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## MOTIVATION TO LEARN

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**Abstract.** Motivation to learn is associated with academic success, positive attitudes towards school, greater student and teacher satisfaction and better discipline. In developing the concept, motivation has been viewed as a personality trait or state depending on the situation, or as a combination of traits and states. The basic division that theorists have emphasised is the difference between intrinsic and extrinsic motivation. Since most activities are neither fully intrinsically nor extrinsically motivated, the idea arises that there is a continuum on which activities are located between fully intrinsically and fully extrinsically motivated, or that intrinsic and extrinsic motivation are considered to be two independent causes with the possibility of simultaneous action. This paper presents the basic theoretical concepts of motivation to learn and practical implications for the teaching process, namely: behaviourist approach to motivation, Maslow's hierarchy of needs, self-determination theory, theory of optimal experience, expectancy-value theories, goal theory, implicit theories of ability, attribution theory, self-efficacy beliefs and self-worth theory as well as the importance of interest in the subject of study. Most theories emphasise the importance of intrinsic motivation, while research and the reality of school systems show that it is sometimes necessary to rely on extrinsic motives and to use reward systems. There are many reasons why students learn. Personal interests, curiosity and the inner need for knowledge are probably the strongest drivers to engage in a particular activity. It is important to nurture and develop curiosity, interests, and the desire to learn as many different areas as possible.

**Key words:** motivation to learn, intrinsic motivation, extrinsic motivation

## INTRODUCTION

Motivation is a complex psychological process of initiating, directing, and regulating activities directed towards a specific goal (Trebješanin, 2000). Motivation to learn refers to the extent to which students invest their attention and energy in efforts that may or may not be desirable, depending on the teacher. Student motivation depends on the student's subjective experiences, i.e., the will and reasons to engage in learning activities (Brophy, 2015). Motivation to learn is associated with academic success, positive attitudes towards school, greater student and teacher satisfaction, and better discipline (Tulić, 2015).

The complexity of the phenomenon of motivation is reflected in the fact that people engage in work and tasks that are difficult and uninteresting, and that they persevere even when they encounter obstacles. Motivation has been viewed either as a personality trait or as a state that depends on the situation or a combination of traits and states (Woolfolk et al. 2014). Theorists have emphasised the fundamental distinction between intrinsic and extrinsic motivation. In the case of intrinsic motivation, the locus of causation lies within the person. Person has a natural need to engage in certain activities that he or she enjoys, and engaging in the activity itself is a reward. In extrinsic motivation, the locus of causality for engaging in a particular activity is external to the person. The performance of an activity does not represent pleasure itself, but the activity is performed to achieve a certain goal (Woolfolk et al., 2014). Since (Woolfolk et al., 2014) many activities are not caused by either fully intrinsic or extrinsic motivation, the

idea emerges that there is a continuum on which our activities are located, between fully intrinsically and fully extrinsically motivated. Many activities internalise an external cause, so in this case the activity is both extrinsically and intrinsically motivated (Woolfolk et al., 2014). Another way of explaining the existence of activities that we cannot accurately say are neither intrinsically nor extrinsically motivated is that these two causes for the activity are independent of each other and there is the possibility of acting simultaneously (Woolfolk et al., 2014).

## **THEORETICAL CONCEPTS OF MOTIVATION WITH PRACTICAL IMPLICATIONS**

In line with the basic directions of understanding of personality and human nature, motivation as well as motivation to learn is considered from the point of view of behaviourism, humanism, cognitivism, and sociocultural aspect. Behaviourism views motivation as extrinsic, while humanism emphasises that people are intrinsically motivated and driven by the need for self-actualisation and self-determination (Woolfolk et al., 2014). Cognitivist theories assume that motivation is primarily intrinsic, meaning that people are naturally active, curious and in search of information. What initiates and regulates behaviour are planning, goals, schemas, expectations, and attributions (Woolfolk et al., 2014). The sociocultural view understands motivation as intrinsic, with the concept of identity playing an important role in the emergence and maintenance of motivation. Namely, according to the sociocultural view, people identify with certain social groups or communities and build their identity within these groups. People are motivated to engage in activities to maintain their identity and social ties within these communities (Woolfolk et al., 2014).

## **BEHAVIOURIST APPROACH TO MOTIVATION**

According to the behaviourist view, motivation to learn is considered extrinsic, as rewards and incentives trigger learning (Woolfolk et al., 2014). In the teaching process, the principles of operant learning are applied to encourage desirable behaviour and motivate students to learn, with reinforcement in the form of attention and praise from the teacher, while undesirable behaviour is ignored (Woolfolk et al., 2014). Verbal rewards in the form of praise and attention have a positive effect on motivation, but also, they may cause a negative effect or simply be ineffective (Brophy, 2015). For some students, praise is ineffective because they do not consider it important, while others are bothered by public praise that singles them out, or praise given for less valuable achievements, so that they perceive it as humiliation. Praise given for minor achievements to encourage weaker students, who may thus understand that the teacher has no confidence in their abilities, can also be seen as problematic. For praise to be truly motivating, it must be informative and indicate recognition rather than control, be sincere (Brophy, 2015), depend on the behaviour that is to be reinforced, and clearly name the behaviour that is to be reinforced (Woolfolk et al., 2014). Desirable activities are also effective reinforcers, and the way they are used as reinforcers in the form of the Primark principle is striking (Woolfolk et al., 2014). High-frequency behaviour such as a favourite activity can be used as a reinforcer for a low-frequency behaviour, i.e., a less popular activity. Then, the shaping strategy is another method of reinforcing students that involves reinforcing progress, i.e., the steps that lead to the final goal, while the positive practise method involves replacing one behaviour with another and is suitable for working with errors that students need to correct and practise correct responses as soon as possible (Woolfolk et al., 2014). Brophy (2015) believes that competition is a powerful extrinsic motivator, often favoured by students and

teachers. However, he does not recommend it as a motivational strategy because it comes with several dangers, such as the risk of public failure, the focus on winning rather than on the task, the coercive context, and the imposition of rules. Students who lose can develop a loser psychology that can permanently reduce self-esteem, self-confidence, and enjoyment of school, and thus motivation to learn.

Although Brophy (2015) points out that the use of learning reinforcement strategies has been shown to encourage students to put in more effort, he emphasises that most motivation theorists do not see this as motivation to learn, but as behavioural control. In addition, many researchers believe that the method of reward undermines intrinsic motivation when the rewards are offered in advance as an incentive, so that students believe they only engaged in the task because they had to be rewarded (Brophy, 2015). Rewarding students for engaging in topics they are already interested in leads to a loss of interest once the reward programme ends (Brophy, 2015). Reward programme that does not engage all students may have negative effects on students who are not included in the programme (Lalić-Vučetić, 2007). Reward strategies in the classroom should be unannounced so that students understand them as appreciation of effort and recognition of achievement rather than bribery. Reward strategies are more effective in routine, concrete tasks than in discovery tasks and those requiring creativity and skill, while in lower-level tasks such as memorisation they may be the only form of motivation to sustain effort (Brophy, 2015). Tangible rewards can be harmful if they are given only for participation in an activity regardless of the quality of performance or if they are simply promised in advance (Brophy, 2015). Expectation of a tangible reward has a negative effect on intrinsic motivation, especially if the amount of the reward is directly related to the level of performance, while verbal rewards have a positive effect on motivation if they are informative and not controlling (Brophy, 2015).

## **MASLOW'S HIERARCHY OF NEEDS**

One of the basic approaches to motivation is Maslow's hierarchy of needs. Maslow namely assumed that human needs range from basic needs to higher order needs, to self-actualisation. The satisfaction of higher needs is only possible when the lower order needs are satisfied. Thus, the basic human needs represent physiological needs, such as the need for food, water, sleep, warmth, sex, then the need for protection and security. Second in the hierarchy are the needs for love and belonging, then the needs for respect and self-esteem and finally, at the top of the hierarchy, the needs for self-actualisation. The self-actualisation needs represent growth needs, while the four basic needs are deficit needs that, when satisfied, reduce the motivation to fulfil them. The satisfaction of self-actualisation needs does not lead to a decrease in motivation, but to its increase and the need for further growth and development (Maslow, 1954).

Learning and classroom engagement are hindered when students' basic needs are not met, e.g., when students are hungry, sleepless, socially isolated from their peers and anxious because they have low self-confidence and self-esteem (Brophy, 2015). The objection to Maslow's theory of motives is reflected in the fact that people are likely to be motivated by different needs simultaneously, i.e., their behaviour does not move in a straight line from lower to higher needs (Woolfolk et al., 2014). People sometimes intentionally neglect the satisfaction of lower needs because they are busy with a task (Brophy, 2015).

## SELF-DETERMINATION THEORY

Self-determination theory (Deci & Ryan, 2004) assumes that people have a natural tendency to grow and develop and achieve an integrative sense of self by building interaction and internal organisation and regulation within themselves and with others in their social environment. Psychological growth and integration do not happen automatically, but depend on the person's social environment, which can be conducive or obstructive. There are three basic universal and innate psychological needs: the need for competence, the need for connection with others and the need for autonomy. The need for competence means that people seek opportunities to exercise and express their abilities. People also have the need to be connected to others, to care for others and to be cared for by others. They need a sense of belonging both to other people and to a particular social group. Finally, autonomy refers to the sense that one's behaviour is an expression of the self (Deci & Ryan, 2004), that is, that one's desires, rather than rewards or pressures, determine our actions (Woolfolk et al., 2014). Social environment, including the classroom, influences autonomous motivation through the satisfaction of basic needs. When these needs are met, students feel self-determined and autonomously motivated, not controlled, and pressured (Brophy, 2015). The satisfaction of these three basic needs is associated with greater intrinsic motivation, satisfaction, better performance, and a desire to repeat the experience (Brophy, 2015), while autonomous motivation in school is associated with greater interest, creativity, learning concepts, affinity for challenge (Woolfolk et al., 2014), academic achievement, better cognitive processing, preference for optimal challenges and greater enjoyment of learning (Alispahić, 2012). The experience of self-determination was found to be influenced by the belief that internal rather than external reasons triggered and governed the activity (Alispahić, 2012). Students in classes where they are highly controlled show little interest, appreciation and effort in school while blaming teachers and the school for their failure (Brophy, 2015). Teachers who have undergone training to support student autonomy in the teaching process contribute to greater engagement in work and greater student interest in the teaching process (Alispahić, 2012).

Classroom events that affect the sense of self-determination and autonomous motivation primarily relate to providing meaningful explanations to students so that they recognise the purpose and significance of each learning activity (Brophy, 2015). Providing information increases feelings of competence and positively influences intrinsic motivation (Woolfolk et al., 2014). The ability to choose tasks supports student autonomy and gives more meaning to the task, which contributes to the internalisation of educational goals (Woolfolk et al., 2014). For tasks that students do not choose for themselves, it is important to emphasise their interesting and challenging aspects so that they are not just experienced as work that needs to be done (Brophy, 2015). It is also necessary for teachers to explain the reasons for the existence of rules and boundaries and to show students that they understand their negative feelings related to teacher control (Woolfolk et al., 2014). To support the need for competence, it is necessary to offer students optimally challenging tasks with opportunities for an active response and immediate feedback (Brophy, 2015). Intrinsic motivation is also influenced by the satisfaction of the need to connect with others. When close emotional bonds are formed and children feel that parents and teachers care about their well-being and interests, intrinsic motivation, and emotional engagement in school increase. Weak closeness and connection to others is often associated with emotional and physical problems (Woolfolk et al., 2014). Positive interpersonal climate and collaborative working rather than a competitive and hostile atmosphere have a positive effect on intrinsic motivation in learning activities that allow mutual communication (Brophy, 2015). It should be considered that some students are more suited for individual work. Then, in group work, there is a risk that students focus more on



socialising than on learning, or that some students do not fulfil their part of the obligations, which then affects the others (Brophy, 2015).

Self-determination theorists do not make a strict dichotomy between extrinsic and intrinsic motives (Deci & Ryan, 2004). Through the developmental process of internalisation and integration, extrinsically motivated actions can become self-determined. Internalisation is the transformation of external rules or values into internal ones, and integration is the process by which these rules or values are integrated into the self. A continuum of extrinsic regulation has thus been identified, ranging from external through semi-internal and identified to integrated. This explains the fact that students may pursue learning goals that are important to them even though they are not intrinsically interesting (Brophy, 2015).

Theory of self-determination is more applicable to the affective rather than the cognitive aspects of engagement in school activities and as well as the possibility of choice in the instructional process has its limitations (Brophy, 2015). The opportunity to choose a task has a positive effect on students' intrinsic motivation and affective aspect of engagement, while it does not affect cognitive processing in terms of applying better learning strategies, remembering key ideas, and drawing conclusions. Some research has shown that the perception of the value of the task has a greater impact on students' feelings and cognitive engagement than the possibility of choice, as it is often the case that none of the tasks offered match students' goals and interests (Brophy, 2015). The possibility of choice can cause anxiety due to the experience of burden if the students are not sure which choice would be best for them. Optimal number of tasks should be offered, neither too many nor too few (Brophy, 2015). The ability to choose a task independently does not suit students from cultures where individualism is valued less and connection with others is valued more (Brophy, 2015).

## **THEORY OF OPTIMAL EXPERIENCE – FLOW EXPERIENCE**

The theory of optimal experience, based on the flow experience, emphasises the importance of intrinsic motivation. It was established by Csikszentmihalyi (1990) based on the experiences that art students had while working. He found that the students were so involved in the work that they did not react to the stimuli surrounding them, and they described their experience as ecstatic excitement, during which they felt satisfaction and confidence in their work abilities. The flow experience occurs during the accomplishment of optimally challenging tasks and the attention and focus on the task leads to a loss of self-awareness and the exclusion of thinking about other things. The activity itself is experienced as a reward and the perception of the passage of time is distorted so that engagement in an activity seems extremely short or long (Csikszentmihalyi, 1990). When focused on an activity, one does not think about success or failure, but enjoys the sense of control and accomplishment and develops strategies and skills to respond to the activity itself (Brophy, 2015). Flow experiences are most experienced when engaging in hobbies, but they are also possible at work and in the classroom (Brophy, 2015). However, if the student is anxious because they cannot meet the demands of performance, the potential for experiencing flow in school may be compromised. Therefore, Csikszentmihalyi (1990) points out that it is necessary for teachers to encourage students to strive for challenging but reasonable goals and to support students not only in teaching but also on an emotional level so that they approach tasks confidently and without anxiety. Teachers can promote flow experiences when they know their subjects well and teach them with enthusiasm, which encourages students to see the content as meaningful and to enjoy it. In this way, teachers provide a personal example of striving for intrinsic motivation (Csikszentmihalyi, 1990; Brophy, 2015).

## EXPECTANCY-VALUE THEORIES

Expectancy-value theories take into account both the behaviourist interest in the effects of behaviour and the cognitivist interest in the influence of individual thinking. Motivation requires two components, the expectation that the goal will be achieved and the value of achieving the goal (Woolfolk et al., 2014). The degree to which the student strives for a sense of achievement and their belief in their own competence should also be considered, as they will engage in a task that is difficult enough and therefore rewarding, but not too difficult to succeed. As with moderately difficult tasks there is also the possibility of being unsuccessful, motivation is the result of expecting success in achieving a worthwhile goal and avoiding failure (Lalić-Vučetić, 2015). The cost of achieving a goal also plays a role in its value. When assessing the value of achieving a goal, the effort and energy that must be invested to achieve the goal, as well as the risks that exist if the goal is not achieved, are considered (Woolfolk et al., 2014). Through their expectations of students, teachers can influence the formation of students' expectations and values, as they are more likely to praise and more likely to notice correct answers in students from whom they expect more. Research shows (Pajević, & Fehratović, 2019) that students from whom teachers expected intellectual progress made progress. Belief in students' ability to learn and teachers' encouragement of students to learn leads to better learning outcomes, regardless of students' abilities (Pajević, & Fehratović, 2019).

## GOAL THEORIES

To understand students' motivation, goal theories examine what beliefs students have about the purposes of their achievement-related behaviour (Brophy, 2015). Martin Covington (Brophy, 2015) has noted that in a school environment where students are compared to each other in terms of their success and ability, students may become more concerned with maintaining their self-esteem than with learning. Students may activate defence mechanisms that devalue the activity itself or others' opinions of their competence. They may present their abilities lower than they are so that others will lower their expectations of them, or they may have low aspirations so that they are less disappointed if they fail. They can procrastinate, cheat, or engage in other activities to give themselves an excuse for the lack of achievement. Goal theorists have found that students can approach the same activities with different goal orientations, leading them to engage in very different ways and achieve different results (Brophy, 2015). Goal theorists distinguish four basic goal orientations: mastery goals; performance or ego goals; work avoidance goals; and socially oriented goals (Woolfolk et al., 2014).

For mastery-oriented students, the goal is only learning. There is greater persistence in learning, one does not give up as easily when difficulties arise, and one is more likely to seek appropriate help. They use better learning strategies and deeper cognitive processing (Woolfolk et al., 2014). When they experience failure, they change their learning strategies without feeling helpless (Lalić-Vučetić, 2015). They approach learning early enough before the exam, are immersed in preparation, find the exam challenging, and are calm during the exam. Mastery orientation is related to interest in the content, long-term retention, and intention to choose similar courses in the future (Brophy, 2015). Performance orientation is not about improving knowledge, but about performing well in front of others, while external evaluation of performance, good grades and being better than others are more important than learning (Woolfolk et al., 2014). They are focused on showing abilities instead of developing them (Brophy, 2015). Because of the preoccupation with themselves and the public reputation of being successful and capable, these students may engage in activities that are detrimental to learning, such as: cheating, choosing easy assignments or only those that are graded (Woolfolk et al., 2014). They are less likely to ask for help, instead hiding difficulties and

often using superficial learning strategies such as rote memorisation or re-reading. They may often be burdened by negative emotions and worry about how they will present themselves in front of others (Brophy, 2015), as well as show strong test anxiety and academic procrastination (Živčić-Bećirević et al. 2015). Since some research (Brophy, 2015) has shown that performance goals are not necessarily bad when used in combination with mastery goals and with a focus on achieving success rather than avoiding failure, and that students can pursue both goals simultaneously, goal theorists have the "two by two" goal theory model. In this model, both approach and avoidance motives are considered, as are mastery goals and performance goals (Brophy, 2015). Performance approach goals are associated with better grades and test scores, high effort and persistence in learning, great need for achievement and competition (Brophy, 2015). Performance approach goals can, like mastery goals, be associated with the use of active learning strategies and high self-efficacy (Woolfolk et al., 2014). However, with performance-approach goals, the fear of failure can lead to avoidance of challenging tasks and cheating (Brophy, 2015). Due to experiences of failure, these students may develop learned helplessness in the long run and become oriented towards avoidance performance goals. These students are burdened with anxiety, tension, and intrusive thoughts, and generally enjoy learning activities less. Due to the strong need for competition, they avoid working with peers or choose only certain peers (Brophy, 2015).

There is an orientation towards work avoidance among students who do not want to exert themselves but want to have fun and not work (Woolfolk et al., 2014). There is a negative correlation between work avoidance goals and deeper cognitive processes, voluntary reading for fun, positive attitudes towards classes and subjects, test results (Brophy, 2015), while there is a positive correlation with academic procrastination (Živčić-Bećirević et al., 2015). These students have lower levels of academic self-efficacy, and this orientation is based on fear of failure (Koludrović & Reić Ercegovac, 2013).

Social goals are strong in most people and become more pronounced as people grow up and enter adolescence (Woolfolk et al., 2014). Students are more likely to be achievement-oriented if their social goals involve social responsibility and taking on social role obligations (Brophy, 2015). Theorists emphasise that mastery goals can be more effective when combined with social goals because a sense of belonging and responsibility can lead to greater effort in learning (Koludrović & Reić Ercegovac, 2013). The value placed on academic success among peers influences whether the satisfaction of social needs hinders or enhances learning. Satisfying social goals and needs can conflict with academic goals because satisfying one goal takes time away from satisfying others (Woolfolk et al., 2014).

Goals that are perceived as realistic, reasonably difficult, and meaningful are better accepted, which has a positive effect on motivation. Motivation to achieve goals is also influenced by performance feedback, with information about how much has been achieved, rather than what has not been achieved, being more effective (Woolfolk et al., 2014). The practical implications of goal theory in the classroom are reflected in the TARGET programme (Brophy, 2015), which includes six aspects to promote student learning, namely: Task; Authority; Recognition; Grouping; Evaluation; Time. The aspect Task means that optimally challenging tasks are selected, namely those that are interesting for the students and that they can relate to their own experiences. Authority is shared with students, considering their needs and feelings. All students who make significant progress in line with individually set targets receive recognition for a wide range of achievements, avoiding public highlighting of the best achievers. Grouping is about promoting collaborative learning, friendships, and shared interests, while minimising mutual competition and social comparison. Evaluation is based on individual progress assessments, without a focus on comparing individuals and groups. The Time aspect implies that it is organized in a flexible way, and not rigidly as in traditional classrooms.

## IMPLICIT THEORIES OF ABILITY

Implicit theories of ability represent people's beliefs about their own abilities and the abilities of people in general. Most adults tend to view ability in two ways: as an entity, i.e., a stable and unchanging personality trait that is predetermined and cannot be influenced or controlled, or as an incremental phenomenon, i.e., a variable category that can be improved through learning, practise, and work (Woolfolk et al., 2014).

Implicit theories of ability influence motivation to learn through the goals students set for themselves in their academic engagement. Students who perceive ability as an entity are more likely to set the performance goals (Brophy, 2015). When ability is understood as an entity, students focus on proving themselves capable in front of others and maintaining their self-esteem. In such a situation, they may focus on engaging in what they are good at without trying too hard and risking failure (Woolfolk et al., 2014). These students may use mechanisms of procrastination and refer to the lack of time (Lalić-Vučetić, 2015). There is a danger of developing learned helplessness because they understand experienced failure as evidence of lack of ability (Brophy, 2015). Students with an incremental understanding of ability are more likely to pursue goals of mastery and persist in their efforts to achieve those goals (Brophy, 2015). If it is considered that the ability can be practised and improved then it means that mastering it will make one become smarter (Woolfolk et al., 2014). These students approach challenging tasks that allow them to improve their competencies (Lalić-Vučetić, 2015). Failure is not perceived as catastrophic, because failure does not mean that the ability is threatened, but that it is necessary to work harder and/or change mastery strategies (Woolfolk et al., 2014). Based on these beliefs about ability, a fixed, unchanging, or developmental self-identity develops (Lalić-Vučetić, 2015). Students with a dominant belief in an unchanging self-identity may withdraw, avoid challenges and criticism, give up easily, and feel threatened by the success of others. A developing self-identity is associated with accepting challenges, persevering in the face of obstacles, and learning from the criticism and success of others. Research has shown that students with a developing self-identity show better academic achievement compared to students with a fixed identity, regardless of the student's intelligence (Lalić-Vučetić, 2015). In order to encourage students' incremental understanding of ability and set learning goals, classroom needs to be organised as a learning community where mutual comparison and competition are minimised and students' attention is focused on self-improvement, emphasising that mastery is achieved in gradual steps, with mistakes being part of learning and not evidence of incompetence (Brophy, 2015). To prevent the adoption of understanding of abilities as an entity (Brophy, 2015) feedback given to students must be on their effort, work, and concentration, rather than on their intellectual ability (Brophy, 2015).

## ATTRIBUTION THEORY

Attribution theorists consider causal attributions, that is, the explanations, excuses, and justifications people give themselves about their own behaviour and the behaviour of others, and how these explanations affect motivation. People try to understand their behaviour in terms of success or failure by attributing various explanations and causes to it, such as hard work, ability, luck, interest, help from others, unclear instructions, and the like (Woolfolk et al., 2014). Weiner (Weiner, 1985) hypothesizes that people explain the causes of success and failure in terms of three dimensions: locus of cause, stability, and controllability. The locus dimension is related to self-worth or self-esteem. If a person believes that the cause of his or her success is internal, then success increases self-esteem (Weiner, 1985), pride, and motivation for further activities (Lalić-Vučetić, 2015). The dimension of stability influences

the prediction of future outcomes and thus the motivation to perform in the present (Weiner, 1985). If a student believes that the reason for failing a test is as stable as a low ability that he or she believes is an entity, then he or she is unlikely to exert effort and be motivated to learn more to perform better on the test (Woolfolk et al., 2014). If success is attributed to unstable causes such as mood or happiness, motivation to learn is not at risk (Lalić-Vučetić, 2015). Controllability is related to feelings in the way that a person's belief that he or she is in control of his or her own success or failure may evoke feelings of pride or guilt, whereas attributing success or failure to uncontrollable factors evokes feelings of gratitude, shame, anger, or self-pity (Weiner, 1985). When success is attributed to internal and controllable causes, it leads to a person's belief that they will be able to succeed in the future, which has a positive effect on motivation (Brophy, 2015). The teacher's attribution of the cause of student success or failure, reflected in the teacher's behaviour toward students in the form of grades, comments, suggestions, reprimands, and praise, affects student motivation and achievement (Lalić-Vučetić, 2015). Brophy (2015) emphasizes the need to help students attribute success to a combination of sufficient ability and appropriate effort, as this leads to optimal motivational patterns, and failure to a lack of information, response strategy, or insufficient effort. The feedback given to students when they succeed should be related to the effort they have made, and in a way that positively impacts self-confidence.

## **SELF-EFFICACY BELIEFS**

In Bandura's (1997) social learning theory, self-efficacy is one of the key concepts when it comes to motivation to learn and motivation in general. Bandura (1997) defines self-efficacy as the belief that a person is capable of organising and carrying out the sequence of actions required to achieve specific successes. Self-efficacy beliefs affect motivation by influencing the prediction of behavioural outcomes and are a predictor of a person's behaviour (Bandura, 1997). Self-efficacy is built through personal experiences of mastery, because in this way a person believes that they will be successful in performing tasks in the future. Self-efficacy is acquired through vicarious learning and social persuasion and is influenced by the level of emotional arousal, as anxiety and tension reduce efficacy, while optimal levels of arousal increase it (Bandura, 1997; Woolfolk et al., 2014).

Self-efficacy beliefs and attributions of success and failure influence each other. If success is attributed to internal or controllable causes such as ability or hard work, then self-efficacy increases. If success is attributed to external and uncontrollable causes such as luck or help of others, then self-efficacy cannot be increased. Self-efficacy affects attributions, as high efficacy beliefs lead to attributing success and failure to controllable causes such as effort (Woolfolk et al., 2014). High levels of self-efficacy have a strong influence on motivation as they lead to a willingness to engage in a particular activity and set higher goals while low sense of self-efficacy in a particular domain leads to avoiding certain tasks or setting lower goals (Lalić-Vučetić, 2015). Research suggests that even an overestimated perception of one's own efficiency has a positive effect on motivation because a person does not approach a task pessimistically and discouraged, while a feeling of low efficiency leads to giving up easily when faced with obstacles and generally investing less effort (Woolfolk et al., 2014). However, overestimating one's abilities can have a negative impact on motivation, as a person may stop trying if he or she believes that he or she is very successful and has nothing more to learn in that area (Brophy, 2015).

To increase self-efficacy beliefs, it is necessary to encourage students to choose optimal goals that are concrete, challenging but achievable (Brophy, 2015), as well as short-term goals to facilitate assessment of progress (Woolfolk et al., 2014) and provide feedback to help

students achieve success and help them appreciate the development of their abilities through accepting challenges and putting in effort (Brophy, 2015). Teachers need to encourage students to use certain learning strategies and give rewards based on achievement and not just engagement to increase competence (Woolfolk et al., 2014).

## **SELF-WORTH THEORY**

Covington's self-worth theory (2000) is based on the idea that achieving goals creates a sense of self-worth and sense of belonging in a society that values achievement and expertise, and that people have a need to maintain a favourable self-image based on a sense of self-worth and self-respect. Experiences of success reinforce a favourable self-image, while failures indicate incompetence and lead to feelings of inferiority (Covington, 2000). Attributions of success and failure, beliefs about one's worth, self-efficacy and ability are combined into three types of motivational sets: Mastery Orientation, Failure Avoidance and Failure Acceptance (Woolfolk et al., 2014). Mastery-oriented students have low fear of failure, choose moderately difficult and challenging tasks, attribute success to effort, learning strategies and knowledge, have an incremental understanding of abilities and change learning strategies when necessary. Their sense of self-worth, self-efficacy and self-confidence are high (Covington, 2000; Woolfolk et al., 2014).

Students who avoid failure have a great fear of failure, set performance goals that are very difficult or easy, attribute failure to the lack of ability that they consider to be of an entity character, and resort to self-defeating strategies. They do not have a strong sense of self-efficacy and competence because this depends on the grade in the last test (Covington, 2000; Woolfolk et al., 2014). Students who accept failure are characterised by expecting failure and being depressed as a result, and by setting performance goals or not setting goals at all. They also attribute failure to the lack of ability, which they believe is of an entity character, and may develop learned helplessness with low feelings of self-efficacy and self-worth, and a high risk of dropping out of learning (Covington, 2000; Woolfolk et al., 2014).

To promote self-worth, Woolfolk et al. (2014) emphasise the need to show students their progress in a particular area and give them concrete suggestions on how to improve their work. Then point out to students that their improved work, and thus their better grade, reflects their greater competence. It is also necessary to show students the link between their past efforts and their performance and to confront them with self-defeating strategies. Students need to be helped to adopt mastery goals by being presented with examples of people who have made progress and improved their abilities within an area (Woolfolk et al., 2014).

## **INTERESTS**

Interest and emotion certainly play a role in a complex phenomenon such as the motivation to engage in an activity. Cognitive processing, memory, attention, comprehension, and problem solving will be better if the content evokes emotion and interest (Woolfolk et al., 2014). Interest means that attention is drawn to a learning activity because the content itself is valued or positive affective responses are made to it (Brophy, 2015). Individual interest is considered a personality trait and represents a more permanent interest in a particular activity or content (Woolfolk et al., 2014). Situational interest is triggered in the moment and is a response to the attraction of attention in a particular situation when there is a focus and motivation for further exploration of a particular content (Brophy, 2015). Interest in a particular content is positively related to achievement and Brophy (2015) points out that it is desirable to link the curriculum to individual student interests. This is possible either by

offering a choice of activities related to students' interests or by using interests in one area to provide a context for developing skills in activities in other areas. Since the curriculum is developed according to certain standards, most students also encounter areas during their education in which they have no personal interest. Therefore, it is important for teachers to rely on situational interest, i.e., to design lessons in such a way that this interest is aroused and maintained (Woolfolk et al., 2014). This implies engagement with content and activities, which often leads to the development of individual interest (Brophy, 2015; Bojović, 2017).

## CONCLUSION

Each of the theories presented has contributed to the explanation of motivation, as have the practical implications arising from these theories. Here we will refer to some practical implications and aspects of the theories presented that we consider particularly important. The value of self-determination theory (Deci & Ryan, 2004) in the context of teaching can be seen in valuing students' needs and feelings, and in fostering a friendly and supportive classroom climate in which students are part of a learning community. This theory recognises that external pressure and control can have a counter-effect and reduce motivation. The importance of this theory is also shown by the fact that it respects the student's need for competence, because the feeling of one's own competence or success increases self-esteem and self-confidence, thus it is likely to have a positive effect on motivation to learn. Goal theorists (Brophy, 2015) recognise that students can approach the same tasks in different ways and pursue different goals. Performance orientation and maintaining self-image is likely to be what motivates many students, and it entails a range of behaviours that interfere with learning. For this reason, goal theorists emphasise the need to encourage students to become mastery oriented and the need to organize teaching in such a way as to minimize mutual comparisons and competitions. We believe that a particularly important attitude of the theories of goals is to encourage students to compare themselves with themselves and thus monitor their progress, and not to compare themselves with others. Similarly, the classroom intervention of the TARGET program (Brophy, 2015), which refers to setting individual goals and assessing students' progress in accordance with those goals, represents an important contribution of the theoretical perspectives that focus on goals. Beliefs about one's abilities, worth, self-efficacy, the causes of success and failure, and the controllability of causes have a strong influence on motivation. Theorists (Brophy, 2015; Woolfolk et al., 2014) have pointed to the importance of the implicit theories about ability that people hold about themselves and others, which influence motivation and goal setting. It has thus been assumed that there is a need to encourage students to adopt attitudes according to which the ability can be improved and developed, which would encourage students to adopt mastery goals. Theorists who recognise the importance of implicit theories of ability, emphasise the need to design instruction in a way that does not encourage students to compare and compete. Emphasis is placed on the importance of teaching students that mastery is achieved in small steps and that mistakes are not evidence of incompetence but an opportunity to learn. Attribution theories have contributed by pointing out the importance of encouraging students to attribute the causes of their success or failure to internal but controllable causes such as effort, work, learning strategies and the like (Brophy, 2015; Woolfolk et al., 2014). Self-efficacy theory and self-worth theory indicate that feelings of self-efficacy and self-worth have a major impact on motivation. (Bandura, 1997; Covington, 2000). People like to work when they feel that they are capable and competent, and success strengthens feelings of self-worth and self-respect, which in turn has a positive effect on motivation. To promote self-efficacy and self-worth, the importance of accepting reasonable and close goals and helping students to use appropriate

learning strategies is pointed out. Most of the theories presented emphasise the importance of intrinsic motivation. However, it is sometimes necessary to rely on extrinsic motives and to use reward systems that have emerged from the behaviourist approach, but in a cautious way (Brophy, 2015). The reality in school systems is that it is often not possible to rely only on students' intrinsic motivation. Motivation is related to interests, but the school system is organised in such a way that most students are confronted with material that does not match their interests. Therefore, it is important to support learning and motivate students to learn even what they are not personally interested in. Although, as we have seen, there are many reasons why students learn, personal interests, curiosity and the inner need for knowledge probably represent the strongest drive to engage in a particular activity. Therefore, it is important for children, parents, guardians, educators, and teachers to encourage and develop curiosity, interests, and the desire to learn as many different areas as possible.

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# MOTIVACIJA ZA UČENJE

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## Apstrakt.

Motivacija za učenje je povezana sa školskim uspehom, pozitivnim stavovima prema školi, većim zadovoljstvom učenika i nastavnika i sa boljom disciplinom. U razvoju koncepta, motivacija je posmatrana kao crta ličnosti ili stanje koje zavisi od situacije ili kao kombinacija crta i stanja. Osnovna podela koju su teoretičari isticali je razlika između intrinzičke i ekstrinzičke motivacije. Budući da većina aktivnosti nisu ni potpuno intrinzički ni ekstrinzički motivisane, javlja se ideja o postojanju kontinuuma na kome se naše aktivnosti nalaze, između potpuno intrinzički do potpuno ekstrinzički motivisanih, ili se intrinzička i ekstrinzička motivacija posmatraju kao dva nezavisna uzroka sa mogućnošću istovremenog delovanja. U ovom radu su predstavljene osnovni teorijski koncepti motivacije i praktične implikacije u nastavnom procesu i to: bihejvioristički pristup motivaciji, Maslovljeva hijerarhija motiva, teorija samoodređenosti, teorija optimalnog iskustva, teorija očekivanja i vrednosti, teorije cilja, implicitne teorije o sposobnosti, teorija atribucije, uverenja o samoeфикаsnosti, teorija o samovrednosti kao i važnost interesovanja za ono što se uči. Većina teorija naglašava važnost unutrašnje motivacije, dok istraživanja i realnost školskih sistema pokazuju da je ponekad potrebno osloniti se na ekstrinzičke motive i koristiti sisteme nagrađivanja. Mnogo je razloga zašto učenici uče. Lični interesi, radoznalost i unutrašnja potreba za znanjem verovatno su najjači pokretači za bavljenje određenom aktivnošću. Važno je razvijati i negovati radoznalost, interesovanja i želju za učenjem što više različitih oblasti.

**Ključne reči:** motivacija za učenje, intrinzička motivacija, ekstrinzička motivacija



## АНТРОПОЛОШКИ АСПЕКТИ ИДЕНТИТЕТА ЈУНАКА „НЕЧИСТЕ КРВИ“ БОРЕ СТАНКОВИЋА<sup>1</sup>

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**Абстракт:** Имајући у виду да роман „Нечиста крв“ Борисава Станковића обухвата догађаје, породичне и друштвене односе у дефинисаном простору, у варошици на југу Србије, у конкретном времену, од 1850. до 1900. године, отвара се могућност за истраживање аспеката живота човека као централне тачке превирања тога времена и на том простору. Интерпретацијом делова из романа „Нечиста крв“ може се сагледати однос писца према појединачним људским судбинама у друштвеним ситуацијама у Врању, после ослобођења од Турака. Антрополошки аспект постављеног проблемског питања усмерен је ка главним ликовима (ефенди-Мити и газда-Марку), представницима друштвених средина у роману, градске и сеоске, али и према њиховом потомству. Бора Станковић је у овом роману описао низ трагичних судбина ликова који су често били у немилости неписаних правила своје средине и наслеђених образаца понашања. Борини ликови су доживели драму идентитета и због пропадања трговачких породица које су имале угледно и повлашћено место у варошици, али и због судара са новим временом које је омогућило продирање сеоских породица у град. Тако је дошло до мешања два света у коме је новац почео да одређује друштвене односе и да ремети самореализацију личности. Дакле, све те околности додатно отежавају улогу *недовршеног* човека који трага за својим идентитетом, потврђујући или негирајући личну потребу и искуство предака. Станковићеви јунаци су у дубоком несагласју са собом и другима и као такви показали су неспособност и немоћ да се боре за свој идентитет. Рад ће се бавити и могућим разлозима за такве изборе јунака.

**Кључне речи:** идентитет, психологија ликова, културни модели, ефенди-Мита, газда-Марко

Роман започиње сликом о чувеној породици која је своје односе градила у оквирима свога дома, иза капије, по утврђеном реду мушке доминантне позиције. Простор куће наглашено је одвојен од спољног света изгледом и чувањем свега што су преци уградили у стварање хармоничне атмосфере тихог живота. Обичајна правила породице односе се на посебан систем вредновања родбинских и друштвених позиција. У складу са тим, чланови породице бринули су о томе да слика о њиховом дому увек буде идеална. Трудиле су се у свему – у припремању најлепших јела, сређивању куће и дворишта, бирању најбогатије гардеробе, приказивању породице у најлепшем светлу како би гости били задивљени и пуни утисака: „Ао, што код Хаџи-Трифунових беше на слави!“ (Станковић 1987: 12). Свој дом штитили су од погледа „тога спољног, неблагодарног света“, од тог света су чували највеће тајне у вези са болестима, деобама, свађама (Станковић 1987: 14). Породица је, дакле, наставила да поштује неписано правило својих предака о скривању лошег и истицању доброг. Контакт са спољном средином одржавао се на крсним славама, у цркви, на гробљу. Паралелизми нису дати

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само у контексту спољног и унутрашњег света, већ је писац садржај обликовао наративним поступком паралелних слика на личном и општем плану.

Имајући у виду да роман „Нечиста крв“ Борисава Станковића обухвата породичне и друштвене односе у варошици на југу Србије, од 1850. до 1900. године, отвара се могућност за истраживање аспеката живота човека као централне тачке превирања тога времена и на том простору. Ово истраживање засновано је на антрополошким питањима и размишљањима о суштини човекове самореализације на основу уметнички реализованих паралелних слика (да ли и супротстављених?!) чланова двеју породица којима ће спојна тачка бити продата кћер, односно купљена снаха. Антрополошки аспект постављеног проблемског питања усмерен је ка главним представницима друштвених средина у роману (ефенди-Мити и газда-Марку), али и према њиховом потомству.

Приказан као изданак чувене породице Хаџи-Трифуна, ефенди-Мита је био предодређен за посебан положај у породичном кругу. Родитељи су му омогућили путовања и школовање у Солуну и Цариграду. Када се вратио, био је прави господин, „ефенди“. „Лепшега у вароши није било. Лепше турски, грчки и арапски говорио него свој матерњи језик. За све је био туђин и стран, нарочито за толику родбину. Истина, говорио би покатак и здравио се с којим од њих, али више обичаја ради него што је хтео. Чак ни са оцем и матером, тек по који пут. Није ни јео са њима доле, у приземној соби, морало да му се поставља и нарочито за њега да се кува, толики је био пробирач“ (Станковић 1987: 18). Описом ефенди-Митиног односа према родитељима и родбини, према матерњем језику, према себи и свом идентитету, писац као да подвлачи посебност која се не огледа само у стеченим манирима и учености, већ носи и предзнак инфериорности, несигурности, незрелости и себичности. Можда би се могло говорити и о непоштовању средине (обичаја, културе) из које је поникао, а у вези са тим и о (не)васпитању које је добио у својој породици. Развој догађаја у роману осветлиће и таква лица и наличја ефенди-Мите. Женидба је само на кратко прекинула његов начин живота. Ефенди-Митина жена, Тодора, девојка из сиромашне породице, развиће се у лепу жену. Приликом одабира девојке („била више мушко него женско“, „вижљаста, сува, црномањаста“, „њена кућа била је, истина, некада мало богата, али тада доста оронула“, „живели су од кирије од неколико оронулих дућанчића при крају вароши“), уочава се ефенди-Митина потреба за наглашавањем сопственог ега и супериорности, иако је, писац и то истиче, умео да види њену скривену лепоту („чим је видео такву, одмах, знајући у какву ће се лепотицу доцније развити, на изненађење и чудо свима, а највише на уштрб дотадашње своје гордости и господства, узео је за жену“), („нико се није могао надати да ће из ње каква лепота изићи“) (Станковић 1987: 19). Захвална што је ефенди-Мита изабрао њу за своју животну сапутницу, Тодора је своју улогу снаје, жене и мајке, обављала интуитивно, уклапајући се у идеалну слику богате хаџијске породице. Умела је да сређује кућу и да брине о свему као да је одувек живела у богатству и отмености. Ипак, дубоко у себи, осим ретких тренутака породичне и личне среће, носила је терет душевне драме неостварене жене. О породици, нарочито са честим одсуствањима свога мужа, пред родбином, слугама и комшијама, стварала је слику угледне и срећне породице, богате и моћне, потискујући своју усамљеност. Тодора је прихватила модел понашања ефенди-Митиних родитеља – да му угађа у свему и да му не смета својим присуством и речима када је он био „горе, у гостинској соби“ (Станковић 1987: 18). Када им се родила кћерка, Тодора је са њом прешла код свекра и свекрве, да би њен муж, горе, на спрату, могао да има свој мир. Иако би се, на први поглед, по описима у роману могло закључити да је ефенди-Мита особењак, да је навикао да тако живи и да није имао намеру да се прилагођава другима (па ни да присуствује сахрани родитеља!), стиче се утисак и да су чланови породице

„хранили“ такву његову природу и начин живота. Софка се сећа и лепих тренутака са оцем и мајком, седења на спрату, вечере у његовој соби, одлазака у Доње Врање на *чивлук* и остајања по неколико дана у радости и безбрижности. Софка памти да ју је мати грдила и љубила, благодарећи јој „што јој се опет вратио, он, њен муж, и његова љубав“, да је мајка у тим тренуцима била „пресећна“ (Станковић 1987: 23). Станковић упечатљивим описима оживљава изглед ефенди-Мите у Софкином сећању: „Сува, дугуљаста, мало кошчата лица али свагда стегнута израза очију и уста и са мало високим челом и једном по њему набраном, попречном бором, испод косе. Испод чела су биле његове уморне, увек упола отворене очи“ (Станковић 1987: 21). Његова одела су била посебног кроја, од чохе, ципеле лаковане, плитке, турске. Тодора му је у свему била одана, послушна. Била је верна и захвална за све тренутке пружене љубави и радости. Познавала је и његове слабости и његов страх од сиротиње. После ослобођења од турске власти, и он је са Турцима пребегао у Турску и долазио кући само ноћу, једном годишње. Остајао би по неколико дана, не излазећи из куће. Ефенди-Мити било је испод части да расправља на судовима о припадности или пореклу имања. Велико богатство је пропадало, али се пред светом његова породица и даље представљала у најлепшем светлу. Софка је, у наклоности фамилије и наглашене пажње, осећала, поред поштовања према њеном оцу, и неку слутњу, предосећај неке несреће. Мајка је бринула о Софки, о њеном изгледу и друштву. Свесно је пред светом говорила о ефенди-Мити који тргује и шаље поклоне и скупе хаљине за Софку. Паралелни животи несрећног мушкарца, који се не сналази у замршеним пословима новог времена, и несрећне жене, која идеалну слику породице ставља изнад свога бола и усамљености, спојили су се у интуитивном предосећају њихове кћери Софке да ће нешто тешко и мрачно задесити њихов дом. Предосећај нечег тескобног и мучног, до краја несазнатљивог и нејасног, пратио је Софку од најранијих дана и временом је јачао, као што је сазрела и мисао о лепоти којој неће бити равне. Са гордошћу се у њој упоредо развијао и страх да замишљени мушкарац не постоји јер ниједан не може бити достојан ње. „Па већ тада, када је, докле, било најгоре и најтеже, већ је тада она била уверена да никада, никада неће бити тога, неће се родити тај који би био раван и достојан ње; достојан и њене оволике лепоте а и саме ње, као Софке 'ефенди-Митине'“ (Станковић 1987: 29). Паралалезми којима је писац представио Софкина осећања велике чежње за сродном душом, својом другом половином, и великог страха да се таква љубав неће никада десити, сугестивном нарацијом појачавају експресивност њеног дубоког проживљавања породичне драме. Атмосфера у којој је представљен њихов дом у роману, сликом мрака, ноћним светилкама, месечином, свећама, на рефлексивном плану је усаглашена са осећањима и предосећањима главних актера породичне драме. То нешто, нејасно, скривено, потиснуто, недефинисано, у слутњи и сумњи, страху, неизвесности и ишчекивању, мирењу и предавању животу/неживоту, као да је свој пуни израз потврдило у Софкиној трагичној судбини. Лична драма слути трагичан исход. И израз ефенди-Мите, који се једне ноћи изненада појавио, у Софкином доживљају указивао је на почетак трагедије: „А он сâм много се променио. Чело му дошло испупченије, лице уже, поткресивани бркови проседи, из већ збрчканог, помало избријаног врата, а као увек обвијеног белом чистом марамицом, јаче му се истицала јабучица и грло, са око себе збрчканом, вратном кожом. Једино што су уста била још увек свежа, влажна“ (Станковић 1987: 59). Софка је мислила да су мајка и отац те ноћи разговарали о продаји куће. Размишљање о томе да ће морати да напусти своју кућу испуњавало ју је немиром. Без разговора о томе шта се десило те ноћи, у некој нејасној слутњи, почело је сређивање и намештање куће. Нека тешка мука притиснула је њихове душе. Тодорина сестра, тетка Стоја, грдила је своју сестру, како је Софка мислила, због пристајања на продају куће: „А ти, ти? Уста немаш,

језик немаш. Што му ти не говориш? Него – муж ти је! Само он, слатки муж, да је код тебе, па све друго нека иде!...“ (Станковић 1987: 62). Софка није могла ни да помисли да је и то „све друго“ она сама, ни да „купац“ са њеним оцем договара њену свадбу. Ова љутња Тодорине сестра расветлила је брачне односе Софкиних родитеља. Тодора је гајила безумну љубав и слепу послушност жене према мужу, отпора нема чак и када је жртвовање детета у питању. Изостанак разговора у породици о једној од најважнијих тема – удаји кћерке, у првом реду указује на међусобну лошу комуникацију, на недостатак поштовања личности девојке, на обезвређивање њеног бића, мисли, укидање суштине њеног постојања и избора. Та сцена очевог доласка у ноћи, разговора родитеља и очевог одласка без поздрава, наговештај је породичне несреће. Понос породице, лепа и отмена Софка, ефенди-Митина Софкица, обезвређена је и понижена очевом слабошћу и незрелошћу и мајчиним прикривањем ужасног плана – продаје кћери. Зар њихова кћерка нема право на истину!? Какви су то родитељи који одлучују о судбини свога детета без иједне речи са својим дететом о томе? Како су је толико могли понизити они који су је уздизали у свему? И мајка је са стрепњом и нејасном муком носила вест о Софкиној удаји. Своме мужу се није супротставила, из страха, навике, оданости своје позиције послушне жене. „Иди, иди, чедо! Ох, зар не знаш шта је? То је. Судбина зар? А знала сам ја да од њега шта друго, добро какво, и не може бити. Знаш већ сада шта је. И бар ти ме, Софке, не мучи. Зашто, моје је и овако много. Ох!“ (Станковић 1987: 70). Сузе и једне и друге жене у овој дирљивој сцени страха пред неизвесношћу, немоћи пред мушкарцем и туге што су сви снови о могућој љубави распршени, искрене су и болне. „Ено, он тамо, горе: бесни! На очи не смем да му изађем. Ох, црна ја!“ (Станковић 1987: 70). У овим речима тихе и одане Тодоре наслућује се природа њиховог брачног односа. Ипак, ова романескна слика не изненађује толико имајући у виду да се односи, „пре свих патријархални односи у породици који су трајали (и данас трају, мада не свуда у свету) хиљадама година, а у којим породичним односима муж се понашао заповеднички, па и насилно према жени, нису битно мењали“ (Јеротић 2017: 54).

Чиме би се могао објаснити разлог ефенди-Митиног таквог понашања? Да ли његова себичност извире из недефинисаног (несвесног, потиснутог) или конкретног (свесног, реалног) страха? Да ли је страх од сиромаштва (губитка феудалног поседа, моћи) удружен са страхом од сусрета са Софком (и признавања да није више онако велики и моћан како живи у њеном доживљају), у њему активирао притајени разорни егоизам? Можда би се могло рећи да је страх повезан са одговорношћу која се од њега очекује, управо *егзистенцијални страх*.<sup>2</sup> Привидна сигурност је поништена, дошло се до непознатих граница, назад се не може, а промена и неизвесност доносе страх. Овакво психичко стање, овај раздор који доживљава ефенди-Мита, наводи га на такав сраман поступак. А кад се *то* нешто нејасно одиграло са доласком газда-Марка у њихову кућу и када се, након тога, сазнало да ће се Софка удати, бесна и повређена, показала је одлучност у одбрани свог људског права. „И, осећајући такву снагу, такав бес, чак и мржњу према оцу, пође к њему. Особито беснела је због увреде: што, и ако је то хтео са њом, да је уда, што онда овако са њом да поступа, што овако брзо, одмах, као да је не

<sup>2</sup> Владета Јеротић, поред *егзистенцијалног страха* који је најзанимљивије егзистенцијално-антрополошко подручје испитивања суштине феномена страха, страх дели још у три категорије: *вилални страх* (из сопственог тела, наговештава блиску катастрофу – инфаркт), *реални страх* (због опасности из спољашњег света) и *страх савести* (у психи, свестан или несвестан, настаје услед одбијања или потискивања нагонских тежњи, агресивних и сексуалних, којима се супротстављају више психичке функције и спољашња реалност) (Јеротић 2017: 22).

може гледати“ (Станковић 1987: 70). Међутим, његов глас који је долазио одозго, са спрата, био је „тако сув, стран: у њему нема ни топлине, треперења, тако да се Софка са по басмака брзо врати, још увређенија“ (Станковић 1987: 71). Болело је Софку што се све то одиграло на тај начин. „Што тако са њоме да чине; и то са њоме, са којом су се до скоро са толиким поштовањем и љубави опходили? А сада: као да она није ништа, и никада ништа ни била. Него, као да је увек била обична, као нека ствар. И то за кога је удају? Који је то? Шта је? Одакле је?“ (Станковић 1987: 72). А када су се увече окупиле жене у кујни и разговарале гласно о удаји, Софка је сазнала све. Потпуно ју је сломило сазнање да ће је родитељи удати, да ће је удати за дечака, сина тог богатог сељака који се доселио из Турске. „Софка поче осећати како ће кроз грло сву крв и утробу избацити, јер тако поче да се надимље и од бола, неизмерна јада, да стење. Али се брже диже“ (Станковић 1987: 73). Тада је кренула да своме оцу каже *све*. Станковићеви паралелизми видљиви су и у сцени двоструког супротстављања, која се, као и све важне сцене у роману, одвија у мраку, под светлошћу свећа. Има ту извесног мистицизма, притајености, скривања, nelaгодности. Таква атмосфера је у складу са описима психичких стања јунака. „Сада је већ она своја, није Софка девојка, Софкица, ефенди-Митина, већ права жена, своја, ничија више“ (Станковић 1987: 73). Није ли то почетак индивидуације (са обавезном сепарацијом) и потреба сваког човека да прође кроз „просец чишћења емоција од бројних наслага, пре свега, породичне оптерећености, и то у смислу неуротичне зависности од родитеља“ (Јеротић 2017: 74)? Читаоци би могли очекивати да ће Софка имати довољно снаге и страсти да уђе у процес индивидуације, у „непрестано путовање ка интегративној зрелој личности“ (Јеротић 2017: 75). Међутим, разговор је показао нешто друго. Свако је бранио своје право и супротстављао се намерама свога саговорника.

- Ја не могу и нећу за таквога да пођем!
- Софке, синко! Лепота и младост за време је.
- Ја не могу.
- Ни ја не могу (Станковић 1987: 74).

Софка је искрено говорила о проблему. Ефенди-Мита је показао да разуме само себе. Остварио је своју намеру: створио јој је осећај кривице и незахвалности за то *његово* чињење и жртвовање.

- Срамота! Од другарица и света срамота ме, тато!
- И мене је срамота (Станковић 1987: 74)!

Оно што је у свом крактеру имао ефенди-Мита, имала је и Софка – надменост, самољубивост, самодато право на припадање вишем свету, дистанциран и помало хладан однос према околини, суседима, родбини, бежање од реалног света, склањање у свет тишине и свет снова. Ефенди-Мита је имао свој мир на спрату, у својој соби; Софка је на спрату имала своје снове о идеалној љубави и вољеном мушкарцу. Он је бежао од свих како би уживао у самодовољности; плашио се сусрета са собом у контактима са ближњима. Софка се у тим тренуцима самоће сусретала са собом и откривала себе и своју женску природу. Њихова кретања су супротносмерна. Ефенди-Мита је своју судбину изабрао. Софка није имала прилику да бира свој пут. Она је прихватила оно што јој је одредио отац. Трагичне судбине ових јунака блиске су по неостварености смисла живота, по незрелости, неспремности да се изборе са оним што вређа људскост. Против чега су се побунили и за какве вредности се боре? Софка се супротставља очевој идеји да је уда, противно њеној вољи, за неког кога је он изабрао. Таквом његовом одлуком потпуно је избрисана могућност да ће она остварити свој младалачки сан о

идеалном мушкарцу. У тој својој побуни, Софка је невино страдала јер је постала жртва своје искрености, али и неспремности да се бори за своју слободу. Своју себичност ефенди-Мита је „упаковао“ у добронамерност и љубав оца према кћери. „И разгневи се на неблагодарност Софкину, јер он се само за њену љубав вратио, да је добро удоми. А то што је даје за младожењу што је још дете, то није баш толико страшно, колико је страшно ово његово: што он, ето, мора са тим Марком, сељаком да се пријатељи, да се љуби, са њиме да живи. Па, поред свега тога, ето још и она – „неће“, „не може“. А он може! Он може све то, а она не може“ (Станковић 1987: 74)! У ефенди-Митиној верзији тумачења будућег догађаја, он сâм подноси највеће понижење и највеће страдање. За њега је најстрашније то што он „мора са тим Марком, сељаком да се пријатељи“ (Станковић 1987: 74). Софка никада у таквом стању није видела свога оца, била је збуњена и уплашена. И бес и бол – престали су. Врхунац ове драмске сцене је када ефенди-Мита пред њом разгрће минтан и показује поцепану и масну поставу. У двострукој пројекцији откривамо оца који понизно признаје пред Софком (бирајући речи и понашање који треба да прикажу да дубоко жали) како он „никада више у њеним очима неће бити онај њен велики татица, ефенди-Митица“ (Станковић 1987: 77). На унутрашњем плану самореализације, ефенди-Мита манипулише њеним осећањима и искуством стеченим на релацији дете-отац. У овом случају, дете је постало жртва очеве самовоље, себичности, самољубивости и окрутности, поред већ „натовареног“ му терета кривице. У тој сцени, Станковић мајсторски слика понашање оца који манипулише дететом на два нивоа, уздижући је и вређајући је у исто време. Наглашавајући њену жртву великом и потребном, ствара слику привидне захвалности оца према кћерки за њен подвиг, чинећи да се она осећа узвишеном. Са друге стране, намеће јој осећај кривице, и понижава је, тврдећи да га је, наводно, она „дотле гонила, да се толико пред њом понизи и сав открије у свој својој наготи и тиме изгуби у њеним очима све што је имао и брижљиво чувао“ (Станковић 1987: 77). Динамика сукоба оца и кћерке у разговору о удаји која мора да се деси непријатно је узнемирујућа, нарочито када се узме у обзир да очева прича треба да преиначи *његово морање у њено добровољно прихватање*. Ефенди-Мита је постигао свој циљ. Софка је осетила грижу савести, пробудио је у њој кривицу и кајање због испољеног бунта, стид због непоштовања и незахвалности према очевој жртви. Са свим тим осећањима наметнуте кривице и пробуђеног стида, човек се може борити својом слободом. Софка није имала слободу избора. Под теретом очевих речи и збуњујуће слике, постала је жртва очеве себичности, заточеник својих ограничења, своје младости и недовољног животног искуства. Прихватила је сада и да јавно постане жртва, мислећи да тиме пред светом постаје велика, затражила је опроштај од оца јер *није знала* кроз какве је муке он пролазио, дозволила је оцу да јој захваљује и љуби косу. Постигавши циљ, отац показује крајњу нискост своје природе, самосажалење. „Пред њом, својом Софком, својим чедом, после ове њене оволике жртве ради њега, губи све: и поштовање, и дивљење“ (Станковић 1987: 79). Као да се међу њима одиграло нешто што нису именовали, обоје су знали колико је себе понизио, али су, такође, знали да „он сада може пред целим светом бити онај стари, велики ефенди-Мита“ (Станковић 1987: 79). Тако је и било. Највеће страдање поднела је Софка. Не желећи да је ико сажалева, Софка се издиже изнад свога бола и, од сцена припремања свадбе, купања у хамаму, венчања у цркви и сусрета са дечаком-младожењом, она ће пркосно носити своју жртву. Као што је у немирним младалачким сновима била нека друга Софка, са чежњом свога срца загладана у идеализованог мушкарца, тако је и сада била нека друга, зрела Софка, која се мири са судбином која ју је задесила, која се издигла изнад свега и своју унутрашњу муку и незадовољство преиначила у спољну слику поноса и надмености. Ипак,



понижења је прате и у новом дому. Најболније је оно које јој је приредио поново отац, појавивши се изненада и неочекивано, тражећи од Томче новац за продату Софку. Шта је својим доласком, понашајући се непристојно и примитивно како не доликује једном ефендији, желео да постигне? Размишљање о мотивацији за овај његов поступак отвара могућности за нова тумачења. Разлоге можемо тражити у његовом дубоком незадовољству собом, у његовој себичности, зависти и злој природи, страху од пролазности и од смрти. Краткотрајна срећа Софкиног брачног живота прекинута је. Она је, након тога, за свог мужа постала само *обична купљена ствар* са којом је могао да ради шта жели. Доживела је велике ломове, велику тугу, понижења, злостављања, па је и сама пробудила у себи зло и нечисто из архетипског несвесног. Сцене са глувонемим слугама су поновљене сцене са мутавим Ванком из њених девојачких дана чежње за мушком руком која милује. Управо ова сцена „великог психолошког искушења главне јунакиње и директног судара тјелесне чулности са идеалним сновима о љубави“ помаже да се разуме Софкин карактер (Максимовић 2011: 56). Иако свесна свога порекла и доминације у тој еротској игри, ипак успева да успостави контролу над собом и својим жељама, одбацује глувонемог младића и потврђује у себи „да без љубави нема Ероса, те да тјелесно уживање мора бити праћено снажним емоцијама“ (Максимовић 2011: 56). Баш зато што је изградила такву слику љубави мушко-женских односа, тешко је прихватила договорени брак. Када је изгубила могућност да доживи истинску срећу удате жене, доживела је и морални пад. Трагизам Софкин могао би се сагледати двојако: кроз осуду која проистиче из традиционалног погледа на брак (несрећна жена у браку је у телесним уживањима са глувонемим слугама, са онима који неће моћи о томе да причају) и кроз оправдавање које допушта либералнији савремени поглед (несрећна жена у браку има право да задовољи своју сексуалну потребу и ван брака). И традиционални поглед (осуда) и либерални поглед (оправдавање) указује на проблеме несрећне жене у браку: лишена је љубави, поштовања, нежности. Приче глувонемим слугу живе иако се не саопштавају гласно. У затвореном кругу њеног живота остаје питање да ли је њена судбина последица околности, времена, „нечисте крви“ предака, очеве себичности и незрелости или њене неприлагодљивости животу. У патријархалном друштву, жена не исповеда свој унутрашњи свет. Ни са ким не може да говори о својој чежњи, немирима, потреби за љубављу. У роману, удата Софка налази извесну утеху (спас, радост) у дружењу са комшиницама и испијању кафџа, у бегу од трагичних и понижавајућих ситуација. Драматичност је потреснија јер се неискazано дубље проживљава. О потресу женске душе Бора Станковић приповеда као свезнајући наратор који повремено препушта причу својој јунакињи. Ова два гледишта обухватају све антрополошке аспекте њеног живота и њене трагичне судбине.

Дечак који је постао муж и изашао из сенке ове љубавне и породичне драме, постао је одметник, злостављач. Патња је његова очигледна и дубока. Идентификујући се са својим умрлим оцем, Томча пролази кроз сукобе повређеног поноса и страсти према својој жени. Такође, таквим понашањем, акумулираном енергијом беса и издаје, решава унутрашње конфликте и ослобађа се прошлости и нејасних и наметнутих животних правила. Кажњавајући Софку својом страсном енергијом, бестидно је мучи. Њена патња је трагично узвишена. Ни његова није ништа мања имајући у виду да дечак од дванаест година улази у брачну постељу, нагло прекидајући своје дечаштво. Размишљање Исидоре Секулић о „архипатријархалној паланцици“ коју је сликао Бора Станковић и у којој је дато много „бруталних сцена оновременског балканског патријархата“ (Секулић

1964: 395–397)<sup>3</sup> указује на проблем жртвовања најмлађих чланова породице. Посебно је наглашена болна судбина деце. „Атмосфера пуна песме и веселја и новаца, пуна жртва, тешких. Грешних, гнусних жртва, горих но кад је оно некада, по Божијој вољи, требало да Аврам жртвује сина Исака. Бог ипак није дао да се закоље дете, а људи, очеви и старија браћа у Борину вилајету жртвоваху без трепета и кајања децу, своју рођену децу...“ (Секулић 1964: 395–397). Читати „Нечисту крв“, са аспекта Исидорине интерпретације философије балканске паланке, значило би разумети да је ефенди-Мита жртвовао своје рођено дете, „без трепета и кајања“. Исто тако, и други отац, газда-Марко, *жртвовао* је своје дете, дечака од дванаест година, запечативши му судбину браком са девојком која је од њега била старија петнаест година. Пропадање лозе газда-Марка је природни след у таквим породичним околностима. Сви су унесрећени. Дакле, у роману је показано да судбина мушког детета ништа није мање трагична од судбине женског детета. Остаје, упркос многим размишљањима о кључним местима у роману, неодговорено питање о смислу и идеји такве жртве. То проблемско питање захтева и дубинску психолошку анализу и анализу друштвених околности и односа који су наметали такве обрасце понашања по којима су очеви, мушкарци зрели по годинама, одузимали слободу својој деци. Чињеница је да су друштвене околности и прилике утицале на трагичност породичних односа. Формирањем нове турско-српске границе, 1878. године, изменила се слика географског простора на југу Србије. „Прешево, Бујановац, сва Пчиња и духовно средиште манастира Свети Прохор Пчињски остали су у Турској, у новоформираној Прешевској кази“ (Златановић 2007: 154). Врање је припало Кнежевини Србији. Ове историјске околности, како је већ у раду речено, послужиле су Станковићу да опише распад хаџијских породица у Врању, али и долазак Пчињана у доње делове града и њихово сналажење у новим условима и у новој средини. Познато је да су приче Борине баба Злате о људима тога времена и о досељеницима из Пчиње основа за његово књижевно дело. Тако је Врање постало посебан књижевни свет у коме су се смењивали оријентални и нови, модерни изрази живота, али и судари личног и општег на балканском тлу, сеоског и градског, индивидуалног и колективног. Станковић је имао одличну моћ запажања и моћ описивања људских судбина из варошице близу границе. Те аутентичне људске приче постајале су уметничке у пишчевом богатом и непоновљивом језичком изразу.

Бавећи се Софкином судбином, писац показује како велике разлике у антрополошко-морфолошкоком смислу двеју средина не морају бити препрека у међуљудским односима који се одвијају под теретом промена – брачних, друштвених, материјалних. Живот у другој породици у Софки ће пробуди нека нова осећања слободе, радости и муке, свести о смислу животу. И та породица, по утврђеном моделу паралелних слика наративне технике писца, о чему је већ било речи, приказана је кроз време, традицију, навике, у светлу сукоба са неписаним правилима прошлих времена. Описан је простор, изглед и понашање чланова породице, колективни дух. Сусрет са газда-Марковом породицом најпре се десио у Врању, када је он дошао у њихов дом. Софкина реакција на присуство мушкарца који не крије да је задивљен њеном лепотом, природна је. Она је узбуђена, осећа његов поглед, „виде како гост не може ока да скине од ње, особито кад јој, због тога што се беше много сагла, падоше плетенице низ врат, те јој се сва снага, онако пресавијеној, поче да оцртава“ (Станковић 1987: 64). Исто тако, осетила је и његову људску наклоност. „Софка није знала да ли и она да се рукује с њиме или да га пољуби

<sup>3</sup> *Боре Станковића вилајет* (оглед написан поводом тридесет година од смрти писца, објављен шест месеци пре Исидорине смрти, у *Књижевним новинама* 1957. године).

у руку. Није био баш толико стар. Али он, као гост, као да то примети, и да би је што више ослободио, сам јој принесе руку, коју она пољуби.

– Жива била, кћери! – ослови је“ (Станковић 1987: 63).

За Софку је прелазак из једне средине у другу био као умирање, опраштање од ранијег живота, дома (Петковић 2009: 94). Једна Софка умире, друга се рађа. Та друга носи терет колективне патње. Као да је то знао, у свим ситуацијама касније, тај сељак, газда-Марко, биће једини који ће у потпуности разумети истинско њено жртвовање и једини који ће искрено показати захвалност због тога што је прихватила да буде део породице која је дошла у „онај део вароши, који је био као још нов, тек досељен, још не као варошки, више сељачки, пун самих досељеника, или сељака из околних села, а понајвише бегунаца из Турске“ (Станковић 1987: 65). Антрополошке карактеристике газда-Марка уверљиво су дате у роману. Софка је, пошто је дала пристанак за удају, сада гледала у „њега, свекра, новог свога ’тату’“ (Станковић 1987: 80). „Из Маркових дебелих чизама, са јаким рачвастим мамузама, јасно и оштро се оцртавало његово обло колено у чоханим чакширама. Прсти су му били дебели, кратки и са набраном, али чистом белом кожом. Само на једној руци имао је, и то само један једини, велики златан прстен. Минтан и јелеци му, око врата, били су готово отворени, и он то сигурно никад није ни закопчавао због косматости, маља, које су му вириле. Лице му је било још свеже, и тек око очију и уста било је бора. Само уста су му била не толико широка, колико пуна, месната, са овалном брадом и кратким обријаним вратом. Из целог њега била је нека дивљина и силина“ (Станковић 1987: 80–81). Поред те силне природе, необуздане страсти, слободе, ширине, осетиће Софка у његовој близини и сигурност и његову жељу да је заштити, да јој помогне, да је узвиси. Зато ће у цркви, док у својој руци држи Томчину руку, са страхом да се руке не раздвоје, погледом тражити газда-Марка како би му наговестила да треба да се убрза венчање. И он то чини, и угађа јој на весељу у своме дому како би се она осећала лепо, сигурно, вољено – „Не бој ми се, Софке! Не бој ми се, кћери... Тата ће све...“ (Станковић 1987: 121). Превише услужан, нападно добар, са жељом да угоди, газда-Марко се може посматрати, по моделу паралелних слика, као човек који се, оваквим понашањем, ослобађа кривице према свом малолетном сину због прекинутог детињства и увођења у животну фазу за коју дечак још није сазрео.

Простор у новом дому такође је опасан капијом. Ето још једне паралелне слике изгледа њихових домова. Капија постаје метафоричко-симболички знак заштите породичног огњишта од свега што би могло да наруши стабилност и пресече континуитет трајања. И ту се одвија живот са својим законитостима, правилима. Очигледна је пишчева намера да на ширем плану истакне привидну потребу за заштитом породице (симбол капије) и јасну слику нарушавања породичне среће (присилна удаја/женидба, продаја кћерке за новац/куповина жене за сина). Ова контрадикторност наглашава да оно што треба да изгледа није једнако ономе што јесте, другим речима – њихове породице живе у кућама које су заштићене капијама и заклоњене од злонамерних и испитивачких погледа, а на другој страни оно што се чува и штити (деца) продаје се или купује за новац. И једна и друга средина поштују исти образац.

Софка је учествовала у обредним ритуалима приликом доласка у свој нови дом. Своју свекрву пољубила је у руку и осетила њену искрену захвалност и дивљење. Касније ће Софка осетити и њену заштиту од нечег надолазећег, неизвесног и застрашујућег. Газда-Марко је одредио жену која ће бринути о Софки како не би жене и мушкарци прилазили слободно и по свом нахођењу. „И Софка осети како још никада у животу није видела овако сунцем опаљено и отврдло али толико нежно лице, као сада у те Миленије“ (Станковић 1987: 125). Пријала је Софки та пажња, угађање. Попут отете

принцезе, Софка је посматрала свет пијаних, разузданих, ослобођених људи од свакаквог сувишка, чекајући неку своју прилику да се избави из полудивљачког окружења. Сватове сељаке видела је са „великим зимским шубарама, у кратким чакширама“, сви су „не много развијени, већином мали, кратки. А ко је опет од њих био развијен, тај је био и сувише, сувише дугачак и крупан“ (Станковић 1987: 125).

Из плејаде Бориних ликова, својом честитошћу и моралношћу, издвојиће се лик газда-Марка. Задржаће свој сељачки менталитет и по доласку у варошицу, биће заштита и страх својим Пчињанима, из људске слабости и робовања прошлости биће груб према својој жени Стани, савладаваће у себи остатке паганских обичаја који су оживели пред заносном Софкином лепотом. Нешто слободарско, пркосно и силно, избија из његовог држања. Борећи се са грешним мислима према девојци, борио се и са осећањима мржње према прецима, са пробуђеним несвесним делом колективног духа. Јунговски гледано, рекли бисмо да се индивидуално несвесно бори са колективним несвесним који је најстарији и најдубљи слој психе. У тим тренуцима у њему су оживеле слике његове младости и његових предака који су бирали старије девојке за своје синове како би они сами имали право на прву брачну ноћ. Газда-Марко ће прекинути право на *снахочење*, стари обичај грешног живота свекра са својом снахом (Ђорђевић 1984: 244). Он се напрасно одлучује да напусти дом како не би направио грех. Изабраће смрт како не би уништио честитост девојке коју је благословио оног тренутка када је прихватила да се уда за његовог сина. Задивљен њеном лепотом, омамљен снагом младости, тада ју је даривао златом и дукатима. Жал за нечим пропуштеним, од чега болују сви Станковићеви јунаци, присутна је и у души газда-Марка. Но, неће направити ниједан погрешан корак. Људскост ће га издићи из баналности у коју је могао да склизне неписаним правом прошлости. Бурно је реаговао када је у себи пробудио свест о прошлости и неморалу предака. Снажно се супротставио *нечистој крви* која је у њему прокључала. Презир је осетио према своме оцу. И своју мајку је проклињао. Неутешан, срдит, поражен пред истином, силан у бесу према својој жени, у сукобу са собом и својим емоцијама, газда-Марко као да није имао избора. Величина његове личности је у начину да се одупре страсти, заправо, у избору да не направи грех према девојци и породици. Пред изазовном Софкином лепотом зауставиће га свест зрелог човека и одговорност оца. У борби чула и разума, страсти и свести, газда-Марко достојанствено савладава своју страст према Софкиној лепоти. Снага људскости, свести, одговорности и морала – побеђује. Газда-Марко је уверљиво представљен у роману као човек великих страсти, осетљив и морално узвишен. Известан парадокс (величина његове личности је у одупирању страсти, слабост његове личности је у томе да је изабрао смрт) нужно је водио у трагизам. Избора као да није било. Изгледа да, као и у античким трагедијама, и овај књижевни лик плаћа цену прошлости или зле коби. Трагични јунак без кривице смирио је своју страствену природу избором смрти. Танос је однео превласт над Еросом. Писменост коју је стекао у манастиру Свети Прохор Пчињски, трговачка способност коју је поседовао, умеће добре комуникације са различитим профилима људи, пристојан изглед, добро понашање, моралност, осетљивост, све то није било довољно да буде поштеђен страшнога краја. Све што је поседовао газда-Марко, као човек, као газда, муж, отац, све се то поништава у односу на вечито понављање трајних трагичних сукоба Живота и Смрти. Било би интересантно на овом месту поменути задивљујући отпор газда-Марка према свему што је позивало на распусну слободу, затим његово владање собом и присебност у ситуацијама карневалске атмосфере, колективног ослобађања емоционалног сувишка, енергије страсти. Заправо, треба истаћи тешку и љуту борбу који је водио са самим собом у налетима страсти, а под омамљујућим дејством атмосфере. Антрополошка слика пчињских сељака показује

један образац колективне везаности и распусности, поништавања свачије индивидуалности, при чему свако „граби“ своју срећу, свако има право на све, од задирикавања, исмејавања до додиривања и разблудних жеља и понашања. Пчињски сељаци, у описаној сцени свадбе у газда-Марковој кући, пре опијања делују несигурно, збуњено, стидљиво. Њихово понашање без стида и без ограничења у јелу, пићу и накарадностима, плашило је Софку. Чинило јој се да су се сви претворили у једну велику особу, похотну и страшну. У таквим колективним сликама забрана не постоји. Чак су и жене слободније у свом игрању, задирикавању и препуштању музици и рукама које их додирују. Све је преведено из света духовног и узвишеног на план земаљски, на телесно и материјално (Бахтин 1978: 28). Такве ситуације ослобађају људе који робују притисцима и правилима патријархалне средине и носе стеге моралних мерила и туђих погледа. Газда-Марко не злоупотребљава атмосферу свадбе да учини нешто неприлично. Веома је свестан свога положаја, познаје добро своје Пчињане, жели да заштити Софку. Задивљујућом експресивношћу је Станковић дочарао карневалску атмосферу музике, смеха, певања, задирикавања окупљеног света. У паралелној слици, мучен несвесним надошлим еротским импулсом, притиснут остацима прошлости својих предака и рационалним расуђивањем отпора према грешном, газда-Марко се издваја упечатљиво и снажно попут трагичних јунака античких драма. После карневалских догађаја, успостављени систем поретка и правила не прихвата слободу ранијег интимног понашања. О томе се ћути као да се ништа није десило, а сви су сведоци догађаја. Неизрецивост и на овим местима романа притиска душу. Газда-Марко личи на усамљеног јакача који се у борби за своју слободу отискује у непознато, остављајући могућност да и они који остају остваре своје право на слободу.

Пред питањем апсурда људске судбине и неизвесности, читајући роман са различитих антрополошких аспеката, читалац остаје замишљен и у исто време задивљен талентом и дубином осећајности и рефлексивности великог Боре Станковића. Посебну пажњу завређује Станковићев стил, „онеобичавање језичког израза“, који је препознатљив по прекинутим реченицама, густим паузама, али и по томе да се „поступцима осамосталивања неизбежно дезаутоматизује и активира интонација и да издвојени реченични конституент бивају комуникативни и емфатички истакнути“ (Русимовић 2011: 303–304). Станковић је своја дела писао „стандардним језиком, али је био отворен и слободан да у своја дела унесе дијалектизме свога краја“ и тиме врши „свесну модификацију говора Врања ради укључивања аутентичне културе југа Србије у национални културни корпус“ (Русимовић 2018: 454).

Силазак у најмрачније дубине људске психе и пењање ка астралним просторствима у вечитој загледаности свих непомирљивости паланачких оквира, уметнику Бори Станковићу обезбедио је посебно место на листи светске књижевности. И да је на томе остало, било би велико. Али је Бора Станковић отишао даље... Исповедио је женску душу, осветлио њене страхове, ослободио њену чежњу. Те странице исповести женских немира и слатких надања су најлирскија места наше књижевности, али и најпотреснија сведочанства распећа жене – од њених снова до свих врста спутаности. На тој тачки где се све укршта, ломи и раздваја, обновиће се болни завет потиснутих слика прошлости, проломиће се крик из дубина мрачних као заклон од надолазећих патријархалних окова. Но, она ће наставити своје тихо кретање са теретом прошлости својих предака, крећући се у теснацу своје стварности у којој је већ „записан“ њен трагичан положај негујући своје „просторе среће“. Заправо, оно што Бора Станковић приповеда, оно неизрециво, замршено, дубоко и сложено у људској психи, казује се посебним језиком самога писца, из дубине његовог бића, тајанственог заноса и богатог духа. Пауза у његовом приповедању „присно је повезана са смислом и његовим вијугањем, па је зато она, иако

неизговорена, најосетљивији део изговорене реченице“ (Винавер 1952: 104). Несумњиво, поетизовани језик Станковићевог раскошног стила обогатио је српску књижевну сцену. И у избору тема којима се бавио био је, такође, испред свог времена. Зачетник модерног психолошког романа у нашој књижевности, Бора Станковић, бавећи се психологијом жене, отворио је питање апсурда у књижевности, много пре него што ће се овом темом бавити писци савремене књижевности. Опет је то потврда да су велике теме, потреси, идеје, увек и само у уметницима великих идеја, без обзира из какве средине долазе и у каквим су се временима и градовима образовали и живели.

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## ANTHROPOLOGICAL ASPECTS OF THE CHARACTERS' IDENTITY IN A NOVEL "IMPURE BLOOD" BY BORA STANKOVIĆ

**Abstract:** In light that the novel "Impure Blood" by Borisav Stanković covers the events, family and social relations, in the defined area, a small-town in the south of Serbia, at specific time, from 1850 to 1900, so make it possibly to research the aspects of human life as the central point of the turmoil of that time and that space. In interpretations of the parts from the novel "Impure Blood", the writer's attitude towards individual human fates in social situations in Vranje, after liberation from the Turks, can be seen. The anthropological aspect of the problem issue is addressed to the main figures (Effendi-Mita and Landlord /"Gazda"/ Marko) of the social communities given in the novel, urban and rural, but also to their descendants. In this novel, Bora Stanković described a series of tragic fates of the characters who were often in disgrace of unwritten rules of their background and inherited patterns of manners. Bora's characters experienced a drama of identity due to the collapse of merchant families that had a prominent and privileged place in the small-town, but also because of the collision with new times that spreading rural families into town. This led to the mixing of two worlds in which money began to determine social relations and to disrupt self-reliance of personality. Therefore, all these circumstances further complicate the role of an *unfinished* man looking for his identity, confirming or denying the personal need and experience of ancestors. Stanković's characters are in deep discord with themselves and others, and as such they proved incapable and weak to struggle for their own identity. The paper is also dealing with possible reasons for such choice of the characters.

**Key words:** identity, psychology of characters, cultural patterns, Effendi-Mita, Landlord ("Gazda") Marko





## THE ATTITUDES OF STUDENTS TOWARDS INSTAGRAM DENTAL MARKETING, ONLINE COMMUNICATION WITH DENTISTS, AND INFORMATION ABOUT ORAL HEALTH ON THE INTERNET

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**Introduction:** Information about oral health available on the Internet, videos of dental procedures on YouTube, and Facebook groups, whose members are dentists, have contributed to dentistry finding its place online. **Aim:** The aim of the study was to investigate the attitudes and behavior of student population towards: dental marketing on Instagram, patient-dentist relationship through social media, and information about oral health found on the Internet. **Participants and Methods:** The research included 226 students of the University of Niš, who participated in an anonymous online survey of 16 questions created in Google Forms. **Results:** Every sixth respondent from those who follow a dental office on Instagram have chosen the office because of Instagram. Females search for dentists more frequently on the Internet than males. Most of the respondents, who are friends with dentist on a social network, still most often contact them by phone. The oldest respondents do not find it appropriate to be friends with a dentist on social media. The majority of those who are unsure about the accuracy of oral health informations from the Internet, do not discuss them with their dentist. **Conclusion:** Instagram does not play a key role in the choice of a dentist among respondents, and communication with a dentist through social media is less prevalent than other forms of communication with a dentist. However, more than half of the respondents consult the Internet before going to the dentist.

**Keywords:** dentistry, students, Internet, social networks, Instagram, dental marketing

### Introduction

The development of technology, with the advent of the Internet, has made a large amount of information from different spheres of life available to a lots of people (Leiner et al. 2009). Due to easy access to information about oral health (Shetty et al. 2018), a large number of dental procedure videos on YouTube (Knösel et al. 2011; Madathil et al. 2015; Nason et al. 2016), as well as Facebook groups whose members are dentists, where diagnosis and treatments are discussed (Bhola et al. 2016; Nicolai et al. 2017), dentistry has found its place on the Internet.

In Kamiński et al. 's (2020) study, it was found that toothache ranked ninth on the list of the most searched pain-related topics on Google. This term is often searched in Indonesia, the Philippines, Turkey, Malaysia, as well as Bosnia and Herzegovina (Kamiński et al. 2020). The results of one study indicate that Google users' interest in toothache does not wane throughout the whole year (Lotto et al. 2017), while Gowdar et al. (2022) suggest that 71.3% of the population uses the Internet to search for information about oral health.

The benefits of social media, such as advertising and promotion (Hatzipanagos et al. 2016), as well as facilitated communication between patients and dentists (Parmar et al. 2018), have led to a large number of private dental clinics opting to open accounts on social networks like Instagram and Facebook.

During the recent COVID-19 pandemic, part of the population in Serbia delayed going to the dentist even during urgent situations (Nikolić et al. 2023), which, among other things, highlights the importance of teledentistry - a branch of telemedicine (Ghai, 2020; Wolf et al. 2022), and raises the question of the importance of indirect communication between patients and dentists, which can be achieved through social networks (Holden, 2017).

As future academic citizens, students are expected to be open to a multidisciplinary approach to anything and recognize the importance of linking different areas of knowledge in solving complex problems (Braxton et al. 1995; Levi et al. 2014). Many studies (Anderson, 2001; Feng et al. 2019; Puspita et al. 2018; Wang, 2021) indicate that a large number of students use the Internet daily, among other things, to search for health-related information (Escoffery et al. 2005). Recent researches confirm the significant impact of the Internet on students, finding a link between Internet addiction and poor sleep quality among students (Kumar et al. 2022; Mahmoud et al. 2022; Sagar et al. 2022).

## **Aim**

The aim of this research was to examine the attitudes and behaviors of the student population towards dental marketing on Instagram, the patient-dentist relationship via social networks, and information on oral health available on the Internet.

## **Participants and Methods**

The study included 226 students from the University of Niš, with an average age of  $22.71 \pm 2.45$  years, who gave their consent to participate in the survey. The participants were 175 females and 51 males.

The participants were surveyed through an online questionnaire created using Google Forms, to which they voluntarily accessed through social media. The questions were composed in accordance with the research objectives, following the steps of Regmi et al. (2017) for designing and implementing online surveys. The questionnaire consisted of 16 closed-ended questions divided into 4 sections: Section 1 - demographic characteristics (3 questions), Section 2 - the impact of dental marketing on Instagram (5 questions), Section 3 - the dentist-patient relationship through social networks (5 questions), and Section 4 - information on oral health available on the Internet (3 questions) (Table 1). Participants answered the questionnaire without time limitations and selected only one answer per question.

**Table 1.** Questionnaire divided into 4 sections

<b>Section 1. Demographic characteristics</b>	
1.	What is your gender?
2.	How old are you?
3.	Which university are you studying at?
<b>Section 2. The impact of dental marketing on Instagram</b>	
4.	Do you follow any dental clinic on Instagram?
5.	How often do dental clinic advertisements appear on your Instagram feed?
6.	Have you ever visited a dental clinic because of an advertisement on Instagram?
7.	Do you think it is important for a dental clinic to have an Instagram profile?
8.	Do you think some dental clinics use photoshop on images that represent their work?
<b>Section 3. The dentist-patient relationship through social networks</b>	
9.	Which social media platform do you use most often?
10.	How do you search for a dentist?
11.	Have you ever searched for your dentist on Google?
12.	Are you friends with your dentist on any social media platform?
13.	How do you contact your dentist when you have a question?
<b>Section 4. Informations on oral health available on the Internet</b>	
14.	Do you think that information about oral health available online is professional and reliable?
15.	Have you ever discussed information about oral health that you read online with your dentist?
16.	When you have a problem with your tooth (pain, a fallen filling, a broken tooth, tartar, etc.), do you look for information about it online before scheduling an appointment with your dentist?

The obtained responses were collected and statistically analyzed using non-parametric descriptive statistics methods with IBM SPSS version 26.0. To determine the statistical significance of differences in the responses to the questions by the gender of the participants, their age and the faculty they attend, the Chi-square test with a significance threshold of  $p < 0.05$  was used.

## Results

The responses to questions 4 to 16 are presented in tables 2-14.

**Table 2.** Question 4. Do you follow any dental clinic on Instagram?

	No	Yes	I do not use Instagram	Total
Frequency	148	65	13	<b>226</b>
%	65.5	28.8	5.8	<b>100</b>

**Table 3.** Question 5. How often do dental clinic advertisements appear on your Instagram feed?

	Rarely	Once a week	Never	Once a month	Once a day	Once every few months	I do not use Instagram	Total
Frequency	72	43	38	22	21	17	13	<b>226</b>
%	31.9	19	16.8	9.7	9.3	7.5	5.8	<b>100</b>

**Table 4.** Question 6. Have you ever visited a dental clinic because of an advertisement on Instagram?

	No	Yes	I do not use Instagram	Total
Frequency	195	18	13	226
%	86.3	8	5.8	100

**Table 5.** Question 7. Do you think it is important for a dental clinic to have an Instagram profile?

	Yes	No	Total
Frequency	133	93	226
%	58.8	41.2	100

**Table 6.** Question 8. Do you think some dental clinics use photoshop on images that represent their work?

	Yes	Not sure	No	Total
Frequency	150	66	10	226
%	66.4	29.2	4.4	100

**Table 7.** Question 9. Which social media platform do you use most often?

	Instagram	TikTok	Facebook	Twitter	Snapchat	I do not use any	Total
Frequency	186	13	12	7	4	4	226
%	82.3	5.8	5.3	3.1	1.8	1.8	100

**Table 8.** Question 10. How do you search for a dentist?

	I have my own dentist	Through the recommendation of a friend/ acquaintance/ family member	In the student's clinic	Via Google search	I walk into the nearest dentist's office I see	I find a dentist on a social network (Instagram, Facebook,...)	Total
Frequency	145	55	14	5	5	2	226
%	64.2	24.3	6.2	2.2	2.2	0.9	100

**Table 9.** Question 11. Have you ever searched for your dentist on Google?

	No	Yes	Total
Frequency	147	79	226
%	65	35	100

**Table 10.** Question 12. Are you friends with your dentist on any social media platform?

	No	Yes	No, I find that inappropriate	Total
Frequency	151	59	16	226
%	66.8	26.1	7.1	100

**Table 11.** Question 13. How do you contact your dentist when you have a question?

	By phone	I personally go to him	Via Viber/ Whatsapp	Through social network	Total
Frequency	138	67	14	7	226
%	61.1	29.6	6.2	3.1	100

**Table 12.** Question 14. Do you think that information about oral health available online is professional and reliable?

	I believe that they are correct, if they were written by doctors	Not sure	I find them to be mostly correct	I find them to be mostly incorrect	Total
Frequency	107	71	33	15	<b>226</b>
%	47.3	31.4	14.6	6.6	<b>100</b>

**Table 13.** Question 15. Have you ever discussed information about oral health that you read online with your dentist?

	No	Yes	No, because I have never read anything on the Internet about oral health	Total
Frequency	145	58	23	<b>226</b>
%	64.2	25.7	10.2	<b>100</b>

**Table 14.** Question 16. When you have a problem with your tooth (pain, a fallen filling, a broken tooth, tartar, etc.), do you look for information about it online before scheduling an appointment with your dentist?

	No, I do not look online	No, I make an appointment first, then I look online	Yes	Total
Frequency	106	64	56	<b>226</b>
%	46.9	28.3	24.8	<b>100</b>

Out of 65 respondents who follow a dental clinic on Instagram, only eleven of them went to that clinic because of an Instagram advertisement.

Statistical analysis showed that out of those respondents who think that it is important for a dental clinic to have an Instagram profile, only 10.5% went to a dental clinic because of an advertisement on Instagram.

The majority of respondents who are friends with their dentist on a social network (62.7%) still contact their dentist via phone when they have a question for them.

More than half of the respondents who are not sure about the accuracy of oral health information available on the Internet have never discussed it with their dentist. Nearly 73% of the respondents who believe that this information is generally accurate have also never discussed it with their dentist.

Table 15 shows the values of the chi-square test comparing the responses to questions in relation to the gender of the participants, their age, and the type of faculty they attend.

**Table 15.** Comparison of answers in relation to demographic characteristics of respondents

Number of question	Gender (male and female)	Aged (18-21, 22-25 and 26-29)	College (natural sciences, social sciences, technological sciences and others)
Q4	$\chi^2=5.629$ ; DF=2; p=0.060	$\chi^2=6.989$ ; DF=4; p=0.136	$\chi^2=3.595$ ; DF=6; p=0.731
Q5	$\chi^2=6.653$ ; DF=6; p=0.354	$\chi^2=14.499$ ; DF=12; p=0.270	$\chi^2=13.675$ ; DF=18; p=0.750
Q6	$\chi^2=1.881$ ; DF=2; p=0.390	$\chi^2=0.555$ ; DF=4; p=0.968	$\chi^2=5.068$ ; DF=6; p=0.535
Q7	$\chi^2=0.413$ ; DF=1; p=0.521	$\chi^2=3.977$ ; DF=2; p=0.137	$\chi^2=0.474$ ; DF=3; p=0.924
Q8	$\chi^2=2.065$ ; DF=2; p=0.356	$\chi^2=3.751$ ; DF=4; p=0.441	$\chi^2=2.527$ ; DF=6; p=0.865
Q9	$\chi^2=8.226$ ; DF=5; p=0.114	$\chi^2=17.695$ ; DF=10; p=0.060	$\chi^2=14.316$ ; DF=15; p=0.655
Q10	$\chi^2=12.378$ ; DF=5; p=0.030*	$\chi^2=7.610$ ; DF=10; p=0.667	$\chi^2=15.074$ ; DF=15; p=0.446
Q11	$\chi^2=8.678$ ; DF=1; p=0.003*	$\chi^2=1.992$ ; DF=2; p=0.369	$\chi^2=2.620$ ; DF=3; p=0.454
Q12	$\chi^2=0.441$ ; DF=2; p=0.802	$\chi^2=13.662$ ; DF=4; p=0.008*	$\chi^2=3.624$ ; DF=6; p=0.727
Q13	$\chi^2=4.335$ ; DF=3; p=0.227	$\chi^2=11.834$ ; DF=6; p=0.066	$\chi^2=14.075$ ; DF=9; p=0.120
Q14	$\chi^2=1.943$ ; DF=3; p=0.584	$\chi^2=2.253$ ; DF=6; p=0.895	$\chi^2=7.497$ ; DF=9; p=0.585
Q15	$\chi^2=0.112$ ; DF=3; p=0.946	$\chi^2=14.729$ ; DF=4; p=0.005*	$\chi^2=9.061$ ; DF=6; p=0.170
Q16	$\chi^2=2.462$ ; DF=2; p=0.291	$\chi^2=0.295$ ; DF=4; p=0.990	$\chi^2=1.453$ ; DF=6; p=0.963

\*significance at the level of  $p < 0.05$

A statistically significant difference ( $p=0.030$ ) was found between male and female participants in their answers to the question about how they search for a dentist. 3.4% of women and 2% of men search for a dentist through Google search, Instagram, and Facebook. Additionally, a higher percentage of female participants (67.7%) have their own dentist compared to male participants (52.9%), while males (15.7%) more often seek a dentist at the student clinic compared to females (3.4%).

Women statistically significantly more often ( $p=0.003$ ) searched for dentists on Google (40%) compared to men (17.6%).

Although the highest percentage of younger respondents (aged 18-21) are not friends with their dentist on social media (79.1%), a significantly lower ( $p=0.008$ ) percentage of respondents of this age group consider it inappropriate to be friends with their dentist on social media (5.8%), compared to older respondents (aged 26-29) where the percentage is 17.4%.

The statistical analysis also showed that older students (aged 26-29) significantly more often ( $p=0.005$ ) discussed the information on oral health that they read on the Internet with their dentist (52.2%) compared to younger students aged 18-21.

In the analysis of the obtained responses related to the type of faculty that the respondents attended, no statistically significant difference was found in the answers to any of the questions.

## Discussion

Survey as a psychometric instrument, despite its drawbacks such as the occurrence of respondents resorting to socially desirable responses which causes the results to represent a report on behavior rather than observation of behavior, still represents an irreplaceable method for quantifying and analyzing differences between people (Singleton et al. 2017).

Although 65% of the respondents do not follow any dental clinic on Instagram, more than three quarters of the examined respondents have seen at least once advertisement for a dental clinic on Instagram. 22.6% of the respondents have never encountered dental clinic advertising on Instagram, 5.8% of which are not Instagram users at all. In the study by Lee et al. (2021)

43.4% of the participants have never been exposed to dental marketing on social media, while the rest have encountered dental clinic advertisements, most commonly (36%) on Instagram.

The study found that only 8% of the respondents visited a dental clinic because of its advertising on Instagram, which differs from the data obtained in the research by Lee et al. (2021) where 22% of the respondents reported contacting a dental clinic because of social network ads. This disagreement can be explained by the fact that in the mentioned study, the question referred to dental clinic ads on social networks in general, not just on Instagram.

60% of the respondents think it is important for a dental office to have an Instagram profile, but only 10% of them visited a dental office because they saw an advertisement on Instagram. Similar to these findings, Alalawi et al. (2019) reported in their study that 77.3% of the participants agreed that having an online presence is important for a dental office. This suggests that there is a prevailing opinion that everything must be present online, regardless of the fact that it cannot influence decision-making.

The obtained results indicate that only 4.4% of the respondents believe that dental offices do not use Photoshop on pictures that represent their work. Such mistrust is likely caused by the significant advancement of image editing software, which is easily accessible to everyone (Ooi et al. 2021).

The results of the study indicate that the majority of participants reported Instagram as their most frequently used social media platform. This is consistent with numerous studies that have shown Instagram to be the most popular social network, particularly among younger users (Ajwa et al. 2018; Huang et al. 2018; Lee et al. 2021). Despite the prevalence of dental marketing on social media (Bhat et al. 2011), particularly on Instagram, only 0.9% of the participants reported using these platforms to find a dentist. More than half of the participants reported having their own dentist, while almost a quarter reported finding a dentist through a recommendation from a friend or acquaintance. Similar to these findings, a study by Khamoushi (2021), where respondents answered questions using a Likert scale, reports that the majority of respondents disagreed with the statement that they would find a dentist on social networks, such as Instagram and Facebook. 85% of the respondents in the mentioned survey state that they agree that they will listen to friends and family when choosing a dentist. In the study by Lee et al. (2021) 61.1% of the respondents would listen to recommendations from friends to select a dentist, while 15.8% of the surveyed individuals would find a dentist through online comments. These results show that for respondents, the recommendation of one satisfied patient whom they know personally is still far more important than hundreds or thousands of positive reviews from unknown people on the Internet.

There is a statistically significant difference ( $p=0.030$ ) between male and female participants in the way they search for a dentist. A small percentage of women will initially seek a dentist through a social network, while no men will do so. There is also a statistically significant difference ( $p=0.003$ ) between male and female participants who searched for their dentist on Google. 50% of women searched for their dentist online, compared to only 17% of men. The explanation for this might be that women, on average, spend more time on social network and the Internet than men (Duggan, 2013). 70% of the participants were not friends with their dentist on social media, and a similar percentage was reported in the study by Parmar et al. (2018), which examined the connection between patients and dentists on Facebook, where 83% of the participants were also not friends with their dentist on any social network. That study also found that 36% of the surveyed patients searched for their dentist online, and 17% added them as a friend. In our study there is a statistically significant difference ( $p=0.008$ ) between the percentage of older participants aged 26-29 (17.4%), compared to participants aged 18-22 (5.8%), who believe that it is inappropriate to be friends with their dentist on social media. The nonformal relationship between a patient and a dentist on social network raises

many ethical questions (Howley, 2019). In the study by Al-Khalifa et al. (2021) which surveyed dentists in Saudi Arabia, about 10% of dentists felt uncomfortable having access to a patient's personal life via social media.

When students have a question for their dentist, 61.1% will contact them via phone, 29.6% will visit them in person, and the remaining 9.3% will contact them via the Internet. Even those participants who are friends with their dentist on a social network will mostly (62.7%) seek the answer to their question through a phone call, while only 12% of them will reach out to their dentist via social media. On the other hand, communication with the dentist via social networks, from the patient's point of view, also has its positive sides. Namely, research by Sivrikaya et al. (2021) showed that dental patients who communicated with the dentist via social networks after an operative treatment were under less stress than those patients who did not.

It has been observed that one third of the participants are not confident in the accuracy of oral health information that can be found on the Internet. Half of them trust the information, but only if they have been written by a dentist. Such data is justified by the large amount of fake news that can be found on the Internet or on social media. Some of them represent conspiracy theories, while others are the wrong interpretation of things or explanations of certain claims based on false evidence (Kanekar et al. 2019).

More than half of the older student population (respondents aged 26-29 ) will significantly more often ( $p=0.005$ ) discuss the information related to oral health that they have read on the Internet with a dentist, in contrast to the younger ones, where only 16.3% aged 18-21 and 27.4% of those aged 22-25 will ask their dentist about information related to oral health that they have seen on the Internet. This suggests the fact that older respondents tend to verify the information they have obtained on the Internet more often with professionals, which is expected. This is inconsistent with the results of a study by Naganandini et al. (2014) where 66% of respondents stated that they would discuss oral health information they found online with their dentist. The differences in results can be attributed to the fact that Naganandini et al (2014). had an older population for their sample which, as shown, is more inclined to comment on information available on the Internet with their dentist. Dentists, surveyed in the study by Chestnutt et al. (2006) reported that patients most commonly asked them about information related to cosmetic procedures, amalgams, and implants that they had found on the Internet.

Before going to the dentist, 53.1% of our respondents will search the Internet. Due to the significant number of patients who resort to this action, it is of utmost importance that experiences with dentists written by patients on the Internet are truthful and accurately written (Ajwa et al. 2018). The recent COVID-19 pandemic has led to more Internet searches due to the inability to visit dentists, according to Bağcı et al. (2022), especially since it has also affected people's attitudes about when to visit dentists during the pandemic (Nikolić et al. 2022).

By using the Internet, dentists can also influence the reduction of fear of going to the dentist by sharing posts on social media that encourage patients and explain treatment procedures in a language that is understandable to the population without medical education (Gao et al. 2013)

## Conclusion

Although almost 60% of the respondents believe that it is important for a dental clinic to have an Instagram profile, only 0.9% of the respondents were looking for their dentist through social media.

Females tend to search for their dentist more frequently on Google, while a quarter of the surveyed respondents are friends with their dentist on social media.

Based on the results provided, it seems that Instagram does not play a crucial role in the selection of dentists among the students, and communication with dentists via social media is



less prevalent than other forms of communication with dentists. Despite the fact that we live in the expansion of the Internet, the word of a satisfied patient, with whom students have a personal relationship, has the greatest influence in terms of choosing a dentist.

When they have a dental problem, more than half of the surveyed students will search for information about it on the Internet, regardless of whether they have previously made an appointment with a dentist or not. Most will not check this information with a dentist. It follows from this that it is important that the information shared on the Internet about oral health, either by the patient or the dentist, be true.

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## STAVOVI STUDENATA PREMA DENTALNOM MARKETINGU SA INSTAGRAMA, ONLAJN KOMUNIKACIJI SA STOMATOLOZIMA I INFORMACIJAMA O ORALNOM ZDRAVLJU SA INTERNETA

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**Uvod:** Informacije o oralnom zdravlju dostupne na internetu, snimci stomatoloških procedura na *YouTube*-u, grupe na *Facebook*-u, čiji su članovi stomatolozi, doprineli su da stomatologija pronade mesto na internetu. Cilj istraživanja je bio ispitivanje stavova i ponašanja studentske populacije prema: dentalnom marketingu sa *Instagram*-a, relaciji pacijent-stomatolog preko društvenih mreža i informacijama o oralnom zdravlju sa interneta. Istraživanjem je obuhvaćeno 226 studenata Univerziteta u Nišu, putem anonimne ankete od 16 pitanja, koja je kreirana u *Google Forms*- u. Svaki šesti ispitanik od onih koji prate neku stomatološku ordinaciju na *Instagram*-u, je izabrao ordinaciju zbog *Instagram*-a. Ženski ispitanici češće pretražuju stomatologe na internetu, za razliku od muških. Većina ispitanika, koji su prijatelji sa stomatolozima na društvenoj mreži, ipak ih najčešće kontaktira telefonom. Najstarijim ispitanicima nije prikladno da budu prijatelji sa stomatolozima na društvenim mrežama. Najveći broj onih, koji su nesigurni u tačnost informacija o oralnom zdravlju sa interneta, ne diskutuje sa stomatologom o njima. *Instagram* ne igra ključnu ulogu u odabiru stomatologa kod ispitanika, a komunikacija sa stomatologom preko društvenih mreža je manje zastupljena od ostalih vidova komunikacije sa stomatologom. Ipak, više od polovine ispitanika konsultuje internet pre odlaska kod stomatologa.

**Ključne reči:** stomatologija, studenti, internet, društvene mreže, instagram, dentalni marketing



## LIFE WITH DIABETES IN THE COVID-19 ERA

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**Abstract.** The outbreak of the COVID-19 pandemic has changed the lives of billions of people, especially those with chronic diseases such as diabetes. The aim of this study was to evaluate the impact of the pandemic on the physical and mental health of diabetics living in the Balkans. The study was conducted as an online survey in April 2023. 129 people participated in the survey. 76 of them were diagnosed with type 1 and 53 with type 2 diabetes. 6.97% of all respondents had a close family member who died from the consequences of SARS-CoV-2 infection, and as many as 77.78% of these decedents suffered from diabetes and/or cardiovascular disease. The majority of the respondents were also infected with SARS-CoV-2. Most of them were diagnosed with diabetes before infection, and SARS-CoV-2-induced diabetes was mainly type 2. Although they regularly took prescribed pharmacotherapy and nutritional supplements, blood glucose was elevated in half of them, while D-dimer levels were elevated mainly in type 2 diabetics. Also, hospitalization during the acute phase was more frequent in type 2 diabetic patients. Most diabetics suffered from sleep disorders ( $p < 0.01$ ), and type 2 diabetics also suffered from nightmares ( $p < 0.05$ ). Consequently, the use of anxiolytics and antidepressants was more frequent in type 2 diabetic patients. Recovery was significantly faster in type 1 diabetics, due to less comorbidities such as hypertension, cardiovascular and liver diseases, which were more common in type 2 patients.

**Key words:** COVID-19; diabetes; secondary diabetic complications; pharmacotherapy; supplements.

### Introduction

With almost 770 million confirmed cases and nearly 7 million directly caused deaths (WHO, 2023), the outbreak of the COVID-19 pandemic has changed the lives of billions of people globally, especially those ones with chronic diseases such as diabetes mellitus, mainly because of the bidirectional relationship between SARS-CoV-2 infection and diabetes (Lima-Martínez et al., 2021).

Namely, like many other viruses, such as cytomegalovirus, Epstein–Barr virus, varicella-zoster, enterovirus, rubella, Coxsackie B, etc. (Jaeckel et al., 2002), COVID-19 can act as a diabetogenic agent. To wit, through binding to the ACE2 receptors of the pancreatic islet cells it can cause the dysfunction of the  $\beta$  cells, acute hyperglycemia and, finally, diabetes (Liu et al., 2020).

On the other hand, people who previously had diabetes, due to the already decreased immunity, elevated levels of oxidative stress and inflammation (Iacobellis, 2020), as well as risks of ketoacidosis (Vorgučin et al., 2022) had a much higher chance for hospital admission, severe pneumonia, and death than non-diabetics (Yang et al., 2020).

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Additionally, media pressure, anxiety, depression, and less physical activity caused by lockdowns (Vujčić et al., 2021), together with comorbidities such as cardiovascular diseases and hypertension (Zhou et al. 2020; Vosko et al., 2023) contributed to the elevated level of severe outcomes of the SARS-CoV-2 infection.

The aim of this study was to evaluate the impact of the COVID-19 pandemic on the physical and mental health of diabetics living in the Balkans.

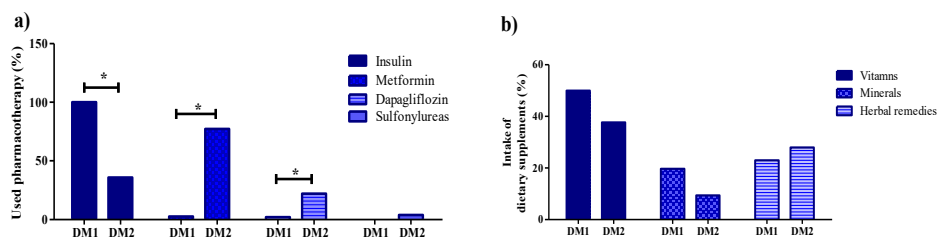
## Material and methods

This was a cross-sectional survey conducted online with the help of Diabetes Association of Serbia, Diabetes Association of Belgrade, Serbia, Diabetes Association of Niš, Serbia, and Diabetics without borders, Balkans, during April 2023. The research was performed by surveying a total of 129 respondents. The questionnaire was a combination of open and closed question response formats. Questions were divided into four domains related to demographic data (such as gender, age group, place of residence), dietary habits (adherence to the diet prescribed by a physician), dietary supplements usage (a type of supplements and phytotherapy remedies used), pharmacotherapy usage, and medical history (type of diabetes diagnosed, presence of comorbidities, previous infection with SARS-CoV-2). The research was performed by surveying a total of 129 respondents. The data were statistically analyzed and processed using chi-square test of independence in GraphPad Prism 5 (GraphPad Software, La Jolla California USA). Statistical significance was accepted if  $p$  was less than 0.05.

## Results

The research included 129 people, 104 females and 25 males, of which 70.54% were living in Serbia, 16.28% in Bosnia and Herzegovina, 7.75% in Croatia, 0.78% in Montenegro, while 4.65% of them were people born in the Balkans and leaving abroad. 55.91% of respondents were diagnosed with type 1 and 44.09% with type 2 diabetes. The mean age of participants with type 1 diabetes was  $37.72 \pm 9.94$ , and with type 2 diabetes  $53.09 \pm 11.13$  years.

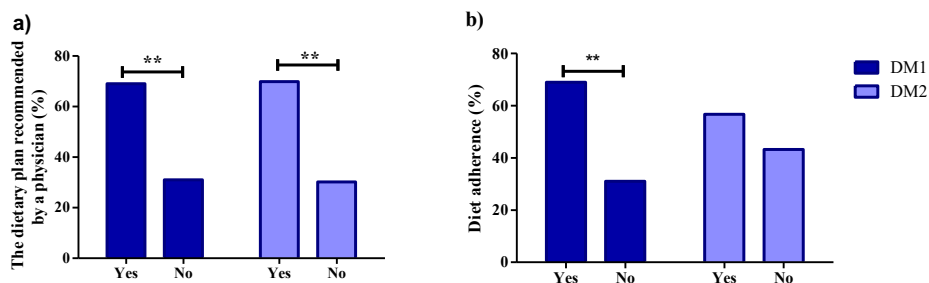
The primary therapy for treating type 1 diabetics was insulin (100%), while only 2.63% of them were treated with metformin and dapagliflozin as well. Type 2 diabetics were mostly treated with metformin (77.35%), insulin (35.84%), dapagliflozin (22.64%), and sulfonylureas (3.77%) (Graph. 1 (a)). Vitamins and minerals were more commonly used by type 1 than by type 2 diabetics as supplementary therapies (50 and 19.73% of DM1 and 37.73 and 9.43% of DM2 respondents, respectively), while the use of herbal remedies was only slightly more frequent within type 2 diabetics (28.3% of DM2 and 23.68% of DM1 respondents, respectively) (Graph. 1 (b)).



DM1: respondents with type 1 diabetes; DM2: respondents with type 2 diabetes; \* $p < 0.05$

**Graph. 1.** Pharmacotherapy (a) and dietary supplements (b) usage within respondents  
**Grafik 1.** Upotreba farmakoterapije (a) i dijetetskih suplemenata (b) među ispitanicima

Although the majority of both type 1 and type 2 diabetics had the dietary plan recommended by their physician (75% and 69.81% of DM1 and DM2 patients, respectively) (Graph. 2 (a)), adherence to the dietary plan was more common within type 1 diabetics, while even 43.24% of type 2 diabetics did not follow dietary recommendations (Graph. 2 (b)).

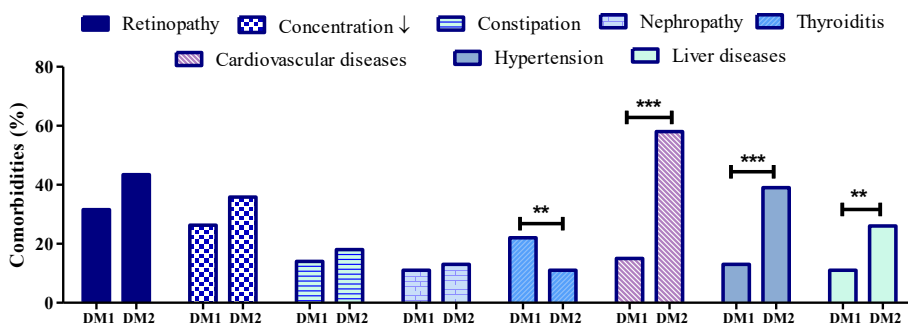


DM1: respondents with type 1 diabetes; DM2: respondents with type 2 diabetes; \*\*  $p < 0.01$

**Graph. 2.** The dietary plan recommended by a physician

**Grafik 2.** Plan ishrane preporučen od strane lekara

Respondents with type 2 diabetes had a statistically higher incidence of cardiovascular diseases, hypertension, and liver diseases compared to respondents with type 1 diabetes (58.49, 39.62 and 26.41% of DT2, and 15.79, 13.16 and 11.84% of DT1 respondents, respectively), while thyroiditis was more frequent in type 1 diabetics (22.37% of DT1 and 11.32% of DT2 respondents). Other observed comorbidities, i.e., retinopathy, problems with concentration, neuropathy, and constipation, were of similar frequency in both type 1 and type 2 diabetics (Graph. 3).

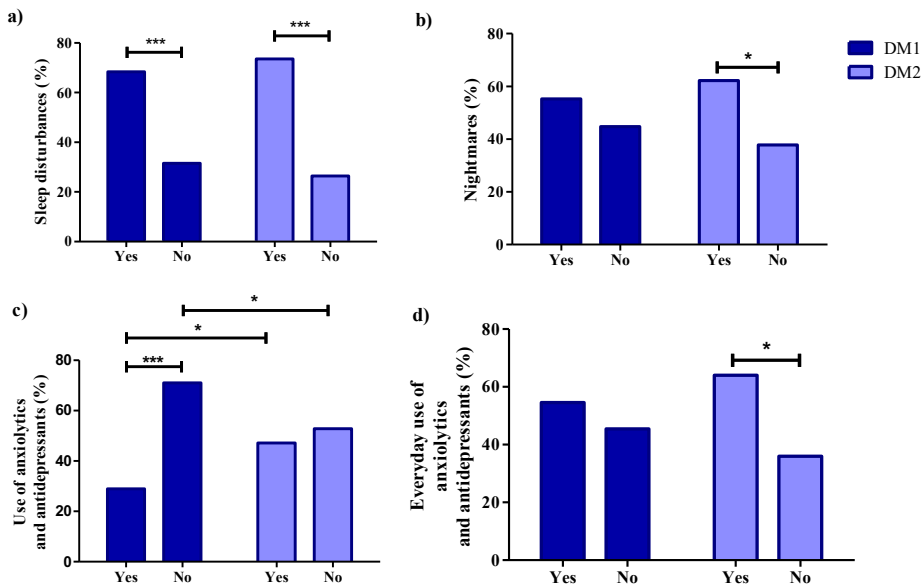


DM1: respondents with type 1 diabetes; DM2: respondents with type 2 diabetes; \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Graph. 3.** Comorbidities of respondents

**Grafik 3.** Pridružene bolesti ispitanika

The majority of both type 1 (68.42%) and type 2 diabetics (73.58%) had sleep disturbances (Graph 4 (a)) and of all of these people, even 55.26% of type 1 and 62.26% of type 2 diabetics had nightmares as well (Graph 4 (b)). Although the occasional usage of anxiolytics and antidepressants was more frequent in type 2 diabetics (47.17 and 28.95% of DM2 and DM1, respectively) (Graph 4 (c)), of all the people who use those pharmaceuticals, even 54.54% of type 1 and 64% of type 2 diabetics used them on the everyday basis (Graph 4 (d))

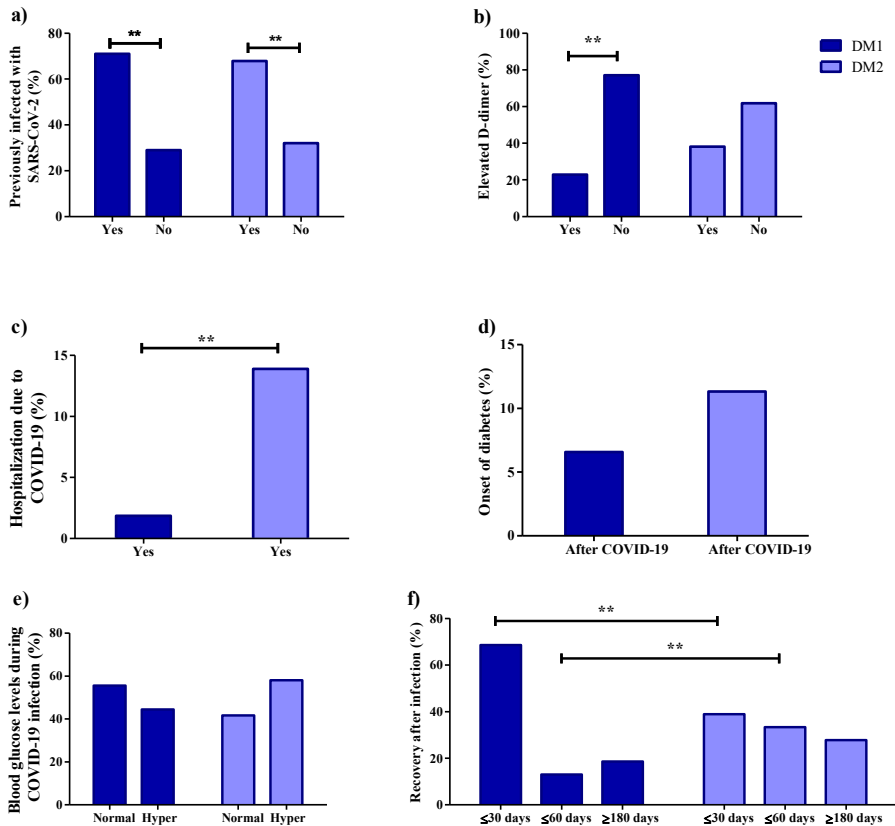


DM1: respondents with type 1 diabetes;  
DM2: respondents with type 2 diabetes; \*  $p < 0.05$ , \*\*\*  $p < 0.001$

**Graph 4.** Psychological status of respondents  
**Grafik 4.** Psihološko stanje ispitanika

Most of the respondents, i.e., 71.05% of type 1 and 67.92% of type 2 diabetics had been infected with SARS-CoV-2 ( $p < 0.01$ ) (Graph 5 (a)). However, only 6.58% of type 1 and 11.32% of type 2 diabetics developed *diabetes mellitus* as a result of COVID-19 (Graph 5(D)). 22.86% of type 1 and even 38.09% of type 2 diabetes patients had elevated levels of D-dimer (Graph 4. (b)). The blood glucose levels were elevated in 44.44% of respondents with type 1, and 58.33% of those with type 2 diabetes (Graph 5 (e)). Hospitalization due to COVID-19 infection for more frequent in type 2 diabetic patients (13.89% of DM2 and 1.85% of DM1 who were infected) (Graph 5 (c)). Similarly, the recovery was significantly faster in type 1 diabetics ( $p < 0.01$ ). Namely, 68.52% of DM1 fully recovered in less than a month, 12.96% in less than 2 months, while only 38.89% of DM2 patients recovered within 30 days, and 33.33% of them in less than 60 days. However, there were no statistically significant differences in patients who needed more than 3 months to recover (18.52% of DM1 and 27.78% of DM2 respondents) (Graph. 5 (f)). Interestingly, even 6.97% of all respondents had a close family member who died from the consequences of SARS-CoV-2 infection, and as many as 77.78% of these decedents suffered from diabetes and/or cardiovascular disease.





DM1: respondents with type 1 diabetes; DM2: respondents with type 2 diabetes; \*\*  $p < 0.01$

**Graph 5.** Effect of COVID-19 on physical health of respondents

**Grafik 5.** Efekat COVID-19 na fizičko zdravlje ispitanika

## Discussion

This study determined the influence of COVID-19 pandemic on the psychological and physical health of diabetics living in the Balkans.

Although the majority of our respondents developed diabetes before the COVID-19, we have noticed that diabetes resulted from this infection was mainly type 2 (Graph. 5 (d)). Interestingly, only 3.77% of the survey respondents with type 2 diabetes are treated with sulfonylureas and 35.84% of them are using insulin injections (Graph. 1 (a)). Having in mind that together with metformin, sulfonylureas are the standard drug for type 2 diabetes in a period where there are still at least some functional pancreatic  $\beta$  cells (Panten et al., 1996), we might conclude that are respondents developed the late-stage type 2 diabetes, or even latent autoimmune diabetes of adults (LADA). These results are similar to the study of Joshi and Pozzilli (2022) who proposed that COVID-19 induced diabetes might be considered as a new form of diabetes where type 2 diabetes is sometimes not even characterized by insulin receptor insensibility, but rather unavailability of insulin caused by  $\beta$  cell damages.

The faster recovery from the infection in type 1 than in type 2 diabetics can be explained by more precautions in terms of dietary habits, more physical activity, younger age, and the presence of fewer comorbidities (Zhou et al. 2020; Vujčić et al., 2021; Vosko et al., 2023).

The sleep deprivation and presence of nightmares that our respondents suffered from (Graph 4 (a, b)) can be explained by the blood glucose fluctuations frequent in diabetics, SARS-CoV-2 infection, and most importantly, by elevated anxiety, stress and depression caused by fear of unknown and especially by lockdowns (Huang et al., 2019; Vujčić et al., 2021; Dai et al., 2021). Moreover, having in mind that even 6.97% of all the respondents had a close family member who died from the consequences of SARS-CoV-2 infection, and as many as 77.78% of these decedents suffered from diabetes and/or cardiovascular disease, the high prevalence of people using anxiolytics and antidepressants observed in this study (Graph 4 (c, d)) is not surprising.

However, the fact that 25% of the surveyed people that are diagnosed with type 1, and even 31% of them diagnosed with type 2 diabetes do not have any dietary plan recommended by a physician or dietitian, is surprising. Having in mind that diabetes cannot be treated only with pharmacotherapy but have to be supplemented with proper diet and life-style changes (IDF, 2021), and the fact that the most of our respondents were diagnosed with diabetes before the outbreak of COVID-19, we can notice that the healthcare system has been fractured even before the pandemic.

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## **ŽIVOT SA DIJABETESOM U DOBA KOVID-19**

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Bojana Maksimović, Perica Vasiljević**

**Apstrakt.** Pandemija COVID-19 promenila je živote milijardi ljudi, posebno onih s hroničnim bolestima poput dijabetesa. Cilj ovog istraživanja bio je procena uticaja pandemije na fizičko i mentalno zdravlje dijabetičara koji žive na Balkanu. Ispitivanje je vršeno anketiranjem putem interneta, u aprilu 2023. godine. U ispitivanju je učestvovalo 129 osoba. Njih 76 imalo je dijagnostikovan tip 1, a 53 tip 2 dijabetes. 6,97% svih ispitanika imalo je bliskog člana porodice koji je preminuo od posledica infekcije SARS-CoV-2, a čak 77,78% tih smrtnih slučajeva imalo je dijabetes i/ili kardiovaskularne bolesti. Većina ispitanika takođe je bila zaražena SARS-CoV-2 virusom. Većini ispitanika je dijabetes dijagnostikovan pre infekcije, a dijabetes uzrokovan SARS-CoV-2 uglavnom je bio tipa 2. Iako su redovno uzimali propisanu farmakoterapiju i dodatke prehrani, polovina ispitanika je imala povišen nivo šećera u krvi, dok je nivo D-dimera bio povišen uglavnom kod dijabetičara tipa 2. Takođe, hospitalizacija u akutnoj fazi bila je češća kod dijabetičara tipa 2. Većina dijabetičara patila je od poremećaja spavanja ( $p < 0,01$ ), a dijabetičari tipa 2 takođe su patili i od noćnih mora ( $p < 0,05$ ). Shodno tome, upotreba anksiolitika i antidepresiva bila je češća kod ljudi sa tipom 2 dijabetesa. Oporavak je bio znatno brži kod dijabetičara tipa 1, zbog manjeg broja propratnih bolesti poput hipertenzije, kardiovaskularnih bolesti i bolesti jetre, koje su bile češće kod pacijenata sa tip 2 dijabetesom.

**Ključne reči:** COVID-19; dijabetes; sekundarne komplikacije dijabetesa; farmakoterapija; suplementi.



## MUSCULOSKELETAL DISORDERS IN THE POPULATION OF DENTISTRY STUDENTS OF THE UNIVERSITY OF NIS, SERBIA

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### Abstract

Musculoskeletal disorders (MSD) are characterized by discomfort, occasional or permanent pain in the joints, muscles, tendons and other soft tissues caused by the repetition of certain body movements or uncomfortable and forced body posture. Dentistry is considered a high-risk profession for the development of these disorders. The aim of the research was to investigate the occurrence of MSD in the population of dental students of the Faculty of Medicine, University of Niš, Serbia. Total of 170 dental students participated in the research. In order to examine the emergence and distribution of MSD, students filled out a modified Nordic questionnaire. The results showed that 70.6% of students suffer from MSD. MSD were almost equally represented in both genders (69.7% in male and 71.1% in female). The most common localization of pain was in the area of the upper back in 32.3% of cases. A total of 54.1% of students declared that the pain intensity was moderate and that in 41.2% of cases it lasted as long as the work with the patient. In 49.4% of cases, the pain does not affect practical work, and as a relief measure in 53.3% of cases, students use rest. MSD appear already in the first years of studies and tend to intensify with the length of studies. Given that musculoskeletal pain occurs already in the early period of student practice, it is necessary to study ergonomic factors that are of great importance for the occurrence and intensification of these disorders.

**Key words:** Musculoskeletal disorders, dentistry, students, ergonomics.

### Introduction

Musculoskeletal disorders (MSD) are characterized by discomfort, occasional or permanent pain in the joints, muscles, tendons and other soft tissues caused by the repetition of certain body movements or uncomfortable and forced body posture. Dentistry is considered a high-risk profession for the development of these disorders (Rising et al., 2005). Everyday work in dentistry is directly related to positions that involve long-term muscle loads, where more than half of the muscles in the body are contracted statically (Deka, 2016). The main reasons for this are the limited working field with insufficient light, which makes it inevitable to work in a forced static and uncomfortable position for a long period of time, which additionally burdens the muscles and joints, and with movements that are limited to the hand and wrist. These positions alone or in combination with grasping and holding instruments, vibration of implanted instruments as well as limited rest time, create a predisposition for the development of MSD (Thanatrornwong et al., 2014). MSD represent one of the most common professional health problems among dentists. Researchers were showed that their development begins already during studies, that it intensifies during clinical practice and that it can be the reason for early withdrawal from the profession (Vijay and Ide 2016).

The aim of the research was to examine the occurrence of MSD in the population of dental students of the Faculty of Medicine, University of Niš, Serbia and to compare the results obtained in relation to gender and year of study.

## Material and methods

Total of 170 dental students of the Faculty of Medicine of the University of Niš, Serbia participated in the research (66 male and 104 female). Students were divided into groups according to the years of study (Table 1). In order to examine the occurrence and distribution of MSD, students filled in a modified Nordic questionnaire, anonymously and without time limit (Kuorinka et al., 1987). The questionnaire contained sociodemographic data (gender, age, year of study) and data on musculoskeletal diseases (presence, localization, intensity, duration, impact on work, as well as relief measures that are applied). The results were presented descriptively and statistically. Statistical analysis was performed using the computer software package SPSS, version 20 and using chi-square and Fisher's exact test. A P value of less than 0.05 was considered statistically significant.

**Table 1.** Distribution of respondents according to gender and year of study.

Gender	Year of study				Total
	II	III	IV	V	
Male	11	11	18	26	66
Female	29	29	24	22	104
Total	40	40	42	48	170

## Results

The analysis of the sample of the student population that participated in the study showed that there was a significant difference in the distribution of students according to gender in relation to the years of study ( $\chi^2=9.364$ ;  $p=0.024$ ) (Table 1). In the second and third years, females predominated.

The results showed that 70.6% of students suffer from MSD. MSD were approximately equally represented in both genders (69.7% among male students and 71.2% among female students) (Table 2). The distribution of pain occurrence differed according to gender and years of study ( $\chi^2=11.685$ ;  $p=0.008$ ). A significantly lower number of male compared to female in the second and third year of study had pain.

**Table 2.** Occurrence of musculoskeletal disorders in dentistry students in relation to gender and year of study.

Reported pain	II	III	IV	V	All students N (%)	Total N (%)	p
	N (%)	N (%)	N (%)	N (%)			
Male	4 (36,4)	4 (36,4)	16 (88,9)	22 (84,6)	46 (69,7)	120 (70,6)	0,008
Female	11 (37,9)	24 (82,8)	17 (70,8)	22 (100)	74 (71,2)		

Table 3 shows the results obtained by analyzing the distribution of pain in relation to gender and year of study. The most common localization of pain was in the area of the upper back in 32.35% of cases, followed by the regions of the lower back (27.06%), shoulders (25.88%) and neck (24.71%), while pain in the hands (6.47%), legs (8.82) and spine (1.76) were less represented. No statistically significant difference was found in different localizations of pain according to gender among students by year of study.

**Table 3.** Localization of pain in dentistry students in relation to gender and year of study.

Localization		II N (%)	III N (%)	IV N (%)	V N (%)	All students N (%)	Total N (%)	p
Neck	Male	2 (18,18)	2 (18,18)	5 (27,77)	3 (11,54)	12 (18,15)	42 (24,71)	0,546
	Female	5 (17,24)	11 (37,93)	7 (29,17)	7 (31,82)	30 (28,85)		
Shoulders	Male	1 (9,09)	2 (18,18)	3 (16,66)	10 (38,46)	16 (24,24)	44 (25,88)	0,269
	Female	4 (13,79)	5 (17,24)	10 (41,66)	9 (40,91)	28 (26,92)		
Upper back	Male	1 (9,09)	1 (9,09)	7 (38,88)	14 (53,85)	23 (34,85)	55 (32,35)	0,081
	Female	3 (10,34)	9 (31,03)	9 (37,5)	11 (50)	32 (30,77)		
Lower back	Male	2 (18,18)	1 (9,09)	8 (44,44)	7 (26,92)	18 (27,27)	46 (27,06)	0,634
	Female	4 (13,79)	5 (17,24)	10 (41,66)	9 (40,91)	28 (26,92)		
Spine	Male	0 (0)	0 (0)	0 (0)	1 (3,85)	1 (1,51)	3 (1,76)	0,605*
	Female	0 (0)	2 (6,89)	0 (0)	0 (0)	2 (1,92)		
Hands	Male	3 (27,27)	0 (0)	0 (0)	2 (7,96)	5 (7,57)	11 (6,47)	0,084*
	Female	0 (0)	3 (10,34)	1 (4,16)	2 (9,09)	6 (5,77)		
Legs	Male	0 (0)	0 (0)	3	6	9 (13,64)	15 (8,82)	0,546*
	Female	1	0 (0)	1	4	6 (5,77)		

\* Fisher exact test

A total of 72.5% of students declared that the intensity of pain was moderate, 17.5% declared that the pain was weak, while 10% of students reported intense pain (Table 4). There was no statistically significant difference in the intensity of pain in relation to the gender of the students and the year of study.

**Table 4.** Intensity of pain in dentistry students in relation to gender and year of study.

Pain intensity		II N (%)	III N (%)	IV N (%)	V N (%)	All students N (%)	Total N (%)	P*
Intens	Male	1 (25)	0 (0)	0 (0)	1 (4,5)	2 (4,3)	12 (10)	0,363
	Female	2 (18,2)	4 (36,7)	2 (11,8)	2 (9,1)	10 (13,5)		
Moderate	Male	3 (75)	4 (100)	12 (75)	15 (68,2)	34 (73,9)	87 (72,5)	0,088
	Female	6 (54,5)	18 (75)	11 (64,7)	18 (81,8)	53 (71,6)		
Low	Male	0 (0)	0 (0)	4 (25)	6 (27,3)	10 (21,7)	21 (17,5)	0,076
	Female	3 (27,3)	2 (8,3)	4 (23,5)	2 (9,1)	11 (14,9)		

\* Fisher exact test

When asked whether the pain occurs occasionally, whether it lasts as long as the work, several hours, or the whole day, the largest number of students (38.3%) stated that the pain lasts as long as the work with the patient (Table 5). However, it was determined that there was a statistically significant difference in the duration of pain lasting several hours by gender according to the years of study ( $p=0.010$ ). Among female students of the third year, pain lasting for several hours was more common in compare to male students, while among male students of the fourth year, pain lasting several hours was more present in compare to female. In the second and fifth year, the representation was the same.

**Table 5.** Duration of pain in dentistry students in relation to gender and year of study.

Duration of pain		II N (%)	III N (%)	IV N (%)	V N (%)	All students N (%)	Total N (%)	p*
All day	Male	0 (0)	0 (0)	0 (0)	1 (2,2)	1 (4,5)	3	1,00
	Female	0 (0)	0 (0)	1 (5,9)	1 (1,35)	2 (2,7)	(2,5)	
Several hours	Male	2 (50)	3 (75)	9 (56,2)	7 (31,8)	21 (45,6)	42	0,01
	Female	3 (27,2)	10 (41,7)	1 (5,9)	7 (31,8)	21 (28,4)	(35)	
As long as the work	Male	1 (25)	0 (0)	4 (25)	7 (31,8)	12 (26,1)	46	0,06
	Female	4 (36,4)	11 (45,8)	10 (58,8)	9 (40,9)	34 (45,9)	(38,3)	
Periodically	Male	1 (25)	1 (25)	3 (18,8)	7 (31,8)	12 (26,1)	29	0,51
	Female	4 (36,4)	3 (12,5)	5 (29,4)	5 (22,7)	17 (23)	(24,2)	

\* Fisher t test

A total of 73.3% of students declared that the occurrence of pain does not affect practical work (Table 6). No statistically significant difference in the impact of musculoskeletal pain on work was proven.

**Table 6.** Influence of musculoskeletal pain on clinical work in relation to gender and year of study.

Impact on work		II N (%)	III N (%)	IV N (%)	V N (%)	All students N (%)	Total N (%)
Affects	Male	2 (50)	0 (0)	6 (37,5)	3 (13,6)	11 (23,9)	32
	Female	2 (18,2)	8 (33,3)	5 (29,4)	6 (27,3)	21 (28,4)	(26,7)
Does not affect	Male	2 (50)	4 (100)	10 (62,5)	19 (86,4)	35 (76,1)	88
	Female	9 (81,8)	16 (66,7)	12 (70,6)	16 (72,7)	53 (71,6)	(73,3)
	p*	0,217	0,294	0,902	0,454	0,744	

\* Fisher t test

When asked which of the measures to alleviate the problems students usually use, the largest number of them (66.6%) declared that they use rest (Table 7). The distribution of rest as a relief measure differs significantly by gender by years of study ( $\chi^2=14.99$ ;  $p=0.001$ ). In the first and second year, female use rest more often, while among students in the fourth and fifth year, rest was equally represented.

**Table 7.** Pain relief measures applied by students in relation to gender and year of study.

Relief measures		II N (%)	III N (%)	IV N (%)	V N (%)	All students N (%)	Total N (%)	p
Stretching exercises	Male	1 (2)	3 (5,9)	2 (3,9)	5 (9,8)	11 (21,6)	38	0,549
	Female	5 (5,6)	7 (7,8)	9 (10)	6 (6,7)	27 (30)	(26,9)	
Medicines	Male	0 (0)	0 (0)	0 (0)	2 (3,9)	2 (3,9)	3	0,600
	Female	0 (0)	1 (1,1)	0 (0)	0 (0)	1 (1,1)	(2,1)	
Physical therapy	Male	1 (2)	0 (0)	0 (0)	0 (0)	1 (2)	6	1,00
	Female	0 (0)	0 (0)	3 (0)	2 (2,2)	5 (5,5)	(4,3)	
Rest	Male	3 (5,9)	1 (2)	14 (27,5)	19 (37,3)	37 (72,5)	94	0,001
	Female	9 (10)	18 (20)	11 (12,2)	19 (21,1)	57 (63,3)	(66,6)	



## Discussion

According to data from the literature, disorders of professional origin, including musculoskeletal disorders, are the second most common cause of workplace disorders (Flemban et al., 2021). Dentistry represents a profession of risk because it is associated with prolonged standing and forced body posture in a forced position (Deka 2016). Numerous authors in different countries have analyzed the occurrence of musculoskeletal disorders and proved their high prevalence among dental staff (Lietz et al., 2020). In order to determine the period in which the first signs of MSD begin in dental professionals, analyzes of the prevalence of MSD were made in dental students in different populations and at different universities, where it was proven that the first MSD symptoms appear already at the beginning of student practice (Presoto et al., 2016). For these purposes, various questionnaires are used, which should accurately collect data on the occurrence and characteristics of body pain. The largest number of studies examining the occurrence of musculoskeletal disorders in dental and other professions used the standardized Nordic questionnaire (Kuorinka et al., 1987). The questionnaire proved to be very reliable and valuable and seems to be the most adequate for the assessment of health-related factors at work (Crawford 2007).

The results of this study showed that a total of 70.6% of the students suffered from some form of MSD in one or more parts of the body. Data from the literature on the prevalence of MSD in the dental student population in other countries show that slightly lower prevalence was observed in Australia (64%) and Indonesia (63.5%), lower in the Czech Republic (39%), prevalence in the United States (46 -71%) and in the United Kingdom (54% - 76.5%) was variable, while in Saudi Arabia (91.2%) and the Netherlands (95%) it was significantly higher (Bruers et al., 2017; Felemban et al., 2021; Longridge et al., 2020). The results of this study showed that the prevalence of MSD in female was slightly more frequent than in male (71.2% vs 69.7%). Most of the data from the literature speaks in favor of the fact that female students suffer from MSD more often compared to male, with this difference being statistically significant (Deka 2016; Hashim et al., 2021).

This study demonstrated a slightly higher prevalence of musculoskeletal pain in the upper back region (32.35%) compared to other body regions, while approximately the same occurrence was found in the lower back, shoulder and neck regions. Musculoskeletal complaints in the student population in the neck region were predominant in the studies by Londgridge et al. (2020) in the UK, Sezer et al. (2022) in Turkey, Hendy et al. (2021) and Felemban et al. (2021) in Saudi Arabia. Stambaugh et al. (2021) reported that the most common painful region was the shoulder part. However, studies by Deka (2016) and Vijay and Ide (2016) showed that the most frequently represented painful region was the lower back. Bearing in mind the literature data, it seems that the first musculoskeletal problems in students begin in the upper parts of the back, shoulders, and neck, and then descend to the lower back with age and length of service. Data from the literature regarding the localization of painful regions in relation to gender showed that females more often suffer from pain in the upper back, neck and shoulders, while males have more problems with the middle and lower back (Rising et al., 2005). The largest number of students (72.5%) in this study declared that musculoskeletal problems were of moderate intensity. There was no statistical difference in pain intensity between the genders. However, a study by Felemban et al. (2021) reported that female students had a higher degree of discomfort compared to male. When it comes to the duration of the pain, the largest number of students (38.3%) stated that the pain lasts as long as the work with the patient. In a study by Vijay and Ide (2016), 30% of students reported pain lasting up to four hours after work. A total of 73.3% of students in this study declared that the occurrence of musculoskeletal pain does not affect their practical work. In the study by Sezer

et al. (2022) inability to work due to lower back pain was reported by 19% of students. When it comes to relief measures that students use to relieve pain, the largest number of students declared that they use rest (66.6%), and a significant number of those who find stretching exercises useful (26.9%). More than half of the students in Vijay and Ide's (2016) study found stretching exercises helpful. In the study by Silva et al. (2016) 61.7% of students practiced physical exercises, which resulted in a significant reduction in shoulder pain. Less than 10% of the students in the study by Felemban et al. (2021) visited a physician for her MSDs. The same authors reported that one of the predisposing factors contributing to the occurrence of MSD is the height of the therapist. This is in line with a study done in Iran where it was proven that the incidence of neck pain increased by 1% for every centimeter of height increase (Madadzadeh et al., 2017). Further research is needed to examine and clarify the risk factors and the physical load to which dental students are exposed, and which could influence the early onset of musculoskeletal disorders that have an impact on work and daily life. It is also important that students become familiar with ergonomics from the first days of practice through education and practice for the prevention of musculoskeletal pain.

## Conclusion

Musculoskeletal pain appears already in the early period of student practice, and tend to intensify with the length of the studies, which is why dentistry is placed among the high-risk professions for the development of musculoskeletal disorders. Therefore, it is necessary to include ergonomic education in regular studies, which is of great importance for the prevention of the occurrence and intensification of these disorders.

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## MUSKULOSKELETNI POREMEĆAJI U POPULACIJI STUDENATA STOMATOLOGIJE UNIVERZITETA U NIŠU, SRBIJA

**Apstrakt.** Muskuloskeletni poremećaji (MSP) se karakterišu pojavom nelagodnosti, povremenog ili trajnog bola u zglobovima, mišićima, tetivama i drugim mekim tkivima izazvanih ponavljanjem određenih telesnih pokreta ili neugodnim i forsiranim telesnim držanjem. Stomatologija se smatra profesijom visokog rizika za razvoj ovih poremećaja. Cilj istraživanja je bio da se ispita pojava MSP u populaciji studenata stomatologije Medicinskog fakulteta Univerziteta u Nišu, Srbija. U istraživanju je učestvovalo 170 studenata stomatologije. U cilju ispitivanja pojave i distribucije MSP studenti su popunjavali modifikovani Nordijski upitnik. Rezultati su pokazali da 70,6 % studenata pati od MSP. MSP su bili gotovo jednako zastupljeni u oba pola (69,7% kod muškaraca i 71,1% kod žena). Najčešća lokalizacija bola bila je u predelu gornjeg dela leđa u 32,3% slučajeva. Ukupno 54,1% studenata se izjasnilo da je intenzitet bola bio umeren i da u 41,2% slučajeva traje koliko i rad sa pacijentom. U 49,4% slučajeva bol ne utiče na praktični rad, a kao meru olakšanja tegoba u 53,3% slučajeva studenti upražnjavaju odmor. MSP se javljaju već na prvim godinama studija i imaju tendenciju intenziviranja sa dužinom studija. Obzirom da se muskuloskeletni bol javlja već u ranom periodu studentske prakse neophodno je baviti se proučavanjem ergonomskih faktora koji su od velikog značaja za pojavu i intenziviranje ovih poremećaja.

**Ključne reči:** Muskuloskeletni poremećaji, stomatologija, student, ergonomija



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