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Predicting Academic Achievement Based on Goal Orientations and Study Approaches

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Abstract

The aim of this study was to examine the relationship between goal orientations, learning approaches and academic achievement, and to examine the possibility of predicting academic achievement through goal orientations and learning approaches. A sample of N=346 male and female second and third year undergraduate and first year graduate students of different colleges and sections of the University of J.J. Strossmayer in Osijek participated in this study. The results indicate that academic achievement is in a positive correlation with the mastery and performance goal orientations and deep and strategic learning approaches, and in a negative correlation with the work-avoidance goal orientation and surface learning approach. Furthermore, the results indicate a positive relationship between the mastery goal orientation and deep and strategic learning approaches as well as positive relationship between the work-avoidance goal orientation and surface learning approach, and negative between the work-avoidance goal orientation and deep learning approach. Also, mastery, performance goal orientations and deep learning approach were positive predictors of academic achievement. College was significant moderator of relationship between deep learning approach and academic achievement. Deep learning approach was a positive predictor of achievement in "hard" study disciplines and was not a significant predictor of academic achievement in "soft" study disciplines.

Key words: *learning; motivation; performance.*

Introduction

Motivation represents a highly important factor in education since it directly affects learning outcomes. Motivation can be affected by numerous factors such as students' interests, experience, previous accomplishments in the specific area, students' characteristics, peer behaviour, as well as students' learning aims (Vizek Vidović, Rijavec, Vlahović-Štetić, & Miljković, 2003). Some students aim to learn, some aim to demonstrate their abilities in front of others and some aim to achieve more but with less effort. The goal orientations theory explains these differences between students, and is one of the most prominent motivational theories in education (Dekker et al., 2013). Pupils and students set different learning goals that further lead to their learning approaches and both affect their academic success. Goal orientations refer to "behaviour purpose in a learning situation" (Ames, 1992, p. 261). They can be regarded as cognitive-motivational purpose for the involvement in a specific task (Dweck & Leggett, 1988). Archer (1994) proposes three types of goal orientations: mastery goal orientations, performance goal orientations and work-avoidance goal orientations. Mastery goal orientation refers to intention of developing one's competencies (Ames, 1992). Its purpose is personal growth and development and it directs behaviour connected to success and encourages task involvement. Students who are oriented towards knowledge (mastery goal orientation) focus on the learning process, information acquiring, activity and task mastering (Ames, 1992) and strive to improve their knowledge, understanding, skills and competencies (Dweck & Leggett, 1988). Students who use this goal orientation believe that success comes from effort and that they can control it. They do not compare their success to other students and prefer to take on tasks that are more difficult (Ames & Archer, 1988). Goal orientation focused on performance refers to the intention of demonstrating one's competencies (Ames, 1992). Students oriented towards performance focus on the impression they will make on others wherein they try to make an impression that they are highly competent, and avoid the impression of being less competent (Dweck, 1986). As a result, they often compare themselves to others and find it important to be better than others. Goal orientation focused on work-avoidance represents passive motivation. Students focused on work-avoidance try to complete a task with less effort. In a school environment they are passive and disinterested (Burić & Sorić, 2011), their aim is to avoid tasks or get easier tasks, avoid homework, trick teachers or professors (Nicholls, Cheung, Lauer, & Patashnick, 1989), and they find studying useless and not interesting (Rončević Zubković & Kolić-Vehovec, 2014). Previous studies have examined relationships between goal orientations and educational outcomes at different educational levels: elementary school (Brdar, Rijavec, & Lončarić, 2006), middle school (Burić & Sorić, 2011; Rončević Zubković & Kolić-Vehovec, 2014; Rupčić & Kolić-Vehovec, 2004) and university students (Archer, 1994; Elliot, McGregor, & Gable, 1999; Fenollar, Roman, & Cuestas, 2007). Many research studies have shown

that mastery goal orientation is connected to positive outcomes such as self-efficiency (Diseth, 2011; Rupčić & Kolić-Vehovec, 2004), persistence, auto regulated learning (Dweck & Leggett, 1988), positive emotions, deep learning strategies (Rončević Zubković & Kolić-Vehovec, 2014) and better academic success (Fenollar, Roman, & Cuestas, 2007; Payne, Youngcourt, & Beaubien, 2007; Rončević Zubković & Kolić-Vehovec, 2014). Performance goal orientation has proven to be connected to negative behaviour, thoughts and emotions (Dweck & Leggett, 1988), as well as to the surface study approach (Elliot, McGregor, & Gable, 1999). However, research results were not consistent. For instance, some studies could not prove the correlation between performance and negative outcomes; e.i. in maladaptive learning strategies (Kaplan & Midgley, 1997), while others proved a weak or moderate correlation between this goal orientation and some positive outcomes such as self-efficiency, grades, positive attitude and emotions and using useful study approaches (Urdan, 1997, as cited in Kaplan & Maehr, 2007). Senko, Durik, and Harackiewicz (2008) emphasize positive correlation between performance orientation and grades. Work-avoidance goal orientation correlates with less adaptive thoughts, emotions and behaviour (Archer, 1994) and self-handicapped behaviour (Rončević Zubković & Kolić-Vehovec, 2014). Furthermore, research studies have proven a correlation between this goal orientation and less instrinsic motivation and low academic success (Brdar et al., 2006).

In the school environment, goal orientations affect the study approach selection (Dekker et al., 2013). Study approaches can be defined as "ways in which students approach their academic tasks which consequently affect learning outcomes" (Biggs, 1994, p. 319, as cited in Chin & Brown, 2000). They are a combination of problem solving strategies and learning motives (Biggs, 1987). Three most frequently mentioned study approaches are deep, strategic and surface. Students using the deep study approach are intrinsically motivated, learning is a way to satisfy their curiosity, and the strategy that they use is complete material comprehension in order to satisfy their curiosity (Biggs, 1987). They experience learning as enjoyment, want to learn more about the topic, they connect the material and look for the meaning and significance of the material. The principal goal of this approach is to understand the acquired through connecting the ideas with previous knowledge and experience (Entwistle, McCune, & Walker, 2001, as cited in Burton & Nelson, 2006). Students who use the surface study approach are extrinsically motivated, that is, they want to avoid failure, but without making an effort (Biggs, 1987). The strategy that is used in order to achieve their motives is learning by heart but only the details that are essential for a passing grade. These students are characterised by failure avoidance, reproduction of content without connection to previous knowledge and without searching for meaning. Students using the strategic study approach are motivated by success. They want to succeed and have good grades, and exert themselves in finding optimal strategies, materials and learning conditions (Biggs, 1987). These students are pragmatic and are motivated by success, i.e., good grades. They behave in a way

that they think would impress the professors (Entwistle et al., 2001, as cited in Burton & Nelson, 2006), are good in time and effort management invested in learning and track their learning efficiency. The deep study approach has proven to be positively connected to grades, higher IQ (Rosander & Backstorm, 2012) and long term success (Zeegers, 2001), while the surface study approach is connected to conforming thinking style (Zhang, 2000) and lower academic success (Burton & Nelson, 2006; Diseth, 2011; Rosander and Backstorm, 2012; Vrdoljak, Kristek, Jakopec, & Zarevski, 2014). The strategic study approach is usually connected to better grades (Chamorro-Premuzic & Furnham, 2008; Vrdoljak, Kristek, Jakopec, & Zarevski, 2014). However, in testing the study approaches and academic success results are not consistent, and some authors do not find a significant direct relation between deep study approach and academic success (Rodriguez, 2009; Vrdoljak, Kristek, Jakopec, & Zarevski, 2014).

Studies conducted on the student population have also shown that students of different study disciplines with varying degrees use individual approaches to learning (Biggs, 1978). The deep and surface approaches are differently expressed in different areas of learning. Natural science tasks often require initial concentration on detail that is empirically difficult to separate from the surface approach. With the humanities and social sciences, the deep approach is usually shown by emphasizing students' intention to reinterpret the content in their own way. In describing the surface approach, students of natural sciences place more emphasis on the excessive concentration on the technique and procedural details, while students in the humanities have a more general approach in writing or memorizing unrelated generalizations in their preparation tasks (Ramsden, 1988). Areas of humanities and social sciences are more often referred to as "soft" and natural technical as "hard" (Paska, 2015).

From the above mentioned, we can see that numerous studies dealt with examining the relationship between goal orientations, approaches to learning and academic success, but the results are not consistent. Furthermore, very little research has examined the moderating effect of the various study disciplines in predicting academic success. Therefore, the *aim* of this paper is to test the possibility of predicting the academic success based on the goal orientations and study approaches, and exploring the moderating effect of the study discipline on the relationship between learning approaches and academic achievement.

Method

Participants

There were 346 participants (226 female and 120 male) second and third year undergraduate and first year graduate students from the University J. J. Strossmayer in Osijek included in the research. They were students from nine faculties (Faculty of Humanities and Social Science (N=79), Faculty of Economics (N=31), Faculty of Electrical Engineering (N=75), Faculty of Education (N=51), Department of Chemistry (N=27), Department of Biology (N=28), Department of Physics (N=6),

Department of Mathematics (*N*=44) and Academy of Arts (*N*=5)). Age ranged from 19 to 31 years (M=21.84, SD=1.686).

Instruments

Two instruments were used in the research: Goal Orientation Questionnaire and Approaches and Study Skills Inventory for Students – ASSIST. Participants were also asked to provide information about their gender, age, college, year of study and college grade point average. College grade point average was used as a measure of academic success.

Goal orientation questionnaire (Niemivirta, 1998)

This 15-item questionnaire, divided into three scales, was used to assess three goal orientations: Mastery, Performance and Work-Avoidance goal orientation. Each scale contained five items. Participants rated each item on a 5-point Likert scale ranging from *I totally disagree* (1) to *I totally agree* (5). Cronbach alphas in this research were α=.829 for Performance goal orientation, α=.836 for Mastery goal orientation and α=.849 for Work-Avoidance goal orientation.

Approaches and Study Skills Inventory for Students (Entwistle, 1997)

Students' approaches to study were assessed using the second part of ASSIST that consists of 52 items divided into three subscales. The first subscale measures the deep approach and contains 16 items. The second subscale measures the strategic approach and contains 20 items. The third subscale measures the surface approach and contains 16 items. Participants rated each item on a 5-point Likert scale ranging from *I totally disagree* (1) to *I totally agree* (5). Cronbach alphas in this research were α=.863 for Deep learning approach, α=.863 for Strategic learning approach and α=.804 for Surface learning approach.

Procedure

Each faculty provided their written consent for their students' participation in the study, and every participant was familiar with the general purpose and the aim of the study. Each participant was also informed that their participation in the study was voluntary and anonymous and that the information would be used only for scientific purposes. The research was conducted in groups during 20-minute-long periods. Before distributing the questionnaires, the researcher gave instructions to the participants.

Results

In order to meet the preconditions for conducting hierarchical regression analysis, the variables college and year of study, that are categorical variables, were transformed into dichotomous variables. Furthermore, social, humanistic and artistic colleges (Faculty of Humanities and Social Science, Faculty of Economics, Faculty of Education,

Academy of Arts) were classified in one category and science and technical colleges (Faculty of Electrical Engineering, Department of Chemistry, Department of Biology, Department of Physics, Department of Mathematics) in another category. This categorization was based on previous research (Becher, 1987, as cited in Parpala, Lindblom-Ylanne, Komulainen, Litmanen, & Hristo, 2010; Biglan, 1973, as cited in Parpala et al., 2010) that categorized disciplines as soft and hard.

The preconditions for conducting parametric statistics and regression analysis were met; the distributions did not differ significantly from the normal distribution, the variances were homogenous and were not zero. Also, variables "gender", "college" and "year of study" that were categorical were dichotomous, and the rest of the predictor and criteria variables were quantitative and at the interval level, there was no perfect multicollinearity (VIF index was from 1.046 to 2.111). Furthermore, predictors did not have very high correlations, the error was independent and residuals were in zero correlations. Therefore, the data were analyzed by means of the hierarchical regression analysis.

In data analysis, the descriptive statistics were calculated first (Table 1). The results are shown as average values of assessment on each scale. The results indicate that students assessed that they use mastery goal orientation the most and performance goal orientation the least. This difference is statistically significant (t (346)=13.002; p<.01). Students also assessed that they use the deep learning approach more than the surface learning approach. This difference is also statistically significant (t (346)=6.271; p<.01).

Table 1

Basic descriptive statistics (N=346)

Variable	*M*	*SD*	Theoretical range	Empirical range
Study approaches				
Deep	3.56	0.586	1 - 5	1.56 - 4.94
Strategic	3.40	0.592	1 - 5	1.75 - 4.80
Surface	3.25	0.611	1 - 5	1.50 - 4.81
Goal orientations				
Mastery	3.90	0.739	1 - 5	1.40 - 5
Performance	3.21	0.946	1 - 5	1 - 5
Work-Avoidance	3.46	0.949	1 - 5	1 - 5

Table 2 presents the descriptive data for hard and soft disciplines separately, and has tested the difference between arithmetic means.

Table 2

Differences between hard and soft disciplines in learning approaches and goal orientations (N=346)

Variable	Hard		Soft		t-test
	M	*SD*	*M*	*SD*	
Study approaches					
Deep	3.46	0.571	3.65	0.577	-3.15**
Strategic	3.29	0.574	3.50	0.592	-3.33**
Surface	3.27	0.604	3.23	0.581	0.67
Goal orientations					
Mastery	3.80	0.756	4.01	0.692	-2.82**
Performance	3.21	0.917	3.24	0.967	-0.27
Work-Avoidance	3.45	0.967	3.46	0.930	0.08
Achievement	3.46	0.654	3.90	0.563	-6.523**

**p<.01

As can be seen from Table 2 soft discipline students have higher scores on measures of deep and strategic learning approaches, mastery goal orientations and better grades.

Table 3

Intercorrelation of tested variables (N=346).

Variable	2.	3.	4.	5.	6.	7.
Deep approach	.484**	-.195**	.648**	.222**	-.266**	.333**
Strategic approach		-.090	.471**	.405**	-.359**	.338**
Surface approach			-.298**	.000	.416**	-.239**
Mastery goal orientation				.321**	-.314**	.385**
Performance goal orientation					-.056	.248**
Work-Avoidance goal orientation						-.210**
Academic achievement						

**p<.01

The results indicate that almost every calculated coefficient of correlation was statistically significant and ranged from mild to relatively high. The greatest correlation was found between the deep learning approach and mastery goal orientation and the least significant correlation was between the deep approach and performance goal orientation.

All correlations with academic achievement were significant and ranged from low to moderate. Thus, academic achievement was positively correlated with deep and strategic learning approaches and mastery and performance goal orientations, and negatively with surface learning approach and work-avoidance goal orientation. These findings are in accordance with other studies (Diseth, 2011; Jurčec, 2011; Rončević Zubković & Kolić-Vehovac, 2014). Thus, higher academic success is related to higher mastery and performance goal orientations, greater use of deep and strategic study approaches, fewer work-avoidance orientations and less use of surface learning approach.

Mastery goal orientation has shown a significant positive correlation with the deep and strategic learning approaches and negative with the surface learning approach. Performance goal orientation has shown a positive correlation with the deep and strategic learning approaches. Work-avoidance goal orientation has shown a positive correlation with the surface and negative with the deep and strategic learning approaches.

In order to test the possibility of predicting academic success based on goal orientations and study approaches hierarchical regression analysis was conducted. The criterion variable was college grade point average, that is academic success. In this research variables gender, college and year of study were controlled, since previous research has shown that there are differences in using learning approaches between different disciplines (e.g. Parpala et al., 2010), differences between goal orientations depending on the age (Anderman & Midgley, 1997) and gender differences in academic success (e.g. Cameron & Wilson, 1990). Predictor variables were goal orientations and learning approaches. The order of predictors' inclusion was determined based on previous research (e.g. Bandalos et al., 2003, as cited in Coutinho & Neuman, 2008; Green & Miller, 1996), that is, in the first block control variables were included, in the second block goal orientations were included and in the third block learning approaches were included. In the fourth block, the moderating effect of college was tested (Table 4).

The results of the first block of hierarchical regression analysis have shown that sociodemografic variables explain 14.5% of the variance of academic success. Considering the contribution of single variables, results indicate that each of the three variables contribute to academic success, wherein women, students of social, humanities and artistic colleges (soft studies) and undergraduate students have higher academic success than men, students of technical and science colleges and graduate students.

Further, the results of the second block of the hierarchical regression analysis have shown that goal orientations contribute to academic success with additional 13.2% of the variance. Considering the contribution of single variables, the results indicate that each of the three variables is a statistically significant predictor of academic success when controlling gender, college and year of study. The results indicate that mastery and performance goal orientations lead to higher academic success and that work-avoidance goal orientation leads to lower academic success.

The results of the third block of the hierarchical regression analysis have shown that learning approaches contribute to academic success with additional 2.2% of the variance. Considering the contribution of single variables, the results indicate that only the surface learning approach is a predictor of academic success when controlling gender, college, year of study and goal orientations. The results indicate that using the surface learning approach leads to lower academic success. The results also indicate that year of study and work-avoidance goal orientation lose their contribution in

Table 4

Hierarchical regression analysis of predicting academic achievement on sociodemographic variables, goal orientations and learning approaches (N=346).

Predictor		β	*R*	R^2	ΔR^2	*F*
1. block						
Sociodemographic variables	Gender	.170**				
	College	.273***	.381	.145	.145	18.700***
	Year of study	-.110*				
2. block						
Sociodemographic variables	Gender	.124*				
	College	.253***				
	Year of study	-.096*				
	Mastery	.247***				
Goal orientations	Performance	.138**	.527	.277	.132	20.989***
	Work-Avoidance	-.114*				
3. block						
Sociodemographic variables	Gender	.133**				
	College	.236***				
	Year of study	-.089				
	Mastery	.152*				
Goal orientations	Performance	.134*				
	Work-Avoidance	-.040				
Learning approaches	Deep	.060				
	Strategic	.066	.546	.298	.022	15.337***
	Surface	-.150**				
4. block						
Sociodemographic variables	Gender	.133**				
	College	.237***				
	Year of study	-.009*				
	Mastery	.138*				
Goal orientations	Performance	.140**				
	Work-Avoidance	-.027				
Learning approaches	Deep	.209**				
	Strategic	.134				
	Surface	-.130				
Learning approaches x college	Deep x college	-.207*				
	Strategic x college	-.052	.574	.329	.031	13.173***
	Surface x college	-.003				

*** p<.001; ** p<.01; * p<.05

explaining academic achievement when including learning approaches. For testing mediation of the relationship between work-avoidance goal orientation and the academic success, we performed an analysis for testing multiple mediations (Hayes method) between a single predictor and criterion; for the relationship between academic achievement and work avoidance (potential mediators being: deep, surface and strategic approach). Indirect effect was significant with the confidence interval

not containing zero (effect=-.1466, interval ranged from -.1992 to -.1028). All three mediators are significant: deep approach (-.0352, interval ranged from -.0681 to -.0122), strategic approach (-.0395, interval ranged from -.0685 to -.0192) and surface approach (-.0537, interval ranged from -.0938 to -.0224).

In the fourth block, we examined interaction of the discipline of study (college) and learning approaches with academic achievement. The results have shown that only significant interaction exists only between the discipline of study and the deep learning approach (Figure 1). We also examined the interaction between college and goal orientation. The moderating effect was not significant so we excluded this interaction from the analysis because it is possible that strength of the analysis would be reduced due to the number of variables. In the fourth block, year of study is a significant predictor of academic achievement and strategic and surface learning approach are no longer significant predictors in explaining academic achievement (although β (surface approach)=-.130, p=.61 was boundary significant).

The total contribution of variables used in this research in explaining academic success is 32.9%.

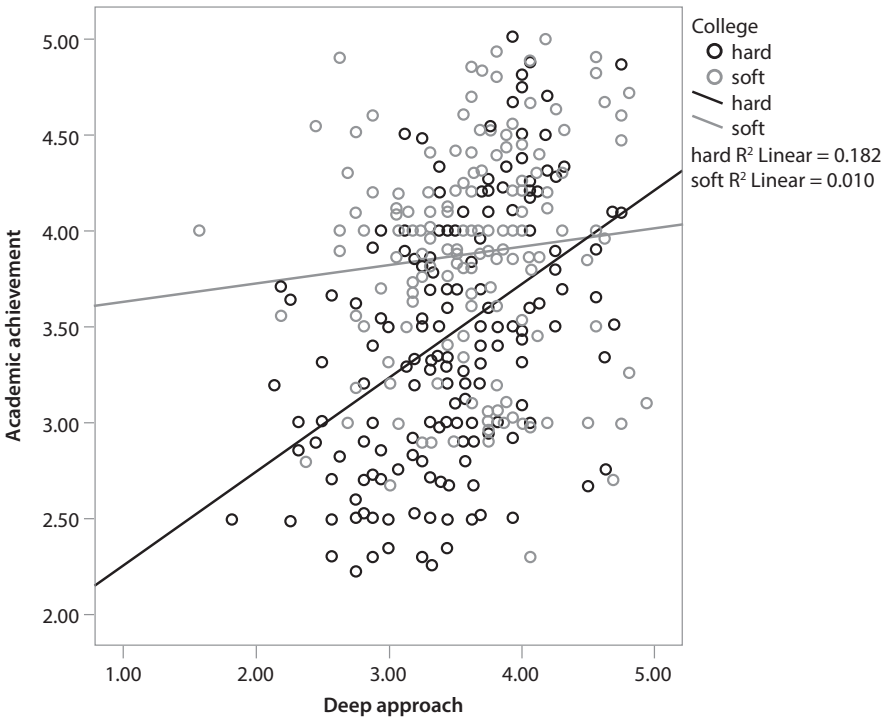

Figure 1. Regression lines for significant moderating effects of discipline of study on the relationship between deep learning approach and academic acievement.

Discussion and Conclusion

The aim of this study was to test the possibility of predicting academic success based on goal orientations and study approaches. As expected, mastery goal orientation was a positive predictor of academic success, which is in accordance with previous research (e.g. Fenollar et al., 2007; Payne et al., 2007; Rončević Zubković & Kolić-Vehovec, 2014). Therefore, the intention of developing one's competencies and task involvement will contribute to higher academic achievement.

Performance goal orientation was also a positive predictor of academic success which is in accordance with some of the previous research (e.g. Diseth, 2011; Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997), although some other studies have connected performance goal orientation to negative educational outcomes (e.g. Elliot, McGregor, & Gable, 1999; Dweck & Leggett, 1988). In these cases, the models of goal orientations should be considered. Namely, most studies which have shown that the performance goal orientation is a negative predictor of academic success have used the dichotomous model of goal orientations (mastery and performance goal orientations). However, studies that included work-avoidance goal orientation have shown that negative educational effects are mostly associated to work-avoidance goal orientation (e.g. Archer, 1994; Rončević Zubković & Kolić-Vehovec, 2014) while performance goal orientation turns to a positive predictor, especially when grades are a criterion. Senko, Durik, and Harackiewicz (2008) highlighted positive correlation between the performance goal orientation and grades, which is not surprising since students who are performance oriented seek to show their capability to others (colleagues, teachers), so it can be expected that they will behave in a way that will lead them to higher academic achievement.

The work-avoidance goal orientation was a negative predictor of academic achievement. However, introducing the study approaches, the work-avoidance orientation loses its contribution in explaining academic achievement. This is also in accordance with the previous research (Fenollar et al., 2007; Jurčec, 2001). Work-avoidance goal orientation does not directly affect academic achievement, but is influenced through study approaches.

The deep study approach was not a predictor of academic success in the third block of hierarchical regression analysis. Similar result has also been obtained in another research (e.g. Rončević Zubković & Kolić-Vehovec, 2014). Vrugt and Oort (2008) consider that students using the deep approach learn not only content that is required for the exam, but also other content that will satisfy their curiosity, but is irrelevant for the exam, which further influences their academic achievement. Students using the deep study approach are often interested in a particular topic in the lesson and they explore it to details, but neglect other parts of the lesson. Inspecting the correlation matrix, one can notice a very high correlation between the mastery goal orientation and the deep study approach (.648). In previous research (e.g. Rovan, 2011) correlation

between the mastery goal orientation and the deep study approach was 0.42. When we compare these two constructs and instruments, we can see that goal orientations represent "behaviour purpose" and approaches to learning are a combination of problem solving strategies and learning motives. Mastery goal orientation refers to the orientation towards knowledge and subscales of deep learning approaches that are: Seeking meaning, Relating ideas, Use of evidence and Interest in ideas. Although, it is expected that the mastery goal orientation and the deep study approach would be correlated, it is obvious that they are different constructs. Thus, it is possible that the mastery goal orientation has explained the total variance of the deep approach that affects academic success in the third block. In the fourth block, when we examined the moderating effect of the college, the deep study approach was a significant predictor of academic achievement. The results showed that the deep learning approach was a positive predictor of achievement in "hard" study disciplines and was not a significant predictor of academic achievement in "soft" study disciplines. Previous studies have shown that students of different study disciplines with varying degrees, use individual approaches to learning (Biggs, 1978). In the humanities and social sciences, the deep approach is usually shown by emphasizing students' intention to reinterpret the material in their own way. In describing the surface approach, students of natural sciences place more emphasis on excessive concentration on the technique and procedural details (Ramsden, 1988). This research shows that soft discipline students have statistically significantly higher grades and better results on the deep learning approach measurement (Table 2), which is in accordance with previous research (e.g. Ramsden, 1988), but the deep learning approach does not predict academic achievement of soft discipline students. However, the deep approach is a significant predictor of academic achievement of hard discipline students (interaction). We can explain these results by the fact that soft discipline students have higher grades, that is 75% students have a 3.5 or higher grade point average, while hard students have lower grades, that is about 50% students have a 3.5 or higher grade point average. It is also possible that for lower grades in natural sciences, concentration on the technique and procedural details (surface approach) is sufficient for higher grades, but deeper understanding of the material is needed.

The surface study approach was not a significant predictor in the fourth block but we can say that it is a boundary significant negative predictor (β=-.130p=.61). Other research showed that the surface approach is a negative predictor of academic achievement (e.g. Burton & Nelson, 2006; Diseth, 2011; Rosander & Backstorm, 2012; Vrdoljak, Kristek, Jakopec, & Zarevski, 2014). Therefore, extrinsic motivation, rote learning and material reproduction without linkage and searching for meaning will lead to lower academic success.

Sociodemographic variables, gender and year of study were significant predictors of academic achievement. Girls and undergraduate students had higher academic achievement, which is in accordance with other research (e.g. Anderman & Midgley, 1997; Cameron & Wilson, 1990).

It can be concluded that mastery and performance oriented students and students who use the deep learning approach have a higher academic achievement. The results of this research indicate that for good academic achievement it is important to have an orientation toward developing, and also demonstrating competencies, and for good academic achievement in hard study disciplines it is also important to use deep study strategies: seeking meaning, relating ideas, use of evidence and interest in ideas.

Implications and Guidelines for Future Research

The results of this research are very applicable. Students' motivation is important for higher academic achievement, namely motivation for knowledge and motivation to get good grades. These findings suggest that it is important to motivate students with interesting things, encourage them to study what they want to know and encourage understanding of the content. The deep study approach should be also encouraged especially for hard discipline students who use the deep approach less than soft study students. Hard study students are often faced with tasks that require initial concentration on detail that is empirically difficult to separate from the surface approach, but for good academic achievement, it is important to use the deep study approach. For further progress of society and individuals, teachers should encourage motivation for knowledge and use of the deep study approach and grades should be based on that. Kaplan and Maher (2007) suggest some recommendations for the promotion of mastery goal orientations by including: 1. Setting tasks before students which are challenging and have personal significance; 2. Identifying behaviours that include: increasing the effort, risk taking, creativity, sharing ideas and learning from mistakes; 3. Dividing students into groups with respect to the area of interest and differences among students that could stimulate learning; 4. Evaluation of students' work through progress, creativity and skill development; 5. Time should be flexible, students can work at their own pace, schedule changes to accommodate the task and requirements of students with a focus on learning.

This research has some disadvantages. We used self-assessment questionnaires as measures of goal orientations and learning approaches (we did not measure these processes directly). Students could give socially desirable responses, although we try to prevent that by informing students that their participation in the study is voluntary and anonymous. The disadvantage is that the sample was convenient. Further, there were only a few participants from some colleges (e.g. Academy of Arts (N=5)). Also, colleges were put into two categories where differences within groups can be found. Therefore, future research should include a representative sample and examine the influence of each college on goal orientations, study approaches and academic achievement.

Also, this research examined the influence of general goal orientations and general study approaches on academic achievement. However, it is possible that students are not equally motivated for different courses and that they do not have the same

approach to different courses or same grades. Therefore, future research should examine the influence of goal orientations and study approaches on academic achievement in one particular course.

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Predviđanje akademskog uspjeha na temelju ciljnih orijentacija i pristupa učenju

Sažetak

Cilj je ovog rada bio ispitati odnos ciljnih orijentacija u učenju, pristupa učenju i akademskog uspjeha kod studenata te provjeriti mogućnost predviđanja akademskog uspjeha na temelju ciljnih orijentacija u učenju i pristupa učenju. U istraživanju je sudjelovalo N=346 studenata i studentica drugih i trećih godina preddiplomskih i prvih godina diplomskih studija različitih fakulteta i odsjeka osječkog sveučilišta. Rezultati pokazuju da postoji pozitivna povezanost akademskog uspjeha s ciljnom orijentacijom na znanje i izvedbu te s dubinskim i strateškim pristupima učenju, a negativna povezanost akademskog uspjeha s ciljnom orijentacijom na izbjegavanje truda i površinskim pristupom učenju. Osim toga, rezultati pokazuju da postoji pozitivna povezanost ciljne orijentacije na znanje s dubinskim i strateškim pristupima učenju kao i pozitivna povezanost ciljne orijentacije na izbjegavanje truda s površinskim i negativna s dubinskim pristupima učenju. Nadalje, kao pozitivni prediktori akademskog uspjeha pokazale su se ciljne orijentacije na znanje i izvedbu te dubinski pristup učenju. Vrsta studija pokazala se značajnim moderatorom veze između dubinskog procesiranja i akademskog uspjeha. Dubinsko procesiranje značajan je prediktor uspjeha kod studenata prirodoslovnih i tehničkih studija, a nije značajan prediktor kod studenata društveno-humanističkih studija.

Ključne riječi*: izvedba; motivacija; učenje.*

Uvod

Motivacija je vrlo važan čimbenik u području obrazovanja jer utječe na ishode učenja. Na motivaciju utječu brojni činitelji kao što su interesi učenika, iskustvo, prethodno postignuće u nekom području, osobine učenika, ponašanje vršnjaka, ali i ciljevi koje učenici žele ostvariti učenjem (Vizek Vidović, Rijavec, Vlahović-Štetić, i Miljković, 2003). Nekim je učenicima cilj učenje, drugima je cilj pokazati svoje sposobnosti pred drugima, a trećima je cilj uložiti što manje truda, a pri tome proći što je bolje moguće. Te razlike među učenicima objašnjava teorija ciljnih orijentacija u učenju, jedna od najistaknutijih teorija motivacije u području obrazovanja (Dekker i sur., 2013).

Učenici i studenti postavljaju različite ciljeve učenja koji dalje vode njihove pristupe učenju, što sve zajedno utječe na njihov školski odnosno akademski uspjeh. Ciljne orijentacije odnose se na „svrhu ponašanja u situaciji učenja" (Ames, 1992, str. 261). Mogu se promatrati kao kognitivno-motivacijska svrha za uključivanje u određeni zadatak (Dweck i Leggett, 1988). Archer (1994) navodi postojanje tri ciljna usmjerenja: usmjerenost na znanje, usmjerenost na izvedbu i usmjerenost na izbjegavanje truda. Ciljna orijentacija na znanje odnosi se na namjeru razvoja kompetencija (Ames, 1992). Svrha joj je osobni rast i razvoj, a usmjerava ponašanje povezano s uspjehom te potiče uključenost u zadatak. Učenici koji su orijentirani na znanje usmjeravaju se na učenje, usvajanje informacija, ovladavanje aktivnostima i zadacima (Ames, 1992), kao i na poboljšavanje razine znanja, razumijevanja, vještina i kompetentnosti (Dweck i Leggett, 1988). Učenici koji se koriste tom ciljnom orijentacijom vjeruju da uspjeh dolazi kao posljedica truda te da je stoga pod njihovom kontrolom. Oni svoj uspjeh ne uspoređuju s uspjehom drugih učenika i radije izabiru teže zadatke (Ames i Archer, 1988). Ciljna orijentacija na izvedbu odnosi se na namjeru demonstracije kompetencija (Ames, 1992). Učenici orijentirani na izvedbu usmjeravaju se na to kakav će dojam drugi imati o njihovoj sposobnosti, pri čemu nastoje stvoriti dojam da su visoko sposobni, a izbjeći dojam da imaju niže sposobnosti (Dweck, 1986). Zbog toga se oni često uspoređuju s drugima i važno im je da su bolji od drugih. Ciljna orijentacija na izbjegavanje truda predstavlja motivaciju u pasivnom obliku. Učenici koji su orijentirani na izbjegavanje truda žele sa što manje truda izvršiti zadatak. U školi su pasivni i nezainteresirani (Burić i Sorić, 2011), cilj im je izbjeći rad, dobiti lagane zadatke, nemati zadaću, „prevariti" profesore (Nicholls, Cheung, Lauer, i Patashnick, 1989), a učenje doživljavaju kao beskorisno i nezanimljivo (Rončević Zubković i Kolić-Vehovac, 2014). Dosadašnja istraživanja ispitivala su vezu između ciljnih orijentacija i obrazovnih ishoda na različitim obrazovnim razinama: osnovna škola (Brdar, Rijavec i Lončarić, 2006), srednja škola (Burić i Sorić, 2011; Rončević Zubković i Kolić-Vehovec, 2014; Rupčić i Kolić-Vehovec, 2004) i fakultet (Archer, 1994; Elliot, McGregor, i Gable, 1999; Fenollar, Roman, i Cuestas, 2007). Ciljna orijentacija na znanje u brojnim se istraživanjima pokazala povezanom s pozitivnim ishodima kao što su samoefikasnost (Diseth, 2011; Rupčić i Kolić-Vehovec, 2004), ustrajnost, samoregulirano učenje (Dweck i Leggett, 1988), pozitivne emocije (Burić i Sorić, 2011), dubinske strategije učenja (Rončević Zubković i Kolić-Vehovac, 2014) i bolji akademski uspjeh (Fenollar, Roman, i Cuestas, 2007; Payne, Youngcourt, i Beaubien, 2007; Rončević Zubković i Kolić-Vehovac, 2014). Ciljna orijentacija usmjerenosti na izvedbu pokazala se povezanom s negativnim mislima, emocijama i ponašanjima (Dweck i Leggett, 1988), ali i s površinskim pristupom učenju (Elliot, McGregor, i Gable, 1999). No istraživanja nisu pokazala konzistentne rezultate. Tako neka istraživanja nisu pronašla povezanost ciljne orijentacije na izvedbu s negativnim ishodima, npr. s korištenjem neadekvatnih strategija učenja (Kaplan i Midgley, 1997), a neka su pokazala slabu do umjerenu povezanost te ciljne orijentacije s nekim pozitivnim

ishodima kao što su: samoefikasnost, ocjene, pozitivan stav i emocije, zatim korištenje učinkovitih pristupa učenju (Urdan, 1997, prema Kaplan i Maehr, 2007). Senko, Durik i Harackiewicz (2008) naglašavaju pozitivnu povezanost između usmjerenosti na izvedbu i ocjena. Ciljna orijentacija na izbjegavanje truda povezana je s manje adaptivnim mislima, osjećajima i ponašanjima (Archer, 1994) i samohendikepirajućim ponašanjem (Rončević Zubković i Kolić-Vehovac, 2014). Istraživanja su također pokazala povezanost te ciljne orijentacije s manjom intrinzičnom motivacijom i s nižim školskim uspjehom (Brdar i sur., 2006).

Ciljne orijentacije u školskim situacijama utječu na odabir pristupa učenju studenata (Dekker i sur., 2013). Pristupi učenju mogu se definirati kao „načini na koji učenici prilaze svojim akademskim zadacima koji prema tome utječu na ishode učenja" (Biggs, 1994, str. 319, prema Chin i Brown, 2000). Oni nastaju kombinacijom strategija rješavanja problema i motiva za učenje (Biggs, 1987). Najčešće se spominju tri pristupa učenju, a to su: dubinski, površinski i strateški pristupi učenju. Učenici koji se koriste dubinskim pristupom učenju intrinzično su motivirani, učenjem žele zadovoljiti znatiželju, a strategija kojom se koriste maksimalno je razumijevanje gradiva kako bi zadovoljili znatiželju (Biggs, 1987). Učenje doživljavaju kao uživanje, žele znati što više o temi, povezuju gradivo i traže smisao i značenje onoga što uče. Glavni cilj tog pristupa učenju je razumijevanje naučenog preko povezivanja ideja s prethodnim znanjem i iskustvom (Entwistle, McCune, i Walker, 2001, prema Burton i Nelson, 2006). Učenici koji se koriste površinskim pristupom ekstrinzično su motivirani, odnosno oni žele izbjeći neuspjeh, ali bez većeg truda (Biggs, 1987). Strategija kojom se koriste da bi ostvarili svoje motive jest učenje napamet samo onih detalja koji su nužni za prolaz. Te učenike karakterizira izbjegavanje neuspjeha, reprodukcija gradiva bez povezivanja i traženja smisla. Učenici koji se koriste strateškim pristupom učenju motivirani su uspjehom. Oni žele uspjeti i dobiti dobre ocjene te se trude u pronalaženju optimalnih strategija, materijala i uvjeta za učenje (Biggs, 1987). Ti učenici su pragmatični, a na učenje ih potiče uspjeh, odnosno dobre ocjene. Oni rade ono što misle da će zadiviti profesore (Entwistle i sur., 2001, prema Burton i Nelson, 2006), dobro upravljaju vremenom i trudom koji ulažu u učenje te prate kolika im je efikasnost učenja. Dubinski pristup učenju pokazao se pozitivno povezan sa školskim ocjenama, višim IQ-om (Rosander i Backstorm, 2012) i dugoročnim uspjehom (Zeegers, 2001), a površinski se pristup učenju veže uz konformirajući stil mišljenja (Zhang, 2000) i lošiji akademski uspjeh (Burton i Nelson, 2006; Diseth, 2011; Rosander i Backstorm, 2012; Vrdoljak, Kristek, Jakopec, i Zarevski, 2014). Strateški pristup najčešće se povezuje s boljim ocjenama (Chamorro-Premuzic i Furnham, 2008; Vrdoljak, Kristek, Jakopec, i Zarevski, 2014). Ipak, ni u području ispitivanja pristupa učenju i akademskog uspjeha rezultati nisu konzistentni pa tako neki autori ne pronalaze značajnu direktnu vezu između dubinskog pristupa i akademskog uspjeha (Rodriguez, 2009; Vrdoljak, Kristek, Jakopec, i Zarevski, 2014).

Istraživanja pristupa učenju provedena na studentskoj populaciji pokazala su da studentski pristupi učenju mogu varirati ovisno o studijskoj disciplini, odnosno vrsti

fakulteta (Biggs, 1987). Za uspjeh u zadacima kojima su izloženi studenti prirodnih znanosti, najčešće je nužna početna koncentracija na detalje, koju je empirijski teško odvojiti od površinskog pristupa učenju. Kod studenata društveno-humanističkih znanosti dubinski pristup najčešće se očituje u reinterpretaciji materijala na svoj način. Dakle, kod studenata prirodnih znanosti naglasak je na većoj koncentraciji na tehničke i proceduralne detalje, a studenti društveno-humanističkih usmjerenja koriste se općenitijim pristupom u pisanju i memoriranju nepovezanih generalizacija pri pripremi za rješavanje zadataka (Ramsden, 1988). Područje društveno-humanističkih predmeta često se naziva područjem „mekih" disciplina, a područje prirodoslovno-tehničkih, područjem „tvrdih" disciplina (Paska, 2015).

S obzirom na navedeno, možemo zaključiti da su se mnoge studije do sada bavile odnosom ciljnih orijentacija, pristupa učenju i akademskog uspjeha, no rezultati u tom području nisu konzistentni. Također, malo je istraživanja uzelo u obzir moderacijski efekt različitih studijskih disciplina u predviđanju akademskog uspjeha. Stoga, *cilj* je ovog istraživanja provjera mogućnosti predviđanja akademskog uspjeha na temelju ciljnih orijentacija za učenje i pristupa učenju i provjera moderacijskog efekta studijske discipline na odnos pristupa učenju i akademskog uspjeha.

Metodologija

Sudionici

U istraživanju je sudjelovalo *N*=346 sudionika, pri čemu je *N*=226 sudionika bilo ženskog, a *N*=120 sudionika muškog spola. Sudionici su bili studenti drugih i trećih godina preddiplomskih i prvih godina diplomskih studija sljedećih fakulteta/odsjeka u Osijeku: Filozofski fakultet (*N*=79), Ekonomski fakultet (*N*=31), Elektrotehnički fakultet (*N*=75), Fakultet za odgojne i obrazovne znanosti (*N*=51), Odsjek za kemiju (*N*=27), Odsjek za biologiju (*N*=28), Odsjek za fiziku (*N*=6), Odsjek za matematiku (*N*=44) i Umjetnička akademija (*N*=5). Dob sudionika bila je od 19 do 31 godinu (M=21,84, SD= 1686).

Instrumenti

U istraživanju su se koristila dva instrumenta: Upitnik ciljnih orijentacija i Mjera pristupa i vještina učenja studenata. Od sudionika se također tražilo da napišu spol i dob te studij koji studiraju, godinu studija i dosadašnji prosjek ocjena na dvije decimale. Dosadašnji prosjek ocjena koristio se kao mjera akademskog uspjeha.

Upitnik ciljnih orijentacija. (Niemivirta, 1998)

Ovaj upitnik, koji ima 15 čestica podijeljenih u tri skale, koristio se za mjerenje tri ciljne orijentacije u učenju: Cilj orijentacije na znanje, Ciljne orijentacije na izvedbu i Ciljne orijentacije na izbjegavanje truda. Svaka skala sadrži pet čestica. Sudionici su svaku tvrdnju procjenjivali na skali Likertova tipa od 5 stupnjeva pri čemu 1 znači *U potpunosti se ne odnosi na mene*, a 5 znači *U potpunosti se odnosi na mene*. Cronbach

alfa koeficijenti iznose: α=,829 za skalu Ciljna orijentacija na izvedbu, α=,836 za Ciljnu orijentaciju na znanje i α=,849 za skalu Ciljna orijentacija na izbjegavanje truda.

Mjera pristupa i vještina učenja studenata. (Entwistle, 1997)

Za mjerenje pristupa učenju studenata koristio se drugi dio upitnika Mjera pristupa i vještina učenja studenata koji se sastoji od 52 čestice podijeljene u tri subskale. Prva skala mjeri dubinski pristup učenju, a sastoji se 16 čestica. Druga skala mjeri strateški pristup, a sastoji se od 20 čestica. Treća skala mjeri površinski pristup učenju, a sastoji se od 16 čestica. Sudionici su tvrdnje procjenjivali na skali Likertova tipa od 5 stupnjeva pri čemu 1 znači *U potpunosti se ne odnosi na mene*, a 5 znači *U potpunosti se odnosi na mene.* Cronbach alfa koeficijenti iznose: α=,863 za skalu Dubinski pristup i za skalu Strateški pristup učenju, α=,804 za skalu Površinski pristup učenju.

Postupak

Svaki fakultet dao je pisani pristanak za sudjelovanje studenata u ovom istraživanju i svaki je sudionik bio upoznat s općom svrhom i ciljem istraživanja. Sudionici su bili također informirani o tome da je sudjelovanje u istraživanju dobrovoljno i anonimno te da će se informacije dobivene istraživanjem koristiti isključivo u znanstvene svrhe. Istraživanje je provedeno grupno i trajalo je oko 20 minuta. Prije nego što su upitnici podijeljeni, sudionicima je dana uputa za ispunjavanje upitnika.

Rezultati

Kako bi se ispunili preduvjeti za provođenje hijerarhijske regresijske analize, varijable studij i godina studija, koje su kategorijalne varijable, preoblikovane su u dihotomne varijable. Pri tome su društveni i humanistički studiji te umjetnički studij stavljeni pod jednu kategoriju (Filozofski fakultet, Ekonomski fakultet, Fakultet za odgojne i obrazovne znanosti i Umjetnička akademija), a studiji prirodnih znanosti i tehnički studij stavljeni su pod drugu kategoriju (Elektrotehnički fakultet, Odsjek za kemiju, Odsjek za biologiju, Odsjek za fiziku, Odsjek za matematiku). Ta kategorizacija temelji se na prethodnim istraživanjima (Becher, 1987, prema Parpala, Lindblom-Ylanne, Komulainen, Litmanen, i Hirsto, 2010; Biglan, 1973, prema Parpala i sur., 2010) koji kategoriziraju discipline kao meke i tvrde.

Preduvjeti za provođenje parametrijskih statističkih postupaka i regresijske analize su zadovoljeni; distribucija nije odstupala od normalne, varijance su homogene. Osim toga, varijable „spol", „fakultet" i „godina studija", koje su kategoričke, su dihotomne, a ostale prediktorske i kriterijska varijabla su numeričke i na intervalnoj skali, te ne postoji savršena kolinearnost (raspon VIF indeksa iznosi od 1.046 do 2.111). Nadalje, prediktori nisu bili u previsokim korelacijama, standardna pogreška je nezavisna, a reziduali su u nultoj korelaciji. Prema tome, podaci su analizirani hijerarhijskom regresijskom analizom.

Prvo su izračunati deskriptivni podaci (Tablica 1). Rezultati su izraženi kao prosječne vrijednosti procjena na pripadajućim česticama pojedinih skala. Rezultati pokazuju

da se sudionici prosječno najviše koriste ciljnom orijentacijom na znanje, a najmanje ciljnom orijentacijom na izvedbu. Ta je razlika statistički značajna (t(346)=13,002; p<,01). Sudionici također procjenjuju da se više koriste dubinskim pristupima učenju od površinskih pristupa učenju. Ta je razlika također statistički značajna (t(346)=6,271; p<,01).

Tablica 1

Kako bi se provjerila povezanost među varijablama, izračunati su Pearsonovi koeficijenti korelacije (Tablica 2).

Tablica 2

Tablica 2 pokazuje da studenti „mekih" disciplina imaju više rezultate na mjerama dubinskog i strateškog pristupa, kao i na mjerama usmjerenosti na znanje i veći akademski uspjeh.

Tablica 3

Rezultati pokazuju da su gotovo svi izračunati koeficijenti korelacije statistički značajni i kreću se od blagih do relativno visokih. Najveća povezanost utvrđena je između dubinskog pristupa učenju i ciljne orijentacije na znanje, a najmanja statistički značajna povezanost utvrđena je između dubinskog pristupa učenju i ciljne orijentacije na izvedbu.

Povezanost akademskog uspjeha sa svim varijablama je značajna i kreće se od niskih do umjerenih korelacija. Tako je akademski uspjeh pozitivno povezan s dubinskim i strateškim pristupima učenju te s ciljnim orijentacijama na znanje i izvedbu, a negativno s površinskim pristupom učenju i ciljnom orijentacijom na izbjegavanje truda. Ovi nalazi su u skladu sa ostalim istraživanjima (Diseth, 2011; Jurčec, 2011; Rončević Zubković i Kolić-Vehovac, 2014). Prema tome, viši akademski uspjeh povezan je s većom orijentacijom na znanje i izvedbu te s većim korištenjem dubinskog i strateškog pristupa učenju, i s nižom orijentacijom na izbjegavanje truda i većim korištenjem površinskog pristupa učenju.

Pokazala se i pozitivna povezanost ciljne orijentacije na znanje s dubinskim i strateškim, a negativna s površinskim pristupom učenju. Ciljna orijentacija na izvedbu je pozitivno povezana s dubinskim i strateškim pristupima učenju. Ciljna orijentacija na izbjegavanje truda pozitivno je povezana s površinskim i negativno s dubinskim i strateškim pristupima učenju.

Kako bi se testirala mogućnost predviđanja akademskog uspjeha na temelju ciljnih orijentacija i pristupa učenju, provedena je hijerarhijska regresijska analiza. Kriterijska varijabla bio je prosjek ocjena sudionika, odnosno akademski uspjeh. U ovom istraživanju kontrolirane su varijable spol, studij i godina studija, budući da su prethodna istraživanja pokazala da postoji razlika u korištenju pristupa učenju unutar različitih disciplina (npr. Parpala i sur., 2010), razlika u korištenju ciljnih orijentacija

s obzirom na dob (Anderman i Madgley, 1997) i spolnih razlika u akademskom uspjehu (npr. Cameron i Wilson, 1990). Prediktorske varijable bile su ciljne orijentacije i pristupi učenju. Redoslijed uključivanja prediktora određen je na temelju prethodnih istraživanja (npr. Bandalos i sur., 2003, prema Coutinho i Neuman, 2008; Green i Miller, 1996), odnosno u prvom koraku su uključene kontrolne varijable, u drugom koraku su uvedene dimenzije ciljnih orijentacija u učenju, a u trećem koraku uvedene su dimenzije pristupa učenju. U četvrtom koraku provjeren je moderacijski efekt studijskih disciplina (Tablica 4).

Tablica 4

Rezultati prvog koraka hijerarhijske regresijske analize pokazuju kako sociodemografske varijable objašnjavaju 14,5% varijance akademskog uspjeha. Uzimajući u obzir pojedinačni doprinos sociodemografskih varijabli, rezultati pokazuju da sve tri korištene varijable statistički značajno doprinose objašnjenju akademskog uspjeha pri čemu osobe ženskog spola, osobe koje studiraju na društvenim, humanističkim i umjetničkim fakultetima i studenti preddiplomskih studija imaju viši akademski uspjeh u odnosu na osobe muškog spola, osobe koje studiraju na tehničkim i prirodnim fakultetima i studente diplomskih studija.

Nadalje, rezultati drugog bloka analize pokazuju da ciljne orijentacije u učenju statistički značajno doprinose akademskom uspjehu s dodatnih 13,2% varijance. Pregledom doprinosa pojedinih varijabli, može se uočiti da su sve tri ciljne orijentacije statistički značajni prediktori akademskog uspjeha kada se kontroliraju spol, studij i godina studija. Rezultati pokazuju da korištenje ciljnih orijentacija na znanje i izvedbu dovodi do višeg akademskog uspjeha, a da korištenje ciljne orijentacije na izbjegavanje truda dovodi do nižeg akademskog uspjeha. Uvođenje ciljnih orijentacija smanjuje doprinos godine studija u objašnjenju akademskog uspjeha.

Rezultati trećeg koraka hijerarhijske regresijske analize pokazuju da pristupi učenju statistički značajno doprinose akademskom uspjehu s dodatnih 2,2% varijance. Pregledom doprinosa pojedinih varijabli može se uočiti da samo površinski pristup učenju statistički značajno doprinosi objašnjenju varijance akademskog uspjeha kada se kontroliraju spol, studij, godina studija i ciljne orijentacije u učenju. Rezultati pokazuju da studenti koji se koriste površinskim pristupom učenju imaju slabiji akademski uspjeh. Također se može uočiti da godina studija i ciljna orijentacija na izbjegavanje truda gube na značaju kada se uzmu u obzir pristupi učenju. Dodatnim izračunom je provjereno postoji li medijacija između ciljne orijentacija na izbjegavanje i akademskog uspjeha putem pristupa učenju. Medijacija je testirana Hayes-ovom metodom. Indirektan efekt je značajan s intervalom pouzdanosti koji ne uključuje nulu (efekt=-,1466, interval se kreće od -,1992 do -,1028). Sva tri medijatora su značajna: dubinski pristup (-,0352, interval se kreće od -,0681 do -,0122), strateški pristup (-,0395, interval se kreće od -,0685 do -,0192) i površinski pristup (-,0537, interval se kreće od -,0938 do -,0224).

U četvrtom bloku provjerena je interakcija vrste studija i pristupa učenju na akademski uspjeh. Rezultati su pokazali značajnu interakciju između dubinskog pristupa i vrste studija (Slika 1). Provjerena je i interakcija između vrste studija i ciljnih orijentacija, no taj efekt nije bio značajan pa je ta provjera isključena iz konačne analize kako ne bi bila umanjena snaga analize zbog velikog broja varijabli. U četvrtom bloku je godina studija značajan prediktor akademskog uspjeha, a strateški i površinski pristup više nisu značajni, iako je značajnost površinskog pristupa granična (β=-,130, p=,61).

Ukupan doprinos akademskom uspjehu svih varijabli ispitanih u istraživanju iznosi 32,9%.

Slika 1.

Rasprava i zaključak

Cilj ovog istraživanja bio je provjera mogućnosti predviđanja akademskog uspjeha na temelju ciljnih orijentacija za učenje i pristupa učenju. Kako je očekivano, pokazalo se da je ciljna orijentacija na znanje pozitivan prediktor akademskog uspjeha, što je u skladu s prethodnim istraživanjima (npr. Fenollar i sur., 2007; Payne i sur., 2007; Zubković i Kolić-Vehovec, 2014). Dakle, namjera razvoja kompetencija i uključenost u zadatak doprinijet će višem akademskom uspjehu.

Nadalje, pokazalo se da je ciljna orijentacija na izvedbu također pozitivan prediktor akademskog uspjeha, što je u skladu s nekim dosadašnjim istraživanjima (npr. Diseth, 2011; Harackiewicz i sur., 1997), iako neka druga istraživanja povezuju usmjerenost na izvedbu s negativnim obrazovnim ishodima (Dweck i Leggett, 1988; McGregor i Gable, 1999). Ovdje također treba uzeti u obzir modele ciljnih orijentacija koji su se koristili u istraživanjima. Naime, većina istraživanja koja su pokazala da je ciljna orijentacija na izvedbu negativan prediktor akademskog uspjeha koristila su se dihotomnim modelom ciljnih orijentacija (usmjerenost na znanje i usmjerenost na izvedbu). Uvođenjem ciljne orijentacije na izbjegavanje truda, negativni efekti na obrazovne ishode se uglavnom vežu uz tu ciljnu orijentaciju (Kaplan i Maeher, 2007; Rončević Zubković i Kolić-Vehovac, 2014), a usmjerenost na izvedbu postaje pozitivan prediktor, osobito kada su kriteriji ocjene. Senko, Durik, i Harackiewicz (2008) naglašavaju pozitivnu povezanost između usmjerenosti na izvedbu i ocjena, što nije iznenađujuće budući da studenti orijentirani na izvedbu žele pokazati svoje sposobnosti pred drugima (kolegama, profesorima) pa se može očekivati da će se uključiti u ponašanja koja će ih dovesti do višeg akademskog uspjeha, što se pokazalo i u ovom istraživanju.

Ciljna orijentacija na izbjegavanje truda pokazala se kao negativan prediktor akademskog uspjeha, no kada se uzmu u obzir pristupi učenju, ta ciljna orijentacija gubi na značaju. Taj pokazatelj je u skladu s istraživanjima koja su u predviđanje akademskog uspjeha uključila i ciljne orijentacije i pristupe učenju (npr. Jurčec, 2011; Fenollar i sur., 2007). Pokazalo se da su pristupi učenju medijator odnosa ciljne orijentacije na izbjegavanje truda i akademskog uspjeha. Može se, dakle, zaključiti da

ciljna orijentacija na izbjegavanje truda nema direktan utjecaj na akademski uspjeh, nego da djeluje na akademski uspjeh putem pristupa učenju.

Dubinski pristup se nije pokazao značajnim prediktorom u trećem koraku. U nekim prijašnjim istraživanjima dubinski se pristup nije pokazao značajnim prediktorom (npr. Rončević Zubković i Kolić-Vehovec, 2014). Vrugt i Oort (2008) smatraju da se učenici koji uče dubinski ne koriste samo materijalima koji su im potrebni za ispit već kako bi zadovoljili vlastitu znatiželju, a znanje dodatnih sadržaja često nema utjecaja na uspjeh na ispitu, a time i na akademski uspjeh općenito. Studenti koji uče dubinski, često temu koja ih zanima produbljuju do detalja, a zanemaruju teme koje ih manje zanimaju (a uključene su u ispitni material). Promatrajući matricu korelacija (Tablica 3), može se uočiti dosta visoka korelacija između ciljne orijentacije na znanje i dubinskog pristupa (0,648). U prethodnim istraživanjima (npr. Rovan, 2011) dobivena je korelacija između ciljne orijentacije na znanje i dubinskog pristupa r=0,42. Kada usporedimo ta dva konstrukta, možemo uočiti da ciljne orijentacije predstavljaju „svrhu ponašanja", a pristupi učenju kombinaciju strategija rješavanja problema i motiva za učenjem. Ciljna orijentacija na znanje odnosi se na namjeru razvoja kompetencija, a subskale su dubinskog pristupa: Traženje smisla, Povezivanje ideja, Korištenje dokaza i Interes za ideje. Iako je očekivano da će ciljna orijentacija na znanje i dubinski pristup biti povezani, očito je da se radi o različitim konstruktima. Također, zbog visoke korelacije među tim varijablama, moguće je da je u trećem koraku regresijske analize ciljna orijentacija na znanje objasnila zajednički dio varijance između ciljne orijentacije na znanje, dubinskog pristupa i akademskog uspjeha (te se stoga dubinski pristup nije pokazao kao značajni prediktor). U četvrtom koraku, kada smo ispitali ulogu vrste studija kao moderatora varijable, dubinski se pristup pokazao kao značajan prediktor akademskog uspjeha. Rezultati su pokazali da je dubinski pristup značajan prediktor akademskog uspjeha kod „tvrdih" disciplina, a nije značajan prediktor kod „mekih" disciplina. Dosadašnja istraživanja (npr. Ramsden, 1988) navode da je kod prirodnih znanosti naglasak na većoj koncentraciji na tehničke i proceduralne detalje, što se dovodi u vezu s površinskim pristupom, a da je kod društveno-humanističkih znanosti naglasak na reinterpretaciji materijala, što više odgovara dubinskom pristupu učenju. U ovom se istraživanju pokazalo da studenti „mekih" disciplina imaju statistički značajno veće ocjene i značajno više vrijednosti na mjeri dubinskog pristupa (Tablica 2), što je u skladu s prethodnim istraživanjima (npr. Ramsden, 1988), no dubinski pristup nije se pokazao značajnim prediktorom akademskog uspjeha studenata „mekih" disciplina. Dubinski pristup se pokazao značajnim prediktorom akademskog uspjeha studenata „tvrdih" disciplina (interakcija). Razloge zašto se dubinski pristup nije pokazao značajnim prediktorom dubinskog pristupa možemo djelomično pronaći u činjenici da studenti „mekih" disciplina imaju općenito dosta visoke ocjene pa je varijabilitet manji nego kod studenata „tvrdih" disciplina. 75% studenata „mekih" disciplina ima prosječnu ocjenu na studiju 3,5 ili više, a 50% studenata „tvrdih" disciplina ima prosječnu ocjenu na studiju 3,5 ili više. Također je

moguće da je za nižu ocjenu u području „tvrdih" disciplina dovoljna koncentracija na proceduralne i tehničke detalje (površinski pristup), a da je za veću ocjenu potrebno dublje razumijevanje materijala (dubinski pristup).

Površinski pristup učenju nije se pokazao značajnim prediktorom u četvrtom koraku, iako možemo reći da je granično značajan (β=-,130p=,61). Dosadašnja su istraživanja pokazala da je površinski pristup negativan prediktor akademskog uspjeha (Burton i Nelson, 2006; Diseth, 2011; Rosander i Backstorm, 2012; Vrdoljak, Kristek, Jakopec, i Zarevski, 2014). Dakle, ekstrinzična motivacija, učenje napamet i reproduciranje gradiva bez povezivanja i traženja smisla dovodi se u vezu s nižim akademskim uspjehom.

Sociodemografske varijable, spol i godina studija pokazali su se značajnim prediktorima akademskog uspjeha. Pokazalo se da djevojke i studenti nižih godina imaju viši akademski uspjeh (npr. Anderman i Midgley, 1997; Cameron i Wilson, 1990).

Završno se dakle može zaključiti da studenti koji su više orijentirani na znanje i izvedbu imaju bolji akademski uspjeh. Rezultati ovog istraživanja pokazuju da je za dobar akademski uspjeh važno biti usmjeren na stjecanje, ali i na demonstraciju kompetencija. Za uspjeh studenata „tvrdih " disciplina također je važno korištenje strategija dubinskog pristupa kao što su: traženje smisla, povezivanje ideja, korištenje dokaza i interes za ideje.

Implikacije provedenog istraživanja, nedostaci i smjernice za buduća istraživanja

Rezultati ovog istraživanja vrlo su primjenjivi u praksi. Studentska motivacija u visokom obrazovanju važan je prediktor akademskog uspjeha Usmjerenost na znanje, ali i na dobivanje dobrih ocjena vodi ka boljem akademskom uspjehu. Dubinski pristup trebalo bi poticati, osobito kod studenata „tvrdih" disciplina, koji se tim pristupom koriste u manjoj mjeri od studenata „mekih" disciplina. Studenti „tvrdih" disciplina često su izloženi zadacima koji zahtijevaju veću koncentraciju na tehničke i proceduralne detalje (površinski pristup), ali za bolji akademski uspjeh potrebno je dubinski pristupiti učenju. Za daljnji napredak društva i osobe individualno važno je da su studenti motivirani znanjem i da učenju pristupaju dubinski, te bi na tome trebalo temeljiti ocjene. Kaplan i Maher (2007) navode neke preporuke za poticanje ciljne orijentacije za ovladavanje putem uključivanja: 1. Postavljanje zadataka pred učenike koji su izazovni i imaju osobni značaj; 2. Prepoznavanje ponašanja koja uključuju: povećanje truda, riskiranje, kreativnost, dijeljenje ideja i učenje iz pogrešaka; 3. Učenici se dijele u grupe s obzirom na: područje interesa i razlike među učenicima koje bi mogle potaknuti učenje; 4. Učenici se ocjenjuju putem napretka, kreativnosti i razvoja vještina; 5. Vrijeme je fleksibilno, učenici mogu raditi svojim tempom, raspored se mijenja kako bi se prilagodio zadatku i zahtjevima učenika s usmjerenošću na učenje.

Ovo istraživanje ima i svojih nedostataka. Koristio se upitnik samoprocjene kao mjera ciljnih orijentacija i pristupa učenju. Studenti su mogli davati socijalno poželjne odgovore iako smo taj nedostatak pokušali prevenirati na način da smo sudionicima naglasili da je sudjelovanje u istraživanju dobrovoljno i anonimno. Koristio se prigodni uzorak, studenti koji su u trenutku ispitivanja bili na predavanju, pa je na nekim studijima sudjelovalo vrlo malo sudionika (npr. Umjetnička akademija, N=5 sudionika). Zato su studiji stavljeni pod dvije kategorije, što ne znači da se fakulteti unutar jedne kategorije međusobno ne razlikuju. Stoga bi buduća istraživanja trebala ispitati utjecaj pojedinog studija na ciljne orijentacije, pristupe učenju i akademski uspjeh.

Osim toga, u ovom je istraživanju ispitivan utjecaj općenito korištenih ciljnih orijentacija i pristupa učenju na opći akademski uspjeh. No, moguće je da su studenti različito motivirani za različite kolegije pa stoga i različito pristupaju učenju pojedinih kolegija, a na njima imaju i različit uspjeh. Stoga bi u budućim istraživanjima trebalo ispitati utjecaj ciljnih orijentacija i pristupa učenju na uspjeh na pojedinim kolegijima, a ne na cjelokupni uspjeh. U tom bi se slučaju trebale ispitivati ciljne orijentacije za pojedini kolegij i načini pristupanja učenju tog kolegija.