in responding to ecological disasters (Boscarino, Hoffman, Kirchner, Erlich, Adams, Figley & Solkhahet, 2013). However, experiencing natural disasters is not the only way negative impacts on mental health manifest. The very feeling of insecurity, helplessness, and fear concerning the sustainability of the environment and the future of subsequent generations leads to feelings of anxiety. Thus, we can conclude that current life on Earth is not organised in a way that allows for environmental sustainability and, consequently, the social security of citizens. These effects call for the participation of multiple stakeholders in the remediation process, underscoring the role of social work and green social work as key areas of focus.

*GREEN SOCIAL WORK: THEORETICAL FOUNDATION,
DEVELOPMENT AND SCOPE OF ACTION*

The foundations of green social work are established in the theory of human development and the breakdown of beliefs in the social vacuum through emphasising the reciprocal influence that individuals and various social systems exert. Centering on the mutuality of relationships, where the individual plays an active role, the agency of individuals in creating their own reality is highlighted (Hertler, Figueredo, Peñaherrera-Aguirre, Fernandes & Woodley of Menie, 2018). The reciprocity of relationships becomes clear when we consider the main causes of the ecological crisis, which can be categorised under irresponsible human actions. By emphasising active individual participation in changing the environment we establish the groundwork for taking responsibility for the current state of affairs and empowering community members for processes of positive change. Metzner (1995) spoke of the alienation of individuals from nature, which inevitably leads to ecological catastrophes, where this alienation is reflected in insufficient awareness of our dependence on nature and the impact that everyday consumer habits have on its destruction (Metzner, 1995). Based on this, Ungar (2002) advocated for improving the relationship between individuals and their environment by introducing the ecology and natural surroundings of individuals into the ecosystem approach (Ungar, 2002 as cited in Wang & Altanbulag, 2022). These concepts significantly contribute to the shift from an individualistic perspective, focused solely on the individual, to duality and the individual as an integral part of the environment. On the other hand, the anti-oppressive perspective and intersectionality theory provide a framework for understanding unequal exposure to ecological risks. The anti-oppressive perspective offers insight into structural inequalities, which, in the context of green social work, particularly highlight inequalities caused by capitalist and consumerist cultures of inadequate natural resource management (Wang & Altanbulag, 2022). Intersectionality theory provides additional insight into the overlapping of multiple identity elements that collectively contribute to the unequal distribution of resources, treatment, and risk exposure (Andersen & Collins, 2010 as cited in Wang & Altanbulag, 2022). Consequently, the environment is recognised as a significant factor in human identity, which can influence daily functioning and quality of life in countless ways (Wang & Altanbulag, 2022). As a result of intensified ecological risks and based on the aforementioned approaches, an eco-critical approach in social work was developed, which included the environment and its sustainability in the discourse of social work (Kati Närhi & Matthies, 2001). Over time, this approach has evolved into a distinct area of the profession known as green social work.

Green social work can be characterised as a form of community social work focused on the consequences of natural disasters and, indi-

rectly, other problems caused by human actions, such as social inequalities, poverty, unemployment, and more (Dominelli, 2018). Additionally, green social work involves not only recognising nature as a significant factor in human functioning but also working to improve the relationship with the environment and incorporating it into planned intervention processes (Wang & Altanbulag, 2022). The scope of green social work can be divided into subgroups such as crisis consequence mitigation, empowerment, advocacy, community work, prevention, and education on protective mechanisms, among others, aimed at improving social functioning in the context of ecological risks (Dominelli, 2018). Direct assistance from social workers in situations of acute vulnerability caused by ecological risks includes providing basic necessities such as food, drinking water, clothing, shelter, and a safe environment. After the crisis, a service plan is created based on the assessment to ensure safety and meet the needs of individuals, families, and communities, especially in the areas of family protection, member reintegration, and ensuring the best interests of children at risk (Dominelli, 2018). Addressing the consequences does not only cover the visible effects of the crisis but also focuses on the mental health of the population by providing psychosocial support through counselling and/or therapy (IACS, 2007 as cited in Dominelli, 2018). Activities at the micro, meso, and macro levels include various actions, from assessments and therapeutic work with individuals, families, and communities, to mobilising community members, organising group interventions and activities, and initiating political actions (Hay, et al. 2023). What distinguishes green social work in the realm of ecological disasters from other helping professions is its extensive focus on macro level interventions within groups and communities aimed at reducing risk and vulnerability to hazards, while also developing resilience and effective recovery capabilities post-disaster (Ersing, 2020). Connected to this is the significant area of community empowerment, which involves identifying available resources that individuals can rely on for support in the process of returning to previous levels of functioning, and providing additional education to build capacities for dealing with similar problems in the future. The specific importance of social work participation in the context of ecological crises is reflected in the compassion and adaptability of the profession, which has a tendency to view individuals 'in a broader environment,' providing a holistic approach to interventions, and placing particular focus on the needs and rights of especially vulnerable groups (Drolet, Lewin & Pinches, 2021).

In relation, social workers often advocate for the interests of their clients within the community and beyond, aiming to increase the visibility of their needs and attract the attention of the public and decision makers who would enable an adequate approach to the problem. The advocacy process involves creating connections and support networks, especially

within the civil sector, with numerous organisations and associations that pursue the same goals, which also includes involvement in social and environmental movements (Peeters, 2012). Thus, the task of the social work profession lies not only in ensuring the fulfilment of individual needs but also in working towards ecological awareness in communities and creating significant changes in the treatment of the environment (Dominelli, 2018). For this reason, advocacy receives special attention, initiating positive changes in public policies that promote social justice and improve the system's sensitivity to the needs of marginalised communities particularly negatively affected by ecological disasters (Ersing, 2020). Additionally, green social work is important as an academic discipline through its research work, which contributes to raising awareness about the significance of ecological sustainability and shedding light on the disproportionate exposure of marginalised communities to ecological risks (Peeters, 2012; Dominelli, 2018). Ultimately, although the potential for action is great, the significance of social work in the context of disaster response is poorly recognised. This can be associated with an excessive emphasis on practices that include psychosocial support, blurring the boundaries between social workers and counsellors or clinical therapists (Sim, He & Dominelli, 2022). Additionally, there is a noticeable dominance of micro practices, with insufficient institutional support and development of social workers' competencies that would enable larger scale action at the macro level (Hay, et al. 2023).

COMMUNITY RESILIENCE AND GREEN SOCIAL WORK

Green social work is defined as community work that aims to achieve set goals using tools such as empowerment, the development of social capital, and building community resilience (Peeters, 2012). Community resilience, as a significant area of preventive action, involves encouraging the development and enhancement of resources, knowledge, skills, and the community's readiness to respond to risks, maintain existing capacities, and return to a previous level of functioning (Čurčić, Milić Babić & Šimleša, 2018). Thus, community resilience can also be defined as the ability to resist, overcome, or adapt to change (Roussy, 2013). Accordingly, the tasks of green social work are aimed at improving the capacity of the community and individuals to cope with the negative effects of ecological crises, and to return to or enhance the previous level of functioning. Additionally, resilience refers to the community's ability to cope with a lack of resources, where the role of green social work is focused on initiating changes in living habits that contribute to sustainability, such as community activities aimed at ensuring greater resource security (Čurčić et al., 2018). Furthermore, resilience is characterised by efforts to change capitalist and urbanistic values, as well as work to ensure

the stability of the most important social systems for future challenges (Roussy, 2013).

As the role of green social work in community resilience development is based on the social aspect of the concept of resilience, the focus is on community mobilisation, which starts from the bottom up. Although they have a small effect on a global level, local initiatives for community improvement and empowerment with the support and guidance of social workers contribute to building social capital, which is a key tool for social change. With further development and the institutionalisation of similar initiatives, we can achieve proactive citizen actions and greater awareness of the needs of the most vulnerable groups, whose readiness to face risks is significantly enhanced. Consequently, these practices create pressure on state bodies to introduce more comprehensive responses to crises and risks, focusing on strengthening institutional capacities for timely responses. This is supported by the results of research on case studies exploring the practice of green social work in the context of global disasters related to three different hazards – natural, intentional, and technological. In the analysis of each of the following cases: the COVID-19 pandemic, the European refugee crisis of 2016-2018, and the crisis of the lack of clean drinking water in indigenous communities in Canada, the significant role of green social work in protecting at risk marginalised groups from hazards is noticeable (Breen, Greig & Wu, 2023). The main steps towards building resilience are achieved by educating the local community, informing about social services, advocating for refugees' rights, providing support in meeting needs, resettlement, and protecting citizens' rights (Breen, Greig & Wu, 2023). Social workers represent actors who, in situations of major crises, will make an effort to protect and advocate for the most vulnerable, who often do not have enough power to convey their experiences and needs to a wider audience. Indeed, the work on building resilience extends beyond interventions during ecological crises, involving continuous work with communities on preparation, empowerment, and ensuring citizens' safety, in cooperation with various civil or government actors. In addition to community work, social workers at the macro level have a significant role in building community resilience by initiating the development or amendment of disaster mitigation strategies through advocating for the implementation of sustainable policies to reduce harm from adverse events (Breen, Greig & Wu, 2023).

The current state regarding global capacities for resilience to crises shows a lack of resilience in terms of infrastructure, economy, social protection, and available community resources. In many countries, due to a lack of awareness of ecological risks in the area of social care, which is a key area of green social work, there is a lack of universal rights to health and social services aimed at ensuring citizens' well-being, improving personal capacities to recover from difficulties and build resilience for future

risks (Dominelli, 2014). Consequently, it becomes clear that the backbone of resilience lies in the community capitals - political, economic, social, and ecological, whose interaction and direction of development directly affect the capacity and dimensions of community resilience (Stotten, Schermer, & Wilson, 2021). Therefore, legal frameworks of action and political structures, dominant market mechanisms, and economic stability, along with the quality of interactions and engagement of community members, significantly determine possible paths for resilience development.

Building community resilience is a challenging and multidimensional process encountering numerous obstacles along the way. Primarily, a significant challenge is the lack of a clear legal framework that further regulates this area, limiting proactive action in green social work. The rigidity of institutions, preoccupation with bureaucracy, and numerous work obligations, along with the absence of regulations that define ecologically oriented actions of social workers, negatively affect community engagement. In the international context, the World Bank particularly focuses on introducing policies for managing ecological disasters through numerous actions, from which disaster risk reduction (DRR) programs stand out. DRR aims to prevent new and reduce existing disaster risks while simultaneously managing these risks to strengthen resilience and achieve sustainable community development (UNDRR, 2016; World Bank, 2022). Key areas of support include: risk identification and reduction activities with a special focus on resilient infrastructure; integration of DRR activities into institutional and public policy plans; activities aimed at risk preparedness, such as the wage subsidy scheme (EWS); and disaster risk financing (World Bank, 2022). Research has shown that investment in disaster risk reduction results in significant social and economic benefits, with a return of four US dollars for every dollar invested in infrastructure investments, and a reduction in the negative impact of future disasters on citizens' living standards by 31% (Hallegatte, Rentschler & Walsh 2018; Hallegatte, Rentschler & Rozenberg 2019, as cited in World Bank, 2022). On the other hand, the universality of wage subsidies also has the capacity to reduce losses in property, mortality, and individual well-being when faced with risks (Hallegatte et al. 2017, as cited in World Bank, 2022). Due to the capacity of DRR in nurturing community resilience and improving citizens' well-being despite ecological risks, the World Bank highlighted this area as one of the main goals of the 2021-2025 Climate Change Action Plan. However, despite the importance of disaster risk reduction programs and activities, there is noticeable underinvestment, with only 4.1% of the total disaster development aid budget between 2010 and 2019 directed towards prevention and preparedness activities (UNDRR, 2021 as cited in World Bank, 2022).

As the World Bank's activities are implemented globally, the Republic of Serbia is one of the countries that adopted the National Disaster Risk Management Program 2016-2020 in light of the major floods in 2014, aiming to develop community resilience to face future risks and mitigate existing ones (World Bank Group, 2021). Regarding the achieved results in the area of institutional development in the Republic of Serbia, a legal framework for emergency responses and risk reduction has been created with the adoption of the Law on Emergency Situations (2009); the Law on Disaster Risk Reduction and Emergency Management (2018); and the National Strategy for Protection and Rescue in Emergency Situations (2011). Article 11 of the Law on Disaster Risk Reduction and Emergency Management involves "building a culture of safety and community resilience to disasters," which aligns with the goals of preventive resilience development (Sl. glasnik RS, br. 87/2018). Nonetheless, the Action Plan for the implementation of the National Disaster Risk Management Program lacks specifics on planned activities by which the Government of the Republic of Serbia aims to achieve this. The Action Plan determines direct response activities to the consequences of crisis situations and addresses risk assessment, however lacking its definitions of preventive resilience building activities may be. Furthermore, among the entities of the disaster risk reduction and emergency management system, there is a lack of a clearly defined role for the social protection system and the social work profession, despite their significant capacity to support at risk communities by contributing to the development of risk preparedness and the recovery process of affected communities. In the area of risk identification and monitoring, there is also a noticeable lack of a comprehensive national risk assessment, as well as a deficiency in institutional capacity to reduce risks associated with ecological problems (World Bank, 2022). The most important recommendations that can potentially strengthen institutional resilience relate to: engaging the entire community in the process of developing disaster response plans; aligning local public and private infrastructure interests with resilience improvement goals consistently; improving communication channels for information transmission, experience sharing, and raising risk awareness; developing community response preparedness; and complying with construction rules to ensure infrastructure aligns with potential risks (Council, 2012; Cutter et al., 2013, as cited in Cvetković, 2020; Cvetković & Bošković, 2021). In this context, green social work, through its work in the community, advocacy, and activation of social networks, can significantly contribute to community engagement, raising awareness, information dissemination, and connecting resources and experiences. Building on institutional and infrastructural capacity, strengthening community resilience is closely linked with the coordination of actions by key actors, including the government, local municipalities, legal and civil sectors, in-

ternational organisations, and the citizens themselves. Summing up, concerning disaster risk management activities in the Republic of Serbia, there is a predominance of reactive actions, focusing on emergency crisis responses, while preparation and work on building resilience in local communities and the state as a whole are lacking. Consequently, although the area of community resilience, along with the role of green social work, is addressed globally, national legislation and practices still lack an ecological focus, significantly limiting the actions of social workers (Wu, Greig, & Bryan, 2022).

EMPOWERMENT, SOCIAL CAPITAL, AND THE NEED FOR PREVENTIVE MEASURES

The current environmental crisis and the extensive consequences it brings leave little room for uncertainty regarding exposure to environmental risks. Consequently, the role of preventive measures is clear; among other things, these measures prepare the community and its members for potential impacts. Facing difficulties of any kind is never pleasant; however, the unexpected nature of such troubles and the unpreparedness in meeting them intensifies the negative effects they may have. Unpreparedness to face environmental risks undermines stability and fully exhausts the protective mechanisms of an individual or community, making them vulnerable and in a state of existential insecurity (Peeters, 2012). As a result, the field of prevention, which includes the principles of empowerment and social capital, is of great significance due to its role in preparing the community to respond to difficulties and reduce the risk and extent of negative effects caused by environmental impacts (Dominelli, 2018).

A strengths based approach ensures the identification of available resources and protective factors in the immediate environment, enabling their preservation and improvement (Dominelli, 2018). By empowering individuals and communities, we enhance their ability to manage their own lives by nurturing both individual and collective capacities and resources. The principle of community empowerment aims to achieve autonomy, undertake initiatives for important activities, and participate in the development and implementation of prevention, management, and crisis protection strategies (Belchior Rocha, 2018). The key to this approach is focusing on strengths rather than weaknesses and identifying and nurturing existing resources that can help build community resilience. Social capital stands out as one of the critical resources that needs to be improved, recognised as an essential tool in responding to environmental crises. Social networks can be interpreted as a tangible form of social capital, representing the formation of relationships between various actors that can help mitigate negative impacts (Ersing, 2020). Consequently, ac-

tivating social capital and fostering community spirit develop collective efficacy, utilising personal, group, and organisational resources to contribute to the recovery process from environmental impacts and develop community resilience principles (Aldrich & Meyer 2015, as cited in Ersing, 2020). The crucial role of social connections is also supported by research results, which showed that individuals with more complex social networks were perceived as less vulnerable in the context of the impending dangers of Hurricanes Katrina and Rita in the USA in 2005. The explanation lies in the greater availability of resources through various networks of relationships that an individual possesses, providing sources of help, information, and security (Collins et al. 2018 as cited in Ersing, 2020). Related to the activation of the community and its members, a study on citizens' attitudes towards providing support to vulnerable people and volunteering during disasters in the Republic of Serbia revealed that a small number of respondents are willing to offer some form of help to vulnerable individuals (Cvetković, Milašinović & Lazić, 2018). The primary barrier to providing help is the belief among citizens that this is primarily the responsibility of state authorities, highlighting a lack of awareness on the importance of volunteering. Therefore, it is necessary to work on raising awareness about the significance of citizen engagement and expanding support networks, particularly in light of the state's limited capacities and the need for swift intervention (Cvetković, Milašinović & Lazić, 2018).

In the context of the mentioned environmental catastrophe, the importance of informal organisation development, as a form of social capital in crisis response, was also noted, exemplified by the Alliance of Active Women. Namely, migrant agricultural workers found themselves in a particularly vulnerable position after the hurricane due to the neglect of their specific needs by public emergency management services. For this reason, women from this population initiated the development of a network to collect and share necessary resources such as food, clothing, personal hygiene items, and many others. Through their work and development, the group later established contacts with other volunteer and religious organisations, expanding the capacity and scope of this social network, ultimately establishing their own Community Emergency Response Team (Ersing, 2020).

Besides better utilisation and exchange of resources, collective action is significant in strengthening the voices of individuals from marginalised groups. Highlighting the importance of informal, but also other organisations such as civil society organisations and others that aim to help at risk groups, underscores the capacity of the social work profession to initiate and support the development of social capital 'from the ground up' by connecting various actors with the same motives. Thus, social workers, thanks to their participation and acquaintances with numerous

organisations at the local and international level, activate social capital and use their networks and connections for support during disasters, but more importantly, develop preventive measures and community resilience (Dominelli, 2023). Additionally, by understanding the experiences and needs of diverse social groups, social workers strive to utilise field knowledge in planning and implementing action plans, implying the active participation of groups directly affected by the problem (Ersing, 2020). Accordingly, research results on the role of social workers in crisis situations showed that the greatest benefits were achieved in providing mental health interventions and empowering affected residents through organising collective active involvement in the community's long term recovery (Cleary & Dominelli, 2020). Consequently, the Federal Emergency Management Agency in the USA recommends community involvement in emergency planning, highlighting the share these practices have in empowerment and resilience within communities, ultimately having a positive effect on relieving the burden on the state protection system (Ersing, 2020).

Thus, strong community connections are emphasised as one of the key protective factors in facing risks, where networking enables joint work on creating resources that can represent a source of security in cases of environmental difficulties. Building on this, the mentioned tendency can be observed in the field of community social economy, characterised by sustainable production and focus on individual well-being (Peeters, 2012). Examples of this include community agriculture, social gardens and eco-farms, various community services, recycling programs, and the like. The concept of social enterprises marked by environmental sustainability relates to ensuring the security of essential resources in cases of environmental crises (Peeters, 2012). Social gardens are a useful and creative way to mobilise community members through work and enjoyment in green areas. Individuals, educational institutions, companies, civil society organisations, and others participate in maintaining the gardens, subsequently enjoying nature and its fruits (Čurčić et al., 2018). Social gardens are also significant for networking and creating social connections with others in the community (Peeters, 2012). These initiatives are common in more developed countries, but their examples can also be found in our neighbourhood. Since 2012, Croatia has had a 'network of urban gardens' encompassing around twenty cities (Čurčić et al., 2018). Furthermore, the importance of connected initiatives such as recycling programs or organised goods exchanges through local actions similar to flea markets is reflected not only in reducing individual participation in the culture of excessive consumerism but also in promoting socialisation (Matthies, 2001). The importance of local initiatives promoting sustainability and improving citizens' quality of life is also evident. Thus, young people in Leicester, UK, with the help of local researchers, built bicycle

lanes to reduce oil consumption and exhaust emissions, while also encouraging fun and a healthier lifestyle (Boeck, 2000 as cited in Matthies, 2001). Similar goals are pursued by initiatives for arranging green spaces and organising activities in them as a way of using forests sustainably, preventing their logging, and enabling recreation and entertainment (Matthies, 2001).

Permaculture stands out as one of the significant local initiatives for prevention and building community resilience through promoting environmental sustainability (Čurčić et al., 2018). The term permaculture encompasses a larger number of activities aimed at caring for the environment, some of which were already mentioned, and relate to joint food production, agriculture and gardening, the use of renewable resources, reducing excessive consumption, and pollution (Kiš and Kiš, 2014 as cited in Čurčić et al., 2018). Permaculture thus contributes to building capacities to face the inevitable effects of environmental crises, contributing to greater resource security and citizen preparedness (Čurčić et al., 2018). Green social work participates in initiating and implementing such initiatives as part of preventive action plans aimed at increasing community resilience. However, the local level should not be the only one implementing changes, which is why the field of advocacy and representation of environmental interests, as well as individuals threatened by environmental risks, especially those most affected by the negative effects of urbanisation and industrialisation, is significant. Therefore, it is crucial to gain the support of broader systems such as governments, international organisations, and the civil sector in processes aimed at improving environmental sustainability and creating community protective mechanisms for dealing with environmental difficulties. This includes government provisions aiming to prevent the exploitation of non-renewable resources and ensure the constant availability of essential resources (Matthies, 2001). Additionally, it is important for the government to educate on and encourage the adoption of sustainable practices, not only by individuals but also by numerous organisations and companies. Moreover, government support for local environmental initiatives and the civil sector is vital to jointly build a stable community resistant to multiple environmental risks.

CONCLUSION

The ecological crisis is a global phenomenon that affects the daily functioning of people and threatens the social security of citizens. Water, air, and soil pollution, resource insecurity, and accelerated climate change that causes natural disasters and a multitude of other risks bring uncertainty to communities and emphasise the urgent need for action. The field of green social work has developed as a response to these risks with the aim of ensuring the well-being of citizens through interventions in the

event of ecological crises, as well as preventive activities aimed at enhancing resilience in case of exposure to the negative effects of the hazards. The social support system is essential for the long term recovery of individuals and communities, with social workers playing a unique role in addressing the needs of vulnerable social groups through interventions at the micro, meso, and macro levels. Their support in responding to and preventing ecological crises includes empowerment, strengthening social ties, advocacy, facilitating access to support resources, including mental health, with a particular focus on building community resilience. Community resilience is of great importance for the well-being of individuals in situations of risk exposure and is achieved through education, networking, preventive measures, and local sustainability initiatives aimed at improving protective mechanisms within the community. Social work, as a helping profession, has the potential to play a significant role in the process of building resilience through community work, nurturing resources, connecting individuals and communities, and advocating for the needs of those at risk. This has been recognised by international organisations; however, there are noticeable deficiencies in state regulations of practices responding to ecological disasters, with particular ambiguity in the role of the social work profession and lacking funding for preventive practices. Micro level activities need to be enhanced to higher levels to achieve impactful changes, and it is necessary to work on establishing green social work as a distinct practical and scientific discipline, with mandatory training for professionals in this field. The development of the legislative framework, infrastructure, financing systems, and crisis response plans are key to creating the foundation for green social work, which has the potential to implement positive changes in developing community resilience. Additionally, there is a noticeable lack of research on the topic of real practices of green social work globally and in our country, which highlights the recommendation for conducting more extensive research in this field.

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ЗЕЛЕНИ СОЦИЈАЛНИ РАД И ОТПОРНОСТ ЗАЈЕДНИЦЕ

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Резиме

Еколошка криза представља значајан ризик за социјалну сигурност становништва, поготово изражен код припадника маргинализованих група који су у већем степену изложени негативним последицама. Зелени социјални рад развијен је као одговор на растуће ризике еколошких криза, са циљем унапређења добробити појединаца и група кроз различите интервенције, укључујући санацију последица криза, оснаживање, заступање, рад у заједници, превенцију и едукацију о заштитним механизмима. У овом домену, развој отпорности заједнице истиче се као посебно значајна област деловања зеленог социјалног рада којом се тежи унапређењу капацитета заједнице и појединаца за суочавање са негативним ефектима еколошких криза. Ове активности могу имати превентивни карактер или служити као подршка у процесу опоравка и повратка на претходни ниво функционисања након кризних ситуација. Улога зеленог социјалног рада у развоју отпорности заједнице првенствено се заснива на мобилизацији заједнице, кроз приступ „одоздо на горе“ који обухвата активности оснаживања, повезивања, едукације, заговарања права посебно угрожених група и имплементације одрживих политика, али и подстицања локалних еколошких иницијатива. Водећи процес у развоју капацитета за отпорност једне заједнице представља оснаживање појединаца кроз неговање индивидуалних и колективних снага и ресурса. У том контексту, друштвени капитал издваја се као један од важнијих ресурса јер омогућава успостављање мрежа подршке и сарадње између различитих актера у самој заједници, али и шире. Ово обухвата и неформалне облике организовања и повезивања грађана, којим се доприноси јачању социјалних веза и омогућава заједничко деловање, стварајући основ за развој отпорности. Међутим, ипак кључну улогу у изградњи отпорности имају политички, економски, друштвени и еколошки капитали, чија међусобна интеракција утиче на капацитет заједнице да одговори на кризе. Док, тренутно стање одликује недостатак отпорности у кључним областима као што су инфраструктура, економија и социјална заштита. Последично, упркос значају превентивних мера, улагања у активности припреме и превенције су недовољна. Регулативни оквир Републике Србије карактерише усмереност на реактивне мере и процену ризика, при чему изостају одредбе о превентивним активностима изградње отпорности. Додатно, насупротив значајном потенцијалу професије социјалног рада у изградњи отпорности заједница, улога система социјалне заштите и професије социјалног рада у активностима смањења ризика од катастрофа и управљања ванредним ситуацијама остаје недовољно дефинисана. Самим тим, како би се постигле значајне промене, неопходно је радити на утемељењу зеленог социјалног рада као научне и практичне дисциплине, при чему је кључан развој законодавног оквира, инфраструктуре, система финансирања и стратешких планова одговора на кризе.

INSTRUCTIONS FOR AUTHORS ON PAPER PREPARATION

Formatting. Papers should be sent as *Microsoft Office Word* files (version 2000, 2003, 2007), font *Times New Roman*, font size 12. Page setup margins should be 2.5 cm (top, bottom) and 2.5 cm (left, right), paper size A4 (210 mm x 297 mm). Paragraphs should be formatted with line spacing 1.5, and justified (Format, Paragraph, Indents and Spacing, Alignment, Justified). Do not break words at the end of the line.

Paper length. Research papers should not exceed 37.000 characters (spaces included), and reviews should not be longer than 8.000 characters (spaces included).

Language, alphabet. The languages of publication in the TEME is English (font *Times New Roman*). Contributions be rejected if the language is not at the appropriate level of correctness and style. If the authors wish to increase the visibility of their papers, they are supposed to submit Serbian version of the article as well (as Supplementary file - Word format, using the Cyrillic alphabet).

PAPER

The author should remove from the text of the paper all the details that could identify him/her as the author. Authors must enter all the necessary data during the electronic submission of the paper.

PAPER STRUCTURE

- **Paper title in English**
- **Abstract in English** 100 to 250 words, followed by 5 key words.
- The title and the abstract of the paper should be directly linked to the paper content, with no information that would identify the author(s) of the paper.
- **Paper title in Serbian**
- **Abstract in Serbian**, followed by 5 key words.
- The paper should follow the **IMRAD** structure (Introduction, Methods, Results and Discussion), when it presents an empirical study
- **Paper body** should not contain more than three levels of subdivision into *sections* and *sub-sections*. Level one sections should be introduced by headings printed in *Italic* and in **CAPITAL LETTERS**, formatted as centred. Level two sections should be introduced by headings in *Italic*, with the initial capital letter, formatted as centred. Level-one and level-two headings should be separated from the previous text by one line. Level three sections should be introduced by a heading printed in *Italic*, but placed as a regular paragraph, separated by a full-stop from the text that follows.

Each paragraph should have the first line indented (1 cm).

In-text citations: Whenever referring to a source (monograph, article, statistical source), the author should cite the source in the text, using the

author-date system (Surname, year of publication, pages referred to, all in brackets) – Please, refer to the table at the end of these *Instructions*.

- When referring to several works by the same author, provide all the years of publication chronologically after the author's name. If there are several works by the same author published the same year, provide further specification using letters (a, b,...) after the year of publication: "...confirming this hypothesis (Wuthnow, 1987a, p. 32)...".

- When referring to several works by different authors, provide the authors' names in brackets following the alphabetical order, separating authors by semi-colon: "... several studies were central to this question (Jakšić, 1993; Iannaccone, 1994; Stark and Finke, 2000)."

Direct quotations can be included in the text if not longer than 20 words. Longer quotations should be given as separate paragraphs, spaced-out from the previous and following text, and with the following formatting: Format, Paragraph, Indents and Spacing, Left 1 cm, Right 1 cm, Line spacing – Single; for instance:

To explain how “culture through language affects the way we think and communicate with others of different background” (Gumperz, 2001, p. 35), Gumperz states:

“Conversational inference is partly a matter of a priori extra-textual knowledge, stereotypes and attitudes, but it is also to a large extent constructed through talk” (Gumperz, 2001, p.37).”

It is crucial that the in-text citations and references should match the literature listed at the end of the paper. All in-text citations and references must be listed in the References, and the References must not contain sources not referred to or cited in the text. The bibliography listed at the end of the paper should contain author names and source titles in original languages and alphabets, without translation.

Tables, graphs, and figures. Tables, graphs and figures should be numbered (sequentially), with captions explaining their content. Captions should precede tables, but follow graphs and figures. Graphs and figures must be clearly visible in the text, so they should be provided in 300dpi resolution. Graphs and figures must be single objects (no Drawing elements added). Where necessary, mathematical formulas should be added to the text using Microsoft Equation Editor.

Appendices. should be marked by *letters* (sequentially), e.g. Appendix A, Appendix B etc., and should contain a title describing the content of the appendix. When there is only one appendix, no letters are necessary in its title (only "Appendix").

➤ **Literature (References).** A complete list of references should be provided as a separate section at the end of the paper. The references should be listed in accordance with the **APA Style**. The references should be listed alphabetically, by the authors' last (family) names. For publication titles in Serbian, the English translation should also be

provided in brackets. The works by the same author should be listed chronologically (from the most to the least recent ones). Wherever possible, provide the DOI number, too, in addition to other reference data.

➤ **Summary in Serbian.** Please provide a summary at the end of the paper, after the References section. The summary should not be longer than 1/10 of the paper (i.e. 2,000 to 3,700 characters). The summary should be formatted as *Italic*, with single line spacing.

EXAMPLES OF SOURCE QUOTING AND REFERENCING:

Journal papers and articles – 1 author

In-text citation:

(Manouselis, 2008), i.e. (Manouselis, 2008, p. 55)

In ‘References’:

Manouselis, N. (2008). Deploying and evaluating multiattribute product recommendation in e-markets. *International Journal of Management & Decision Making*, 9, 43-61. doi:10.1504/IJMDM.2008.016041

Journal papers and articles – 2 to 6 authors

In-text citation:

First reference: (Uxó, Paúl, & Febrero, 2011)

Subsequent references: (Uxó et al., 2011)

In ‘References’:

Uxó, J., Paúl, J., & Febrero, E. (2011). Current account imbalances in the monetary union and the great recession: Causes and policies. *Panoeconomicus*, 58(5), 571-592.

Journal papers and articles – more than 6 authors

In-text citation:

(Cummings et al., 2010, p. 833)

In ‘References’:

Cummings, E., Schermerhorn, A., Merrilees, C., Goetze-Morey, M., Shirlow, P., & Cairns, E. (2010). Political violence and child adjustment in Northern Ireland: Testing pathways in a social-ecological model including single-and two-parent families. *Developmental Psychology*, 46, 827-841. doi: 10.1037/a0019668

Book – 1 author

In-text citation:

(Heschl, 2001, p. 33)

In ‘References’:

Heschl, A. (2001). *The intelligent genome: On the origin of the human mind by mutation and selection*. New York, NY: Springer-Verlag.

Book – edited volume

In-text citation:

(Lenzenweger & Hooley, 2002)

In ‘References’:

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