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# LEARNING STRATEGIES IN PRIMARY SCHOOL-AGE STUDENTS: THE CONTRIBUTION OF PERSONALITY TRAITS AND GOAL ORIENTATIONS

Katija Kalebić Jakupčević, Zrinka Vučković, Ina Reić Ercegovac
Faculty of Humanities and Social Sciences, University of Split, Croatia
kkalebicjakupcevic@ffst.hr; zvuckovic@ffst.hr; inareic@ffst.hr

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*The purpose of this research was to examine the relationship between personality traits, motivation and learning strategies of primary school students. A total of 193 students filled out Personality Traits Questionnaire for Children, Goal Orientations Questionnaaire and The Learning Strategies Questionnaire. Results showed that male students, compared to female students, were more inclined to goals aimed at others and non-academic goals. Female students, compared to male students, used meta-cognitive control and deep processing more often. Younger students rated goals aimed at themselves and others more important, and used all three types of learning strategies more often. Regression analyses showed that both personality traits and students' goal orientations significantly contributed to all of the learning strategies variance. Conscientiousness and emotional stability were the most important predictors among Big five personality traits. Self-oriented goals were significant predictors of metacognitive control and deep processing, while goals oriented at others significantly predicted surface processing.*

***Keywords**: deep processing, metacognitive control, motivation, surface processing*

## Introduction

Learning during primary school is determined by numerous factors, among the most important being students' personality, but also various environmental variables which, to a greater or lesser extent, fa-

cilitate or impede the learning process. Learning outcomes are visible in both, achievements and other developmental characteristics of students. Among the personal characteristics that shape the learning process, personality and motivational determinants are of the greatest interest for current research. The theoretical framework of the research includes the five-factor personality model (Costa and McCrae, 1992; Goldberg, 1992), the model of goal orientations in learning (Ames, 1992; Elliot and Dweck, 1988; Nicholls *et al*., 1985; Lončarić, 2014) and a model of learning strategies (Lončarić, 2014). The relationship among personality traits, goal orientations and learning strategies is reflected in the fact that personality and individual differences influence the process of learning self-regulation by creating different motivational patterns characteristic of each individual. Self-regulation of learning is an

> "… active, constructive process in which learners set goals and then try to monitor, regulate and control their cognition, motivation and behavior, guided by their goals and contextual characteristics of the environment." (Pintrich, 2000, as cited in Vizek Vidović and Marušić, 2019, 57)

Motivational aspects of the self-regulatory process include the student's beliefs, values and goals related to a school subject or area. Motivational beliefs refer to students' beliefs about a certain area and can be conditioned by the student's learning abilities, but also by goal orientations (Lončarić, 2014). The values that a student gives to learning a subject strongly influence his self-regulation of learning motivation. It is important to emphasize that the value of learning a particular subject can be intrinsically conditioned if the student really enjoys learning new content from a subject because it is interesting to him (Vizek Vidović and Marušić, 2019).

According to the goal orientations approach the differences in the students' academic outcomes can usually be explained by their goal orientations. In order to understand one's motivation and behavior, it is important to recognize the goals of an individual's actions that are influenced by the individual's thoughts, feelings, and actions. Each individual characteristically behaves in accordance with his perception of a certain situation, therefore, individuals determine goals that are appropriate to the perceived situation (Barić *et al*., 2002). There are different conceptualizations of goal orientations, for example, some authors distinguish between *learning* and *performance* as main goals

(Elliot and Dweck, 1988; Dweck and Legget, 1988), some differ between a *mastery goal orientation* and a *performance goal orientation* (Ames, 1992), and some authors add *avoidance of effort* to learning and performance goals (Nicholls *et al*., 1985; Elliot and Harackiewicz, 1996) as the least effective goal usually associated with poorer educational outcomes (Elliot and Church, 1997). For the purposes of this paper, goal orientations are conceptualized through self-directed learning goals, performance goals oriented at others and non-academic goals (Lončarić, 2014). Knowledge, learning, or task-oriented students usually have better school performance, greater academic self-efficacy and deep processing strategies, while performance-oriented students strive for better results than others and use learning strategies which are typically less effective (Eccles and Wigfield, 2002; Isiksal, 2010; Koludrović and Reić Ercegovac, 2013). Also, students who are task-oriented usually feel proud once they achieve success and guilty if they fail to successfully complete a task. Additionally, they are usually intrinsically motivated to learn because they have positively developed attitudes towards learning and believe that they will achieve greater competence only if they put in more effort. In contrast, performance-oriented students usually want to demonstrate their own high abilities to those they expect positive feedback from. Students focused on avoiding effort are less intrinsically motivated and, accordingly, have weaker educational outcomes (Stanišak Pilatuš *et al*., 2013). They avoid challenges and any situation that may jeopardize their self-esteem. For them, learning is generally meaningless, so they are mostly passive and disinterested in school (Burić and Sorić, 2011).

Previous research on gender and age differences in goal orientations showed that girls are usually more task-oriented than boys (Dekker *et al*., 2012; Koludrović and Reić Ercegovac, 2014; Rabotegg-Šarić *et al*., 2009), while boys, compared to girls, are more extrinsically motivated (Koludrović and Reić Ercegovac, 2014; Midgley and Urdan, 1995). Still, some research did not confirm these gender diferences (Smith and Sinclair, 2005). Concidering age, research usually point to the deterioration of intrinsic motivation in older students with learning or knowledge goals being usually less important (Koludrović and Reić Ercegovac, 2014; Lepper *et al*., 2005).

Learning strategies include cognition and behaviors that "facilitate the coding of information by increasing its integration and retrieval" (Weinsten *et al*., 1987; as cited in Nikčević-Milković *et al*., 2014, 378). The choice and use of different learning strategies depends on the personal characteristics, motivation, but also learning content. Cognitive learning strategies — elaboration, organization, and repetition — are focused on problem solving and understanding content (Pintrich and Schunk, 2002), and usually depend on learning content or specific tasks. Repetition refers to "literally repeating a group of particles or parts of content in order to memorize them" (Vizek Vidović and Marušić, 2019, 74). Repetition strategies help direct attention and encode information, but the main disadvantage is relatively quick forgetting once the student no longer needs the adopted information. Elaboration and organization are much more useful cognitive learning strategies that allow the integration and linking of new information to prior knowledge (Garcia and Pintrich, 1994). Organization includes meaningful linking of content and recognizing the most important parts of it (Vrkić and Vlahović Štetić, 2013). It includes recognizing key concepts of a certain content, graphic presentation, making images and mental maps that can help students connect and group content. Elaboration strategies refer to "seeking connections between the material being learned and what we know beforehand and introducing new rules for the organization of the material" (Vrkić and Vlahović Štetić, 2013, 512). The same strategies include paraphrasing or summarizing specific content, creating analogies, reorganizing and linking ideas, and explaining those ideas, asking questions and answering them (Garcia and Pintrich, 1994). Meta-cognitive strategies also enable planning, control, and evaluation of learning and play a central role in improving learning (Rasekh and Ranjbary, 2003). Vrkić and Vlahović Štetić (2013, 512) state that "metacognitive strategies imply observation, evaluation and regulation of cognitive strategies application". They include strategies for *monitoring* and *regulating* cognitive activities and actual student behavior and *planning*. Planning includes preparatory activities such as setting learning goals, analyzing tasks, and forming questions before reading. In addition, planning can activate students' prior knowledge and thus make the organization of new content much easier. Research has shown that students who used planning strategies were more successful at solving

tasks than students who did not use the same strategies (Garcia and Pintrich, 1994). Strategies for monitoring one's own learning and thinking also include a strategy for monitoring attention, monitoring comprehension and solving a test that serves as preparation for the exam, and self-testing as a test of understanding what has been learned. All these strategies encourage students to solve possible problems in understanding the acquired knowledge (Lončarić, 2014). Regulatory strategies are closely related to the previously described monitoring strategies. Students regulate their behavior during exams when they intentionally skip more difficult tasks and return to them later (Garcia and Pintrich, 1994).

For the purposes of this paper, learning strategies are divided into *meta-cognitive learning control*, *deep cognitive processing* and *surface cognitive processing* (Lončarić, 2014). The cycle of meta-cognitive control of learning includes repetition and practice, as well as control of the course and learning outcomes (strategies related to the learning process). Deep cognitive processing includes elaboration, organization, application, and critical thinking (strategies related to learning content). Focusing on minimum requirements and memorization refers to surface cognitive processing that involves a low level of cognitive effort investment during learning (Lončarić, 2014). Students who use deep strategies are intrinsically motivated and interested in the content they are learning, recognize the purpose of learning and find joy in it as they are actively involved in connecting newly acquired knowledge to the one they have previously acquired. In contrast, students who use a surface approach are more often extrinsically motivated, the purpose of their learning is to avoid failure and their learning is based on the reproduction of knowledge without trying to integrate the content they learn (Gadelrab, 2011, according to Vrdoljak and Velki, 2016). Therefore, a deep approach to learning results in an understanding of the content, while a surface approach does not lead to true understanding of the content being learned (Vrdoljak and Vlahović-Štetić, 2018).

Previous research on gender differences in learning strategies are rather ambiguous, probably due to the different approach. Namely, some authors examined the use of learning strategies in general, and some used more contextual approach, examining the use of learning startegies in a specific subject. It is possible that such a different approach resulted in different findings (Jandrić, Boras and Šimić, 2018).

Although previous research has suggested a connection between certain goal orientations and learning strategies, they have rarely questioned the role of personality traits in that context. For example, Bidjerano and Dai (2007, as cited in Rogulj, 2016) showed that conscientiousness is positively associated with the use of higher-order cognitive skills such as elaboration and critical thinking and with a tendency toward metacognition. Verešova (2015) showed a negative correlation of neuroticism with deep processing and elaboration, while openness to experience and conscientiousness were positively associated with the use of deep processing and elaboration strategies. A meta-analysis of the relationship between goal orientations and personality traits showed that self-oriented learning goals were weakly to moderately positively related to all Big five traits, while goals aimed to avoid showing personality flaws were defined as a subset of other-oriented goals, weakly to moderately negatively associated with the dimensions of the five-factor model (Bipp *et al*., 2008). The same analysis cites some studies that suggest a negative correlation between self-oriented learning goals and neuroticism (Zweig and Webster, 2004; Day *et al*., 2003; according to Bipp *et al*., 2008). In addition, the results showed a positive correlation of self-oriented learning goals and extraversion, agreeableness, conscientiousness, and openness to experience. For performance-oriented goals, studies have shown a positive correlation with neuroticism (Bipp *et al*., 2008).

Guided by the results of previous research on the significant relationship between personality traits and goal orientations (Bipp *et al*., 2008; Verešova, 2015) and goal orientations and learning strategies (Koludrović and Reić Ercegovac, 2013; Elliot, McGregor, 2001; Greene *et al*., 2004), the aim of this research was to check whether learning strategies can be explained by both personality traits and goal orientations in the school context. Considering the results of previous research that suggested the possibility of age differences in the importance of individual goals in the school context, but also ambiguous results on gender differences, the research tried to examine whether male and female students differ in learning goal orientations and the frequency of learning strategies use. Therefore, the research tried to answer the following research questions:

1. Are there gender and age differences in goal orientations and the frequency of learning strategies use by primary school students?
2. Is there a relationship between personality traits, goal orientations and learning strategies?
3. Do personality traits and goal orientation separately contribute to the explanation of individual differences in primary school students' frequency of use of learning strategies?

## Methods

### *Sample*

The study included N = 193 participants, students of the fourth (n = 98) and eighth (n = 95) grades of primary schools from a smaller urban area. The sample consisted of n = 93 female students and n = 100 male students.

### *Instruments*

*Personality Traits Questionnaire for Children* – IPIP Junior (Mlačić and Goldberg, 2007) consisted of 50 items which examined five personality traits according to the Big-five model. Each of the five traits encompassed ten items, and the task of the participants was to circle one of the five numbers on the rating scale (1 – not true at all, 5 – very true). The total results, after reverse score negative items, were formed by summing the responses on items that made up a particular subscale. The extraversion subscale showed a slightly lower reliability than usual, but it turned out that the reliability did not significantly increase by omitting any of the ten items, so despite the low reliability, the overall result was formed on that subscale as well. Descriptive indicators of the personality traits subscales are shown in Table 1.

*Goal Orientation Questionnaire* (Lončarić, 2014) consisted of 30 items measuring self-oriented goals (knowledge acquisition and avoidance of mistakes), goals oriented at others (competition, avoidance of competition, self-protection and self-promotion) and non-academic goals (work avoidance and social goals). The participant's task was to rate on a scale from 1 to 5 how much each statement applied to him /

her (1 – not true at all for me, 5 – very true for me). Given the satisfactory reliability coefficients for the three subscales, the results for the three goal orientations were formed by summing up the responses on the items that made up each subscale. The higher the score, the higher the importance of each goal. Descriptive indicators of the results are shown in Table 1.

*The Learning Strategies Questionnaire* (Lončarić, 2014) consisted of 39 items covering three broad areas of learning strategies: meta-cognitive control of learning (repetition/exercise and control of the course and outcome of learning), deep cognitive processing (elaboration, organization, application, critical thinking) and surface cognitive processing (focus on minimum requirements and memorization). The task of the participants was to assess how often they use the learning strategy described in each item on a 5-point assessment scale (1 – never, 5 – always). Total results were formed by summing up the answers to those items that made up each subscale. A higher value indicated a more frequent use of a particular learning strategy. Descriptive indicators of the results are shown in Table 1.

***Research procedure and data analysis***

The survey was conducted in February 2020 in three district primary schools from a smaller urban area. After getting acquainted with the goal and protocol of the research, the principals of these schools approved its implementation. Since the research was conducted on a sample of children who are minors, their parent/caregiver signed informed consents. At the beginning of the research, students were read instructions for completing the questionnaire. In addition, it was emphasized that the research is anonymous, that they approach it voluntarily and that they are free to withdraw at any time. The research was conducted at group level in each class and took 40 minutes on average. The data analysis was performed using STATISTICA13 software. Since all variables had skewness and kurtosis parameters in the -2 / + 2 range, they were considered satisfactory for meeting the conditions for the use of parametric procedures (Gravetter and Wallnau, 2014).

**Table 1.** Descriptive parametres of variables in research

| | | M | SD | Cronbach α | range | skewness | kurtosis |
|---|---|---|---|---|---|---|---|
| **Personality traits** | Extraversion (N=10) | 35.32 | 5.58 | .58 | 10-47 | -.66 | 1.53 |
| | Agreeableness (N=10) | 40.36 | 5.65 | .68 | 25-50 | -.25 | -.50 |
| | Conscientiousness (N=10) | 39.28 | 6.77 | .79 | 22-50 | -.50 | -.44 |
| | Emotional stability (N=10) | 33.21 | 7.44 | .76 | 12-50 | -.27 | -.33 |
| | Intellect (N=10) | 37.21 | 5.64 | .66 | 24-50 | .07 | -.49 |
| **Goal orientations** | Self-oriented goals (N=8) | 31.42 | 6.28 | .83 | 9-40 | -.56 | .03 |
| | Other-oriented goals (N=14) | 41.83 | 11.75 | .87 | 18-70 | .06 | -.71 |
| | Non-academic goals (N=8) | 22.97 | 6.62 | .76 | 11-40 | .46 | -.40 |
| **Learning strategies** | Meta-cognitive learning control (N=11) | 45.36 | 7.71 | .90 | 20-55 | -.80 | .13 |
| | Deep cognitive processing (N=20) | 67.66 | 12.21 | .86 | 33-95 | -.31 | -.31 |
| | Surface cognitive processing (N=8) | 20.15 | 6.17 | .69 | 8-37 | .02 | -.31 |

*N – number of items*

## Results

In order to answer the first research question and examine age and gender differences in goal orientations and learning strategies, a series of two-way analyses of variance was conducted (Table 2). Significant differences were found in goals oriented to others and non-academic goals where higher scores were achieved by male students. Within learning strategies, significant differences were found in meta-cognitive control and deep cognitive processing where female students achieved higher results. With regards to age and goal orientations, younger students achieved higher results in goals oriented at self and others. The results showed that fourth-graders are more likely than older ones to use all three types of learning strategies. Gender–age interaction was significant for meta-cognitive control with control being stable for females and significantly lower in older group for male students.

**Table 2.** Results of two-way ANOVAs with age and gender as independent variables

| | | | | M | SD | F (1,189) |
|---|---|---|---|---|---|---|
| **Goal orientation** | Self-oriented goals | Gender | Male | 3.90 | .76. | 78 |
| | | | Female | 3.96 | .81 | |
| | | Grade | 4th grade | 4.16 | .76 | 19.87** |
| | | | 8th grade | 3.68 | .74 | |
| | | Genderxgrade | Male,4th grade | 4.20 | .68 | 2.96 |
| | | | Male,8th grade | 3.54 | .70 | |
| | | | Female,4th grade | 4.11 | .86 | |
| | | | Female,8thgrade | 3.82 | .76 | |
| | Other-oriented goals | Gender | Male | 3.11 | .84 | 3.85* |
| | | | Female | 2.85 | .82 | |
| | | Grade | 4th grade | 3.19 | .85 | 11.55** |
| | | | 8th grade | 2.76 | .78 | |
| | | Genderxgrade | Male,4th grade | 3.35 | .83 | 1.05 |
| | | | Male,8th grade | 2.83 | .77 | |
| | | | Female,8thgrade | 3.00 | .85 | |
| | | | Female,8thgrade | 2.72 | .78 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Goal orientation** | Other-oriented goals | Gender | Male | 3.06 | .85 | 12.14** |
| | | | Female | 2.67 | .76 | |
| | | Grade | 4th grade | 2.79 | .78 | 2.20 |
| | | | 8th grade | 2.95 | .87 | |
| | | Genderxgrade | Male,4th grade | 2.91 | .78 | 1.98 |
| | | | Male,8th grade | 3.24 | .89 | |
| | | | Female,4thgrade | 2.66 | .77 | |
| | | | Female,8thgrade | 2.67 | .76 | |
| **Learning strategies** | Meta-cognitive learning control | Gender | Male | 3.99 | .71 | 9.28** |
| | | | Female | 4.26 | .66 | |
| | | Grade | 4th grade | 4.28 | .69 | 12.54** |
| | | | 8th grade | 3.96 | .67 | |
| | | Genderxgrade | Male, 4th grade | 4.25 | .64 | 4.58* |
| | | | Male, 8th grade | 3.70 | .68 | |
| | | | Female,4thgrade | 4.33 | .75 | |
| | | | Female,8thgrade | 4.20 | .57 | |
| | Deep cognitive processing | Gender | Male | 3.46 | .68 | 5.86* |
| | | | Female | 3.67 | .59 | |
| | | Grade | 4th grade | 3.66 | .67 | 5.88* |
| | | | 8th grade | 3.46 | .60 | |
| | | Genderxgrade | Male, 4th grade | 3.60 | .68 | .61 |
| | | | Male, 8th grade | 3.31 | .64 | |
| | | | Female,4thgrade | 3.75 | .65 | |
| | | | Female,8thgrade | 3.60 | .53 | |
| | Surface cognitive processing | Gender | Male | 2.57 | .77 | .68 |
| | | | Female | 2.46 | .77 | |
| | | Grade | 4th grade | 2.65 | .68 | 6.11* |
| | | | 8th grade | 2.38 | .83 | |
| | | Genderxgrade | Male, 4th grade | 2.65 | .72 | .86 |
| | | | Male, 8th grade | 2.48 | .83 | |
| | | | Female,4thgrade | 2.65 | .63 | |
| | | | Female,8thgrade | 2.29 | .84 | |

**p < . 05; **p < .01*

Table 3 shows correlations between personality traits, goal orientations, and learning strategies. A significant positive association was found between meta-cognitive control and deep processing, while other combinations of learning strategies were not interrelated. Self-oriented goals were moderately positively associated with goals oriented at others and moderately negatively associated with non-academic goals. Conscientiousness was associated with goals oriented at self (positively) and others (negatively) and positively with meta-cognitive control and deep processing. Almost the same pattern was established for intellect. Agreeableness was positively associated with self-oriented goals, meta-cognitive control, and deep cognitive processing. Emotional stability was positively associated with self-oriented goals and negatively associated with surface processing.

In order to verify if goal orientations in addition to personality traits contribute to learning strategies, three hierarchical regression analyses were performed in three steps (Table 4). Gender and grade were introduced in the first step, followed by personality traits, and goal orientations in the final step. All predictors explained 53 % of the meta-cognitive control variance, 26 % of the deep processing variance, and 19 % of the surface processing variance. For meta-cognitive control as a criterion, age and gender variables introduced in the first step explained 10 % of the variance, and gender retained significance throughout the analysis. By introducing personality traits, the percentage of the explained variance increased by a significant 20 % with conscientiousness, emotional stability (negative) and intellect achieving significant coefficients. The goal orientations introduced in the last step of the analysis contributed to the explained variance by an additional 23 % with only self-oriented goals having a significant coefficient. It can be concluded that female students, those who achieved higher results on conscientiousness and lower emotional stability, as well as those who were more focused on knowledge and avoiding mistakes used meta-cognitive control more often.

**Table 3.** Correlations matrix of all research variables

| | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Gender | | | | | | | | | | | | |
| 2. Grade | .07 | | | | | | | | | | | |
| 3. Extraversion | .01 | -.12 | | | | | | | | | | |
| 4. Agreeableness | .26** | -.13 | .17* | | | | | | | | | |
| 5. Conscientiousness | .09 | -.14 | -.01 | .36** | | | | | | | | |
| 6. Stability | -.05 | -.12 | .27** | .04 | .26** | | | | | | | |
| 7. Intellect | .05 | -.11 | .26** | .28** | .37** | .13 | | | | | | |
| 8. Self-oriented goals | .04 | -.31** | .04 | .22** | .49** | .17* | .42** | | | | | |
| 9. Other-oriented goals | -.15* | -.25** | .02 | -.07 | .08 | -.07 | .17* | .36** | | | | |
| 10. Non-academic goals | -.24** | .09 | .13 | -.12 | -.42** | -.11 | -.19** | -.35** | .12 | | | |
| 11. Meta-cognitive control | .19** | -.23** | .03 | .25** | .44** | -.02 | .32** | .68** | .22** | -.31** | | |
| 12. Deep processing | .16* | -.16* | .08 | .15* | .29** | .05 | .19** | .45** | .20** | -.10 | .58** | |
| 13. Surface processing | -.07 | -.18* | -.12 | -.04 | -.07 | -.28** | -.13 | -.05 | .23** | .15* | .01 | -.11 |

*$p<.05$; **$p<.01$

Analysis with deep cognitive processing as a criterion showed that gender and age in the first step explained a significant 5 % criterion variance, but only gender retained significance until the final step. The personality traits increased the explained variance by an additional 8 % with only conscientiousness being a significant predictor. In the last step, with the introduction of goal orientations, conscientiousness lost its significance, and only self-oriented goals had a significant predictor coefficient. It is possible to conclude that female students and those who are more focused on knowledge and avoiding mistakes used deep cognitive processing more often.

Surface processing analysis showed that only the age of the students in the first step of the analysis had a significant predictor coefficient which retained significance until the last step. Personality traits significantly contributed to the explanation of surface processing, with only emotional stability achieving a significant predictor coefficient (negative). By introducing goal orientations, the percentage of explained variance increased by a significant 5 %, with goals oriented at others as the only significant predictor.

**Table 4.** Hierarchical regression analyses with learning strategies as criterion

| | **Meta-cognitive control** | **Deep cognitive processing** | **Surface cognitive processing** |
|---|---|---|---|
| 1th step | | | |
| Gender | .21** | .17* | -.06 |
| Class | -.25** | -.17* | -.17* |
| R ($R^2$) | .31 (.10) | .24 (.05) | .19 (.04) |
| F (df) | 10.23** (2,190) | 5.56** (2,190) | 3.46* (2,190) |
| 2th step | | | |
| Gender | .15* | .14* | -.06 |
| Class | -.19** | -.13* | -.22** |
| Extraversion | .00 | .06 | -.04 |
| Agreeableness | .02 | -.02 | -.02 |

| | | | |
|---|---|---|---|
| Conscientiousness | .37* | .26** | .02 |
| Emotional stability | -.15* | -.05 | -.29** |
| Intellect | .17* | .07 | -.10 |
| R ($R^2$) | .55 (.30) | .37 (.13) | .38 (.14) |
| $\Delta R^2$ | .20** | .08** | .10** |
| F (df) | 11.19** (7,185) | 4.07** (7,185) | 4.44** (7,185) |
| 3th step | | | |
| Gender | .13* | .17* | -.01 |
| Class | -.05 | -.03 | -.21** |
| Extraversion | .05 | .08 | -.06 |
| Agreeableness | .02 | -.02 | .00 |
| Conscientiousness | .15* | .15* | .08 |
| Emotional stability | -.17* | -.05 | -.26** |
| Intellect | .00 | -.04 | -.10 |
| Self-oriented goals | .60** | .42** | -.10 |
| Other-oriented goals | .00 | .05 | .19* |
| Non-academic goals | -.03 | .11 | .11 |
| R ($R^2$) | .73 (.53) | .51 (.26) | .43 (.19) |
| $\Delta R^2$ | .23** | .13** | .05* |
| F (df) | 20.46** (10,182) | 6.24** (10,182) | 4.22** (10,182) |

*p<.05; **p<.01

## Discussion

The first research question referred to age and gender differences in goal orientations and learning strategies. No significant gender differences were found in the self-oriented goals, but goals oriented at others, as well as non-academic goals, were assessed as more important by male rather than female students. These differences are in line with the results of some previous research that showed that male students, compared to female students, are more focused on competition and performance (Koludrović and Reić Ercegovac, 2013), i.e. on avoiding effort as a non-academic goal (Patrick *et al*., 1999; Rijavec and Brdar,

2002; Koludrović and Reić Ercegovac, 2014). Age differences proved to be significant in goals oriented at self and others, with younger students, compared to older ones, assessing both groups of goals as more important. The established age differences can be partly attributed to the developmental characteristics of the students who participated in the research. Namely, for younger students, who are still in the developmental phase of childhood, it is important to achieve good success in relation to others and get positive support from the environment (class teacher), while upon entering adolescence this pressure decreases, i.e. students regard other academic goals as more important, such as earning points for high school enrollment. There were no significant age differences in non-academic goals, which suggests that the maturation of students does not contribute to changing their orientations related to non-academic goals. This is not in accordance with the research of Stanišak Pilatuš *et al*. (2013) whose results showed a significantly higher focus on effort avoidance in older students. In doing so, the authors refer to previous research that has usually shown that motivation to learn decreases with age, and motivation to avoid effort increases (Eccles *et al*., 1989; Eccles *et al*., 1993; Midgley *et al*., 1989, as cited in Stanišak Pilatuš, 2013).

Gender differences in the use of learning strategies have shown that female students, compared to male students, use meta-cognitive control more frequently, which includes repetition and rehearsal of content and control of the course and outcomes of learning. Likewise, female students use deep processing strategy more often than male students, which includes, for example, critical thinking, organization, and elaboration. These results can be related to the results of previous research that speaks of a generally greater commitment of female students to school obligations compared to male students (Roviš and Bezinović, 2011), i.e. their higher self-confidence in the ability to fulfill school obligations (Pajares, 2002). The results obtained are partly in line with the results of Lončarić (2010) who also found that female students, compared to male students, are at the forefront in the use of meta-cognitive control of learning and deep cognitive processing. It should be noted that meta-cognitive control was similar in two age groups for females, while there was a significant drop in this strategy between younger and older male students, resulting in significant age-gender interaction.

Male eight-graders generally obtained the lowest results on all variabels except non-academic goals, indicating less learning motivation and more interest in other areas. They are probably less dedicated to school-related activities due to the developmental characteristics and early adolescent changes that girls, perhaps, control better.

Age differences showed that younger students, compared to older ones, more often use meta-cognitive control of learning, deep processing strategies, but also surface processing strategies. Although some previous research has shown that younger students use meta-cognitive control more than older ones (Lončarić, 2010), this research showed that younger students used all types of learning strategies more often. This could mean that younger students are more aware of their strategy use because they have not automatized their strategy use yet. Older students, due to their learning experience, may therefore have automatized their strategy use to a greater degree, which is why they are unaware of their use. However, this doesn't mean that they don't use these strategies. This assumption should be examined in future research using a qualitative approach that could answer the question why the results show more frequent use of all strategies in younger students and whether this is really the case or simply a matter of awareness of using different strategies before, during and after learning.

The second research question was related to the connection between personality traits, goal orientations and learning strategies in primary school students. Of the many significant correlations identified by the research (Table 3), it should be noted that the characteristics of conscientiousness and intellect are, as expected, associated with the most goal orientations and learning strategies, which implies their importance in the school/academic context. Namely, conscientiousness was positively related to self-oriented goals, meta-cognitive control and deep processing, and negatively to non-academic goals. The same pattern has been established for intellect, which is additionally connected to performance goals. The connection of these two personality traits with goal orientations and learning strategies that are usually associated with better school achievement is not surprising since they are students who are diligent, responsible, organized, creative and open to experiences, and not to be ignored is the connection of intellectual traits with intelligence (Costa and McCrea, 1985). When it comes to conscien-

tiousness, research shows that it is this trait that is most consistently and most strongly associated with school achievement (O'Connor and Paunonen, 2007; Poropat, 2009; Bratko *et al*., 2006; Chamorro-Premuzic, 2006). Also, it should be noted that self-oriented goals were significantly related to all personality traits except extraversion. A similar finding was made in the Lovaković study (2018), which also suggested a significant connection between the acquisition of knowledge as a goal orientation and the characteristics of agreeableness, conscientiousness, stability and openness. It is possible that such personal characteristics encourage focus on the construction of knowledge and the learning process itself.

The interrelationship of goal orientations showed that self and other oriented goals were moderately related, while non-academic goals were significantly negatively related with goals directed at oneself, i.e. they were not connected with performance goals. This suggests that students can be oriented at themselves and others, but also strive for knowledge/learning and performance at the same time. Although these are different goals, it seems that students who are more motivated by knowledge and avoiding mistakes also show higher motivation for achievement. Although some authors considered the two groups of goals completely separate with students being able to focus on either knowledge or performance, later research suggested a positive association between learning goals (so-called mastery orientation) and performance goals (Barron and Harackiewicz, 2001; Darnon *et al*., 2006; Wolters, 2004), similar to this study. Learning strategies showed the expected pattern of interrelationships where only meta-cognitive control and deep processing were highly positively related.

Goal orientations and learning strategies proved to be related in the expected way – self-oriented goals were significantly positively associated with deep processing strategy and meta-cognitive control. Although goals oriented at others were also positively associated with these variables, correlations were significantly higher when it comes to goals oriented at oneself. As expected, non-academic goals were negatively associated with meta-cognitive control, and positively with surface processing. Similar patterns of relationships between goal orientations and learning strategies have been identified by other authors in previous research (Diseth, 2011; Dupeyrat and Martiné, 2005; Elliot

and McGregor, 2001; Elliot *et al*., 1999; Vrdoljak and Vlahović Štetić, 2018; Wolters, 2004).

The last research question adressed separate contribution of personality traits and goal orientation in explaining individual differences in learning strategies. Hierarchical regressions showed that with age and gender being controlled for, both personality traits and goal orientation significantly contribute to the explanation of individual differences in learning strategies. Gender, conscientiousness, emotional (in)stability and self-oriented goals proved to be significant predictors of meta-cognitive control of learning. It should be noted that the two mentioned personality traits retained a significant role even after the introduction of goal orientations in the last step of the regression equation. Students who are more conscientious and less emotionally stable, and students who are focused on knowledge and avoiding mistakes, are more likely to use meta-cognitive control in the learning process. The contribution of conscientiousness is expected given that it is a personality trait that implies organization, meticulousness and responsibility, and meta-cognitive control includes such an approach to learning by emphasizing control of the entire learning process. A similar connection between conscientiousness and meta-cognitive learning strategies has been found in some previous research (Rogulj, 2016). On the other hand, the role of emotional stability as a negative predictor of meta-cognitive control may seem less clear, but it is possible that such students strive for better readiness or greater confidence in their knowledge in order to reduce the possibility of failure which they perceive as more difficult than, for example, more emotionally stable students. In that case, meta-cognitive control would be a kind of insurance or a protection mechanism against worse results. For example, Rogulj (2016) stated that there is a possibility that individuals who are less emotionally stable, due to their perfectionism and concern, invest much in preparation, i.e. the learning process, which can result in better academic achievement. These assumptions should be explored in more detail and examine why students who are less emotionally stable report a more frequent use of meta-cognitive control.

Significant predictors of deep processing were the same predictors as for meta-cognitive control, which is not surprising given the high positive correlation of these learning strategies. The only difference is

in emotional stability, which in the analysis with deep processing as a criterion did not prove to be a significant predictor. It is possible to conclude that again gender, conscientiousness, and self-oriented goals are predictive for the use of deep cognitive processing. The connection between conscientiousness and deep processing was also established by Verešova (2015) in a study on student population. The important role of conscientiousness for meta-cognitive control and deep processing is also evidenced by the results of previous research suggesting a significant link between conscientiousness and school achievement (Bratko *et al*., 2006; Chamorro-Premuzic, 2006; O'Connor and Paunonen, 2007; Poropat, 2009).

Significant predictors of surface processing were younger age, emotional stability (negative), and focus on others. Younger and less emotionally stable students and performance-oriented students were more likely to use surface processing. It is possible that instability contributes to greater anxiety during learning or to the need to learn certain content, but without deep processing which still requires persistence, patience and time, which is likely more difficult to achieve for less emotionally stable students. The age-related result may indicate ignorance of different learning strategies other than surface processing in younger students who therefore use these strategies more often than older ones.

## Conclusion

Before concluding, it is necessary to look at the shortcomings of the conducted research. One of the shortcomings relates to the size of the sample and the fact that the students in the research are all from the same, smaller urban area, which calls into question the possibility of generalizing the results. Furthermore, since the constructs in the study included personality traits, it should be noted that personality traits in childhood and adolescence show some instability, i.e. that there is significantly greater fluidity in personality traits in this developmental period than, for example, in adulthood (Lacković Grgin and Penezic, 2018).

Despite these shortcomings, the research confirmed some existing knowledge regarding the relationship between goal orientations and learning strategies, but also opened up some new questions, especially

about the role of personality traits in shaping motivation to learn and choosing and using learning strategies.

## Literature

Ames, Carole (1992), "Classroom: Goals, structures, and student motivation", *Journal of Educational Psychology*, 84, pp. 261–271. doi: https://doi.org/10.1037/0022-0663.84.3.261

Barić, Renata; Cecić Erpič, Saša; Babić, Vesna (2002), "Intrinzička motivacija i ciljna orijentacija djece koja se bave atletikom", *Kinesiology*, 34(1), pp. 50–60.

Barron, Kenneth E.; Harackiewicz, Judith M. (2001), "Achievement goals and optimal motivation: Testing multiple goal models", *Journal of Personality and Social Psychology*, 80(5), pp. 706–722. doi: https://doi.org/10.1037/0022-3514.80.5.706

Bipp, Tanja; Steinmayr, Ricarda; Spinath, Birgit (2008), "Personality and achievement motivation: Relationship among Big Five domain and facet scales, achievement goals, and intelligence", *Personality and Individual Differences*, 44(7), pp. 1454–1464. doi: https://doi.org/10.1016/j.paid.2008.01.001

Bratko, Denis; Chamorro-Premuzic, Tomas; Saks, Zrnka, (2006), »Personality and school performance: Incremental validity of self- and peer-ratings over intelligence«, *Personality and Individual Differences*, 41, pp. 131–142. doi: https://doi.org/10.1016/j.paid.2005.12.015

Burić, Irena; Sorić, Izabela (2011), "Pozitivne emocije u ispitnim situacijama – doprinosi učeničkih ciljnih orijentacija, voljnih strategija i školskog postignuća", *Suvremena psihologija*, 14(2), pp. 183–199.

Chamorro-Premuzic, Tomas (2006), "Creativity versus conscientiousness: Which is a better predictor of student performance?", *Applied Cognitive Psychology*, 20, pp. 521–531. doi: https://doi.org/10.1002/acp.1196

Costa, Paul T. Jr.; McCrae, Robert R. (1985), "Updating Norma's 'adequacy taxonomy': Intelligence and personality dimensions in natural language and in questionnaires", *Journal of Personality and Social Psychology*, 49(3), pp. 710–721. doi: https://doi.org/10.1037/0022-3514.49.3.710

Costa, Paul T. Jr.; McCrae, Robert R. (1992), "Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual", Odessa: Psychological Assessment Resources.

Darnon, Céline; Muller, Dominique; Schrager, Sheree M.; Pannuzzo, Nelly; Butera, Fabrizio (2006), "Mastery and performance goals predict epistemic and relational conflict regulation", *Journal of Educational Psychology*, 98(4), pp. 766–776. doi: https://doi.org/10.1037/0022-0663.98.4.766

Dekker, Sanne; Lee Nikki C.; Howard-Jones, Paul; Jolles, Jelle (2012), "Neuromyths in education: Prevalence and predictors of misconceptions among teachers", *Frontiers in Psychology*, Vol 3. doi: https://doi.org/10.3389/fpsyg.2012.00429

Diseth, Åge (2011), "Self-efficacy, goal orientations and learning strategies as mediators between preceding and subsequent academic achievement", *Learning and Individual Differences*, 21(2), pp. 191–195. doi: https://doi.org/10.1016/j.lindif.2011.01.003

Dupeyrat, Caroline; Martiné, Claudette (2005), "Implicit theories of intelligence, goal orientation, cognitive engagement, and achievement: A test of Dweck's model with returning to school adults", *Contemporary Educational Psychology*, 30, pp. 43–59. doi: https://psycnet.apa.org/doi/10.1016/j.cedpsych.2004.01.007

Dweck, Carol S.; Leggett, Ellen L. (1988), "A social-cognitive approach to motivation and personality", *Psychological Review*, 95(2), pp. 256–273. doi: https://doi.org/10.1037/0033-295X.95.2.256

Eccles, Jacquelynne S.; Wigfield Allan (2002), "Motivational beliefs, values and goals", *Annual Review of Psychology*, 53(1), pp. 109–132. doi: https://doi.org/10.1146/annurev.psych.53.100901.135153

Elliot, Andrew J.; Church, Marcy A. (1997), "A hierarchical model of approach and avoidance achievement motivation", *Journal of Personality and Social Psychology*, 72(1), pp. 218–232. doi: https://doi.org/10.1037/0022-3514.72.1.218

Elliott, Elaine S.; Dweck, Carol S. (1988), "Goals: An approach to motivation and achievement", *Journal of Personality and Social Psychology*, 54(1), pp. 5–12. doi: https://doi.org/10.1037/0022-3514.54.1.5

Elliot, Andrew. J.; Harackiewicz, Judith. M. (1996), "Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis", *Journal of Personality and Social Psychology*, 70(3), pp. 461–475. doi: https://doi.org/10.1037/0022-3514.70.3.461

Elliot, Andrew J.; McGregor, Holly A.; Gable, Shelly (1999), "Achievement goals, study strategies, and exam performance: A mediational analysis«, *Journal of Educational Psychology*, 91, pp. 549–563. doi: https://doi.org/10.1037/0022-0663.91.3.549

Elliot, Andrew. J.; McGregor, Holly A. (2001), "A 2 × 2 achievement goal framework", *Journal of Personality and Social Psychology*, 80(3), pp. 501–519. doi: https://doi.org/10.1037/0022-3514.80.3.501

Garcia, Teresa; Pintrich, Paul R. (1994), "Regulating motivation and cognition in the classroom: The role of self-schemas and self-regulatory strategies", in: Schunk, Dale H.; Zimmerman, Barry J. (eds.), *Self-regulation of Learning and Performance: Issues and Educational Applications*, Hillsdale: Lawrence Erlbaum Associates, pp. 127–153.

Goldberg, Lewis R. (1992), "The development of markers for the Big-Five factor structure", *Psychological Assessment*, 4(1), pp. 26–42. doi: https://doi.org/10.1037/1040-3590.4.1.26

Gravetter, Frederick J.; Wallnau, Larry B. (2014), *Essentials of Statistics for the Behavioral Sciences* (8th ed.), Belmont, CA: Wadsworth.

Greene, Joshua D.; Nystrom, Leigh E.; Engell, Andrew D.; Darley, John M.; Cohen, Jonathan D. (2004), "The neural bases of cognitive conflict and control in

moral judgment", *Neuron*, 44(2), pp. 389–400. doi: https://doi.org/10.1016/j.neuron.2004.09.02

Isiksal, Mine (2010), "A comparative study on undergraduate students' academic motivation and academic self-concept", *The Spanish Journal of Psychology*, 13(2), pp. 572–585. doi: https://doi.org/10.1017/S1138741600002250

Jandrić, Danijela; Boras, Karmen; Šimić, Zvonimir (2018), "Rodne i dobne razlike u motivaciji i samoregulaciji učenja", *Psihologijske teme*, 27(2), pp. 177–193. doi: https://doi.org/10.31820/pt.27.2.3

Koludrović, Morana; Reić Ercegovac, Ina (2013), "Motivacija i školski uspjeh: Dobne i spolne razlike u ciljnim orijentacijama", *Napredak:* časopis *za interdisciplinarna istraživanja u odgoju i obrazovanju*, 154(4), pp. 493–509.

Koludrović, Morana; Reić Ercegovac, Ina (2014), "Uloga razredno-nastavnog ozračja u objašnjenju ciljnih orijentacija učenika", *Društvena istraživanja:* časopis *za opća društvena pitanja*, 23(2), pp. 283–302. doi: https://doi.org/10.5559/di.23.2.04

Lacković-Grgin, Katica; Penezić, Zvjezdan (2018), *Ličnost: Razvojno-psihološka perspektiva*, Jastrebarsko: Naklada Slap.

Lepper. Mark; Henderlong Corpus, Jennifer; Iyengar, Sheena S. (2005), "Intrinsic and extrinsic motivational orientations in the classroom: Age differences and academic correlates", *Journal of Educational Psychology*, 97(2), pp. 184–196. doi: https://doi.org/10.1037/0022-0663.97.2.184

Lončarić, Darko (2010), "Spol i dob kao odrednice samoreguliranog učenja za cjeloživotno obrazovanje", in: Bacalja, Robert (eds.), *Zbornik radova s međunarodnog znanstveno-stručnog skupa Perspektive cjeloživotnog obrazovanja učitelja i odgojitelja*, Zadar: Sveučilište u Zadru, Odjel za izobrazbu učitelja i odgojitelja, pp.104–118.

Lončarić, Darko (2014), *Motivacija i strategije samoregulacije učenja: Teorija, mjerenje i primjena*, Rijeka: Učiteljski fakultet u Rijeci.

Lovaković, Izabela (2018), "Osobine ličnosti, ciljne orijentacije i školski uspjeh", diplomski rad, Osijek: Sveučilište Josipa Jurja Strossmayera u Osijeku.

Midgley, Carol; Urdan, Tim (1995), "Predictors of middle school students' use of self-handicapping strategies«, *Journal of Early Adolescence*, 15, pp. 389–411. doi: https://doi.org/10.1177/0272431695015004001

Mlačić, Boris; Goldberg, Lewis R. (2007), "An analysis of a cross-cultural personality inventory: The IPIP Big-Five factor markers in Croatia", *Journal of Personality Assessment*, 88(2), pp. 168–177. doi: https://doi.org/10.1080/00223890701267993

Nicholls, John G.; Patashnick, Michael; Nolen, Susan B. (1985), "Adolescents' theories of education", *Journal of Educational Psychology*, 77(6), pp. 683–692. doi: https://doi.org/10.1037/0022-0663.77.6.683

Nikčević-Milković, Anela; Jerković, Ana; Biljan, Elvira (2014), "Povezanost komponenti samoregulacije učenja sa školskim uspjehom i zadovoljstvom školom

kod učenika osnovnoškolske dobi", *Napredak:* časopis *za interdisciplinarna istraživanja u odgoju i obrazovanju*, 154(4), pp. 375–398.

O'Connor, Melissa C.; Paunonen, Sampo V. (2007), "Big Five personality predictors of post-secondary academic performance", *Personality and Individual Differences*, 43, pp. 971–990. doi: https://doi.org/10.1016/j.paid.2007.03.017

Pajares, Frank (2002), "Gender and perceived self-efficacy in self-regulated learning", *Theory into Practise*, 41(2), pp. 116–125. doi: https://doi.org/10.1207/s15430421tip4102_8

Patrick, Helen; Ryan, Allison M.; Pintrich, Paul R. (1999), "The differential impact of extrinsic and mastery goal orientations on males' and females' selfregulated learning", *Learning and Individual Differences*, 11(2), pp. 153–171. doi: https://doi.org/10.1016/S1041-6080(00)80003-5

Pintrich, Paul R.; Schunk, Dale H. (2002), *Motivation in Education: Theory, Research, and Applications*, 2nd edition, Upper Saddle River, NJ: MerrillPrentice–Hall.

Poropat, Arthur E. (2009), "A meta-analysis of the Five-Factor model of personality and academic performance", *Psychological Bulletin*, 135(2), pp. 322–338. doi: https://doi.org/10.1037/a0014996

Raboteg-Šarić, Zora; Šakić, Marija; Brajša-Žganec, Andreja (2009), "Kvaliteta života u osnovnoj školi: Povezanost sa školskim uspjehom, motivacijom i ponašanjem učenika", *Društvena istraživanja:* časopis *za opća društvena pitanja*, 18(4–5), pp. 697–716.

Rasekh, Zohreh E.; Ranjbary, Reza (2003), "Metacognitive strategy training for vocabulary learning", *The Electronic Journal for English as a Second Language*, 7(2), pp. 1–12.

Rijavec, Majda; Brdar, Ingrid (2002), "Coping with school failure and self-regulated learning", *European Journal of Psychology of Education*, 12(2), pp. 177–194. doi: https://doi.org/10.1007/BF03173257

Rogulj, Jasmina (2016), "Odnos između ličnosti, strategija učenja, strategija poučavanja i znanja engleskoga jezika", doktorska disertacija, Zagreb: Sveučilište u Zagrebu, Filozofski fakultet.

Roviš, Darko; Bezinović, Petar (2011), "Vezanost za školu – analiza privrženosti školi i predanosti školskim obvezama kod srednjoškolaca", *Sociologija i prostor:* časopis *za istraživanje prostornoga i sociokulturnog razvoja*, 49(2), pp. 185–208. doi: https://doi.org/10.5673/sip.49.2.4

Smith, Lorraine; Sinclair, Kenneth E. (2005), "Empirical evidence for multiple goals: A gender-based senior high school student perspective", *Australian Journal of Educational & Developmental Psychology*, 5, pp. 55–70.

Stanišak Pilatuš, Ines; Jurčec, Lana; Rijavec, Majda (2013), "Ciljne orijentacije u učenju: Dobne i spolne razlike i povezanost sa školskim uspjehom", *Napredak:* časopis *za interdisciplinarna istraživanja u odgoju i obrazovanju*, 154(4), pp. 473–491.

Verešová, Marcela (2015), "Learning strategy, personality traits and academic achievement of university students", *Procedia – Social and Behavioral Sciences*, 174, pp. 3473–3478. doi: https://doi.org/10.1016/j.sbspro.2015.01.1021

Vizek Vidović, Vlasta; Marušić, Iris (2019), *Kompetencija učiti kako učiti: Teorijske osnove i istraživanja u hrvatskom kontekstu*, Zagreb: Institut za društvena istraživanja u Zagrebu.

Vrdoljak, Gabrijela; Velki, Tena (2016), "Personality traits, goal orientations and learning strategies", in: Orel, Mojca (ed.), *International conference MINDfulness 2016 "Be Mindful, Teach Mindfully, Teach Mindfulness"*, Ljubljana: Eduvision, pp. 53–66.

Vrdoljak, Gabrijela; Vlahović-Štetić, Vesna (2018), "Odnos ciljeva postignuća, strategija učenja i ocjena u srednjoškolskoj nastavi fizike", *Psihologijske teme*, 27(2), pp. 141–157. doi: https://doi.org/10.31820/pt.27.2.1

Vrkić, Marta; Vlahović-Štetić, Vesna (2013), "Uvjerenja o strategijama učenja, korištenje strategija učenja i uspjeh u studiju", *Napredak:* časopis *za interdisciplinarna istraživanja u odgoju i obrazovanju*, 154(4), pp. 511–526.

Wolters, Christopher A. (2004), "Advancing achievement goal theory: Using goal structures and goal orientations to predict students' motivation, cognition, and achievement", *Journal of Educational Psychology*, 96(2), pp. 236–250. doi: https://doi.org/10.1037/0022-0663.96.2.236

# STRATEGIJE UČENJA U OSNOVNOŠKOLSKOJ DOBI: DOPRINOS OSOBINA LIČNOSTI I CILJNIH ORIJENTACIJA UČENIKA

Katija Kalebić Jakupčević, Zrinka Vučković, Ina Reić Ercegovac

*Cilj ovoga istraživanja bio je ispitati povezanost osobina ličnosti, motivacije i strategija učenja kod učenika osnovnoškolske dobi. Ukupno 193 učenika ispunilo je* Upitnik za ispitivanje osobina ličnosti kod djece *(IPIP Big-Five),* Upitnik za ispitivanje ciljnih orijentacija *i* Upitnik za ispitivanje strategija učenja*. Rezultati istraživanja pokazali su da su učenici, u odnosu na učenice, skloniji ciljevima usmjerenima na druge i neakademskim ciljevima. Učenice, u odnosu na učenike, češće koriste meta-kognitivnu kontrolu i dubinsko procesiranje. Mlađi učenici važnijima su procijenili i ciljeve usmjerene na sebe i na druge, a češće koriste i sve tri strategije učenja. Regresijske su analize pokazale da i osobine ličnosti i ciljne orijentacije učenika zasebno doprinose objašnjenju dijela varijance svih strategija učenja pri čemu su se od osobina ličnosti najvažnijim prediktorima pokazale savjesnost i emocionalna stabilnost. Ciljevi usmjereni na sebe značajni su prediktori meta-kognitivne kontrole i dubinskog procesiranja, dok su ciljevi usmjereni na druge značajan prediktor površinskog procesiranja.*

***Ključne riječi**: dubinsko procesiranje, metakognitivna kontrola, motivacija, površinsko procesiranje*