Motivation of student teachers in educational psychology course: Its relation to the quality of seminar work and final achievement

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Abstract: The study examined various aspects of student teachers' initial motivation for educational psychology course and the effect of motivation on student teachers' engagement in a specific academic activity and on the final course achievement. At the beginning of the academic year 2004/2005 undergraduate student teachers filled in the Motivated Strategies for Learning Questionnaire (MSLQ, Pintrich et al., 1991), the part which assesses students' motivational orientations. During the academic year students prepared and then presented to their colleagues their seminar work in groups. After each presentation, members of the group assessed the quality of their individual preparation, analyzed the quality of group work and assessed their part of the seminar presentation. Students' achievement was measured by an exam after completing the entire educational psychology course. The results showed that those students who had found the educational psychology course interesting and useful, and who had participated in the course because of extrinsic reasons prepared seminar work better and assessed their seminar presentation with higher marks than those with low motivation for the course. Students' engagement in individual study and self-assessment of seminar presentation were related to the final course grade. In addition, students' perception of the course as interesting and useful (task value) independently predicted final course grade, over and above the account of previous academic achievement.

Key words: academic achievement, motivation, educational psychology course, student teachers

Motivacija študentov pedagoških smeri za predmet Psihologija za učitelje ter njena povezanost s kvaliteto seminarskega dela in oceno pri predmetu

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Povzetek: V raziskavi smo preučevali različne vidike motivacije študentov pedagoških smeri za predmet Psihologija za učitelje. Prav tako so nas zanimali učinki začetne motivacije za predmet na kvaliteto dela študentov pri seminarju in na končno oceno. V začetku študijskega leta 2004/2005 so študentje pedagoških smeri na Filozofski fakulteti izpolnjevali Vprašalnik motivacijskih strategij (MSLQ, Pintrich idr., 1991),

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in sicer del vprašalnika, ki se nanaša na motivacijske usmerjenosti študentov. Med študijskim letom so študentje pripravljali seminarsko nalogo v skupinah in jo nato tudi skupinsko predstavili ostalim kolegom. Po predstavitvi je vsak član skupine ocenil kvaliteto individualne priprave in skupinskega dela na nalogi ter svojo predstavitev. Znanje študentov smo ugotavljali ob zaključku študijskega leta z izpitom. Rezultati so pokazali, da so študentje, ki so v večji meri poročali o predmetu kot zanimivem in uporabnem, ter študentje, pri katerih je bil višje izražen vidik zunanje motivacije za predmet, bolje pripravili seminarsko delo in tudi bolje ocenili svojo seminarsko predstavitev kot študentje, ki so poročali o nizki motivaciji za predmet. S končno oceno pri predmetu je bila povezana individualna priprava na nalogo ter samoocena kvalitete predstavitve seminarske naloge. Prav tako je zaznana vrednost predmeta kot zanimivega in uporabnega neodvisno napovedovala končno oceno pri predmetu ob nadzoru prejšnjega povprečnega študijskega uspeha.

Ključne besede: učna uspešnost, motivacija, Psihologija za učitelje, študentje pedagoških smeri

Motivation of student teachers in educational psychology course: Its relation with the quality of seminar work and final achievement

The educational psychology course is the first educational subject at the Faculty of Arts in Ljubljana student teachers have to successfully finish at their undergraduate level of study. At the beginning of the academic year (students' second year of study) most students thus do not have a clear idea about the content and didactic methods of the educational subjects. Many frankly admitted that they did not take pedagogic courses because of their interest in teaching profession but because they had been told that these courses are worthwhile as they provide better employment opportunities in future. At the preliminary stage of this study, students were also asked whether they wanted to work as teachers. The results showed that 18% of the students in our sample reported that they were not willing to work as teachers, another 48% of the students reported that they wanted to be teachers but only for a limited time in their professional career. The important aim of this study was to find out how different aspects of student teachers' motivation for educational psychology course related to the quality of students' course assignment which aimed to develop teaching competencies and to the students' final course grade.

Academic motivation as a multidimensional construct

Motivation plays an important role in students' academic achievement and motivational problems, such as lack of participation, low effort, giving up quickly when facing difficulties, unwillingness to take on challenging tasks etc., can seriously undermine learning. Many motivational scholars agree that academic motivation is a multidimensional construct (Pintrich, 2003; Wiegfield & Eccles, 2001). In order to

investigate how the two aspects of academic motivation (i.e. students' expectancy beliefs and reasons for engaging in an academic activity) and affective component (i.e. students' anxiety, worries) relate to students teachers' academic performance, we followed the socio-cognitive view of academic motivation that was proposed by Pintrich and his collaborators (Pintrich & De Groot, 1990; Pintrich, Smith, Garcia, & McKeachie, 1991). These authors assume that motivation is contextually bound and that students' active processing of information (i.e. one's beliefs and cognitions) play an important mediating role in students' academic engagement (García Duncan & McKeachie, 2005). Students' motivation might thus vary as a function of different courses (e.g., students might prefer an elective course vs. a required course, they perceive their greater self-efficacy and control in courses they had more basic knowledge and experience with), consequently, the same student might report different levels of motivation depending on the course. Within this paradigm the course is the most relevant level of analysis of academic motivation. The course level analysis avoids the inappropriateness of measuring general motivation in all learning situations and measuring every specific motivation within a single course.

Pintrich and his colleagues proposed and operationalized three general motivational components in the Motivated Strategies for Learning Questionnaire (MSLQ, Pintrich et al., 1991), a well-known measure of motivation and learning strategies in university students that was also used in this study. The MSLQ motivational components are: value, expectancy, and affect.

Value components refer to reasons for students' engagement in an academic task and include intrinsic goal orientation, extrinsic goal orientation, and task value. These components originate from theoretical and empirical foundations of the two achievement motivation theories: the normative achievement goal theory and the expectancy-value theory. The authors of the normative achievement goal theory proposed two general orientations in an achievement setting: mastery and performance achievement goals (Ames, 1992; Dweck and Leggett, 1988; Midgley, Kaplan, & Middleton, 2001). Students with mastery goals are directed towards learning and understanding, mastery of task content, and improvement of the current competence in an individual activity, whereas students with performance goals are primarily concerned with proving their abilities, being more successful than others in the class and avoiding the negative social perception of being unable. More recent multiple goals perspective suggested approach-avoidance distinction within the domain of performance goals (Elliot, 1997, 1999). Students with performance-approach goals engage in an activity in order to achieve at higher level than others and to prove their high ability. Students with performance-avoid goals, on the other hand, are concerned with avoiding the demonstration of low ability. The intrinsic goal orientation in the MSLQ refers to the mastery approach in learning, while the extrinsic goal orientation refers to performance-approach in learning (i.e. focusing on grades and external approval). The task value is the third MSLQ value component that explains whether students care about the task or consider it important (Pintrich, 2003). The expectancy-value

theory by Eccles and Wigfield defines task value beliefs in terms of students' intrinsic interest in a specific activity or task, perceptions of the usefulness of the task, importance (or centrality) of the task for an individual and perceptions of the negative consequences (costs) of engaging in the task (Wigfield, 1994; Wigfield & Eccles, 2001).

Expectancy component in the MSLQ refers to students' beliefs about their ability to accomplish a task and beliefs about their success in task performance (i.e. self-efficacy) as well as to students' perception of the internal control over academic outcomes (i.e. control of learning beliefs). Students consistently judge their intellectual capabilities, curriculum demands and value of school tasks, and this information determines their effort, persistence, cognitive engagement and performance at the task (Pintrich, 2003; Pintrich & Schunk, 2002). Many studies showed that academic self-efficacy was one of the most powerful predictors of students' achievement at different levels of education (Bandalos, Finney, & Geske, 2003; Pintrich & De Groot, 1990; Schunk, 1984, 1989, 1996; Zohar, 1998). From a developmental perspective it is also important to note that students' beliefs about their academic capabilities gradually become an inner resource of their academic engagement and performance. This thesis can be supported by the fact that Puklek Levpušček and Zupančič (2007) found that Slovenian eighth graders' academic self-efficacy in math directly affects achievement in math, even after controlling the effects of parental pressure and support of child's education and math teachers' academic pressure and mastery goals in the classroom.

The *affective component* refers to the affective part of motivation: students' distress and negative thoughts experienced during an exam (i.e. test anxiety). Test anxiety is an affective variable most frequently related to students' performance and achievement. The research results consistently show negative effects of anxiety on academic performance (Pintrich & Schunk, 2002; Zeidner, 1998). Particularly those performance situations that are perceived as a threat elicit various negative cognitions or intrusive thoughts: thoughts about one's inferiority, inadequacy, anticipation of failure, negative evaluation, humiliation in front of a group and anticipation of negative self-presentation in a group. Some studies showed that intrusive thoughts of negative self-evaluation and social comparison impaired task achievement (e.g., Mikulincer, 1989; Sarason, 1984).

Academic motivation and achievement in higher education

In previous studies academic motivation was mainly investigated in relation to university students' final or midterm course grades. It is difficult to make a firm and consistent conclusions on the basis of these studies because they varied in the course under consideration and in characteristics of students' learning environment. Furthermore, authors used different measures of academic motivation and different

conceptualization of specific components of motivation, they included and controlled different dimensions of learning environment and personality that influence achievement, and they measured motivation at different time points within an academic year. The power of explained variance of academic achievement thus varied as a function of the research design. However, even if the correlations were positive, they were mostly negligible. Students' goal orientation and value beliefs (or interest) for the course showed the lack of correlation or a positive but low correlation with students' final course grades (Pintrich et al., 1991; Senko & Harackiewicz, 2005). More specifically – if studies include the mastery and performance approach goal orientation, the performance goal orientation usually better predicts the exam performance, while the mastery goals predict more successfully long-term educational outcomes, such as course interest, high intrinsic motivation, better learning strategies, cognitive engagement, and students' subsequent enrolment in advanced classes (Elliot & Church, 1997; Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997; Senko & Harackiewicz, 2005). Senko and Harackiewicz (2005) also found that the effects of mastery and performance goals on the final exam performance disappear if the early exam performance is controlled. As achievement goals can be influenced by competence feedback during academic year, Senko and Harackiewicz (2005) propose to "measure goals early in the semester to help avert spurious goal-outcome relationships when using correlational methods" (p. 328).

Another motivational component is students' belief about their self-efficacy. Students' perception of competence and expectancy of success at academic tasks shows a substantial relation with course grades (e.g., Bandalos et al., 2003; Chemers, Hu, & Garcia, 2001; Pintrich et al., 1991). Self-efficacy plays a significant role in achievement since confident students use better learning and problem solving strategies, work harder, persist longer and have higher academic expectations (Chemers et al., 2001). Chemers and his collaborators (2001) found that academic self-efficacy is directly related to academic performance even after accounting for university students' past performance on academic tasks (i.e. high school GPA). Yet Bandalos and his collaborators (2003), who investigated the relations between achievement goals, strategy use, test anxiety and academic performance in an introductory statistics course, showed that academic self-efficacy directly affects students' midterm examination scores, but the path from self-efficacy to the final examination scores was no longer significant. The indirect effect of self-efficacy on achievement through its impact on effective use of study strategies nonetheless remained significant even after control of midterm achievement.

The inverse relationship between negative affect and cognitions experienced during tests and other performance situations and course grades has been a consistent finding in the literature (Chapell et al., 2005; Hembree, 1988; McClendon, 1996; Seipp, 1991). In our previous study we found that student teachers' verbal performance as observed and assessed by university teacher according to the given criteria was affected by negative cognitions experienced during presentation (Peklaj & Puklek,

2001). The most detrimental intrusive thoughts that were related to verbal perform-
ance were anticipations of colleagues' negative opinion, student's thoughts about the
poor impression on their teacher and colleagues, and comparison of their presenta-
tions with those of others. Some studies, however, also report an insignificant relation
between test anxiety and university students' achievement at tests (e.g., Bandalos et
al., 2003). Accordingly, the researchers who used large samples of undergraduate
students could not prove large discrepancy in academic results of undergraduates
even between the lowest and the highest 5% of test anxiety scores (e.g., Chapell et
al., 2005; low-test-anxious averaged the grade B+, whereas high-test-anxious stu-
dents averaged the grade B). The relationship between test anxiety and lower achieve-
ment might be spurious because of their common cause: inefficient study strategies.
Students who lack adequate study strategies may experience high test anxiety and at
the same time show poor performance.

Less is known about how the initial motivation for the course is related to
students' engagement in specific course assignments during the academic year which
university teachers arrange for students in order to develop their professional compe-
tencies. In our case, educational psychology course is the first educational course
that student teachers have to accomplish at their undergraduate level of study. At the
time when they take this course they do not yet have an opportunity to develop their
teaching competencies in real situations (in the classroom). The aim of their course
assignment (seminar work) is therefore to start developing and reflecting on their
teaching competencies in the available setting (in the seminar class). By leading stu-
dents through preparation and presentation of seminar work we try to develop their
teaching competencies, such as self-initiative, individual study skills, group work skills,
skills of preparing a relevant lecture, managing time limits, using examples to illustrate
the theory, motivating colleagues in the audience by using active teaching methods,
self-reflecting on their own work etc. We think that students might perceive this kind
of academic activity as useful because it focuses on developing their future profes-
sional competencies. In this study we thus proposed that various aspects of students'
initial academic motivation for the course might better relate to the quality of stu-
dents' work in a specific academic activity than to the final course assessment, which
is usually a traditional written exam.

The aims of the study

1. As there has been no study that used the MSLQ – college version (Pintrich et
    al., 1991) in Slovenia before, we examined its factor structure and reliability in
    a Slovenian university student teachers sample.
2. We examined the relation between student teachers' initial motivation for edu-
    cational psychology course and their engagement in seminar work and the
    final course grade.
3. We wanted to find out how the quality of seminar preparation (at individual and

group work level) and student teachers' anxious symptoms (i.e. negative intrusive thoughts) relate to the quality of seminar presentation.

4.   At the end we investigated motivation for educational psychology course and students' engagement in seminar work as possible predictors of the final course achievement.

Speaking more generally – this kind of field study might be an example of how university teachers could obtain information about students' level of motivation in a specific course, as well as of how we might evaluate the usefulness of different tasks that university teachers arrange for students during an academic year in order to promote their self-initiative, individual study, group work and more specific professional competencies.

Method

Participants

The sample consisted of 245 second-year undergraduate student teachers at the Faculty of Arts in Ljubljana (193 females and 52 males). Female students prevailed in the sample; however, such sample composition in regard to sex represents the actual proportion of females and males at the studies of social sciences, humanistics and linguistics at the faculty. In the sample, 50.2% of the students were studying linguistics, 25.7% were students of social sciences or humanistic studies, and 24.1% were students who combined the majors in linguistics, social sciences or humanistic studies.

Measures

The Motivated Strategies for Learning Questionnaire (MSLQ, Pintrich et al., 1991) is a self-report questionnaire. It assesses university students' motivational orientations and different learning strategies which students use in a particular academic course. The questionnaire contains a motivation section (6 scales) and a learning strategies section (9 scales). Students rate themselves on a 7-point Likert scale from 1 (*not at all true of me*) to 7 (*very true of me*). In this study we used only a motivation section which consists of 31 items. It measures a value component of motivation (goals and value beliefs for a course), an expectancy component (beliefs that one's skills are successful in a course), and test anxiety. The items in the motivational part of the MSLQ were reworded in a manner so as to express students' motivation for the educational psychology course. The only exceptions were the test anxiety items, which in the current study described student's affective arousal and negative thoughts experienced at any exam. We decided not to ask students about

their test anxiety in the educational psychology course as they at the time when they completed the MSLQ (at the beginning of the academic year) did not have any experience with assessment in the course.

The value component of motivation is represented by the three MSLQ subscales: Intrinsic Goal Orientation, Extrinsic Goal Orientation and Task Value. *Intrinsic Goal Orientation* consists of 4 items and refers to students' mastery goals in the course and other internal reasons for participating in the course, such as challenge and curiosity. An example of this kind of item: "*In a psychology course I prefer course material that really challenges me so I can learn new things.*" *Extrinsic Goal Orientation* consists of 4 items and measures various external reasons for participating in a course, such as grades, rewards, competition and evaluation by others. The main concern of students is thus not to engage in the task for the sake of its accomplishment and the development of one's mastery – engaging in a learning task is the means of obtaining external rewards and approval. An example of this kind of item: "*If I can, I want to get better grades in the psychology course than most of the other students.*" *Task Value* consists of 6 items. While the goal orientation refers to reasons for participating in the task, the task value refers to students' expressed interest in the course and their evaluation of the importance and usefulness of the learning material in the course. An example of this kind of item: "*I think I will be able to use in other courses what I learn in a psychology course.*"

The two MSLQ scales measure the expectancy component: the Control of Learning Beliefs and Self-Efficacy for Learning and Performance. *The Control of Learning Beliefs* consists of 4 items and measures students' belief that learning outcomes are the result of one's own effort. It is the belief that a student may control his/her academic performance and that his/her efforts to study will result in positive outcomes. An example of this kind of item: "*If I try hard enough, then I will understand the course material.*" *Self-Efficacy for Learning and Performance* consists of 8 items. It measures expectancy of success and self-efficacy. The expectancy of success refers to the anticipated success in a task performance, while self-efficacy refers to perception of one's ability to accomplish a task and one's confidence in his/her skills to understand the course material and accomplish the course assignments and tests. An example of this kind of item: "*I'm confident I can do an excellent job on the assignments and test in a psychology course.*"

The third motivational construct is affect. The Test Anxiety scale consists of 5 items and contains cognitive and emotionality aspects. The cognitive component refers to worries or negative thoughts about the test performance and the emotionality component refers to the affective and physiological arousal when taking a test. An example of this kind of item is: "*When I take test I think of the consequences of failing.*"

Seminar Work: Preparation and Presentation (SWPP; Peklaj & Puklek Levpušček, 2005) is a self-assessment questionnaire that measures students' individual and group preparation of seminar work, students' self assessment of their seminar presentation and the presence of intrusive thoughts during presentation. In

the first part of the questionnaire students assess their *individual study strategies* which they use while preparing an individual part of their seminar work. The 7 items describe: the use of different material resources (i.e. literature), studying with understanding, connecting the theory with the teacher's practice in the classroom, connecting the literature with one's own previous school experiences, integrating the readings into a meaningful whole, anticipating the seminar presentation and simultaneously thinking about how to motivate the colleagues in the "audience". An example of this kind of item: "*When I read the material for my seminar work, I tried to connect it with the examples from teachers' work in a classroom.*" For the first part of the questionnaire, Cronbach's coefficient alpha was .64. In the second part students assess the quality of their group work in the seminar paper. The 7 items describe: the group's planning of how to synthesize individual contributions into a group product (i.e. seminar paper), dividing tasks among the group members, compromising and decision making, problem solving, effectiveness of the group work, providing help to other members of the group during the seminar presentation. An example of this kind of item is: "*When we prepared the seminar work in the group, we planned together how to synthesize our individual contributions into a meaningful whole.*" For the second part of the questionnaire, Cronbach's coefficient alpha was .80. In the third part of the questionnaire students assess their part of the seminar presentation. There are 7 items which describe self-perceived quality of performance: focusing on the presentation's content, presenting the theme clearly, using examples to illustrate the theory, motivating colleagues in the 'audience' to join discussion, managing time limits. An example of this kind of item is: "*During my part of presentation I was completely focused on the content of my speech.*" For the third part of the questionnaire, Cronbach's coefficient alpha was .65. For the three scales (individual study, group work and self-assessment of presentations) students rate themselves on a 4-point scale, from 1 (*not true*) to 4 (*completely true*). In the last part of the questionnaire students report the frequency of negative (intrusive) thoughts during the seminar presentation. Intrusive thoughts include thoughts about one's own inferiority, inadequacy and the anticipation of failure, negative social evaluation and humiliation in front of a group. Students indicate on a 5-point scale how often an intrusive thought was present during their presentation (1 – *never*, 5 – *all the time*). The two intrusive thought scales—Intrusive Thoughts of Negative Self-Evaluation (6 items; $\alpha = .82$) and Intrusive Thoughts of Social Comparison and Social Evaluation (8 items; $\alpha = .86$)—were adapted from the Questionnaire of Distractive Factors and Intrusive Thoughts (QDFIT; Puklek, 1997). The examples of the two kinds of intrusive thoughts are: "*I'm not relaxed*" and "*The colleagues who are listening to me are bored.*"

Achievement. The student's final course grade was taken as an indicator of their academic achievement. Students obtained the final grade in the educational psychology course by a written examination. The exam was composed of different types of questions: 30 short-answer questions, 20 multiple-choice questions and 2 essays. It mainly covered their knowledge and understanding as well as the applica-

tion level of their learning outcomes. The last part of the exam (i.e. the essay) required the students to reflect on the theory and teaching practice. The students achieved grades 5 (negative) and 6 to 10 (positive). By the time the study was accomplished, 78.8% of the students ($N = 193$) took the exam. By the time the study was completed, all of them received a passing grade in one of the exam terms. Students' previous academic achievement (i.e. the cumulative average grade which they had at the entry of the current academic year) was used as a control variable in predicting the final course grade, while the previous academic achievement and the final grade in educational psychology course correlated substantially ($r = .42$).

Procedure

At the beginning of the academic year 2004/2005 student teachers obtained general information about the contents of the educational psychology course. The professor presented them the activities of the course (lectures, seminars, practical work), requirements for the accomplishment of the course and teaching competencies they would develop during the participation in the course. Afterwards, they had an introductory meeting in the form of a seminar where they were informed of the preparation and presentation of seminar work. At the end of the introductory meeting, they filled in the MSLQ, the part which assesses students' motivational orientations. During the academic year students prepared their seminar work in groups of 3 students. A group had to decide on the seminar theme and each member had to assume an individual responsibility for his/her particular task in the group. At the beginning of the academic year the teacher presented the criteria for the group presentation. They covered skills required for presenting an informative, topical and interactive lecture. Specifically – the criteria covered the two aspects of presentation: the quality of presentation of the seminar theme (e.g. clear presentation, good structure, use of different audio-visual tools, use of examples etc.) and the stimulation of interaction with the group (e.g. maintain and direct attention with alternating different methods, stimulate activity by discussion or work in groups etc.). Each group presented their seminar work to their colleagues (one group per one seminar session), members of the group had to take equal parts in the presentation. This activity was part of the students' educational psychology course work which was formally not assessed by the teacher. After each presentation the group of presenters self-reflected on their presentation and received feedback from their colleagues and the teacher. At the end of a seminar session the group of presenters filled in the three self-report scales. Each student assessed the quality of his/her individual study, analyzed the quality of group work and assessed his/her part of the oral presentation. The students also reported the intensity of intrusive thoughts during their presentation. The students' final achievement was measured by a written examination after completing the entire educational psychology course.

Results

Factor structure and reliability of the MSLQ

A principal-components analysis using Varimax rotation was performed on 31 items of the motivational part of the MSLQ and yielded a five-factor solution. The five factors explained 52% of the total variance. According to the magnitude of explained variance the factors appeared in the following order: (1) task value (19.01%), (2) self-efficacy for learning and performance (13.09%), (3) test anxiety (8.68%), (4) extrinsic goal orientation (6.16%) and (5) control of learning beliefs (5.05%). The factor loadings of the items that belong to the particular scale were higher than .45. We could not confirm the intrinsic goal orientation as a separate motivational component. The items of the original Intrinsic Goal Orientation scale loaded on task value (3 items) and self-efficacy (1 item) components and were thus excluded from further analysis. The Cronbach's coefficient alpha was satisfactory for three scales: Task Value (α = .84), Self-Efficacy for Learning and Performance (α = .85) and Test Anxiety (α = .77). The internal consistency was somewhat lower for two scales: Extrinsic Goal Orientation (α = .65) and Control of Learning Beliefs (α = .60). The correlations between motivational components ranged between .01 and .30. The only negative correlation was found between Self-Efficacy and Test Anxiety scale ($r = -.23$).

Descriptive statistics and correlations between motivation for educational psychology course, students' engagement in seminar work and final achievement

Table 1 shows the number of students, range (possible and observed), means and standard deviations for all variables.

The students assessed the value and expectancy components of their motivation for the course quite favourably. Although frequency distributions are not reported, the means in Table 1 show some evidence that the scores on most of the motivation scales tend to be negatively skewed (except for Test Anxiety scale). Similarly, most of the students assessed positively their individual study and group work while preparing their seminar work and seminar presentation. On the other hand, most of the students did not experience frequent intrusive thoughts during their seminar presentation.

Table 2 presents the relations of students' motivation for the course with students' engagement in seminar work and the final course achievement.

Those students who reported higher extrinsic goal orientation and perceived the psychology course as interesting, important and useful also better assessed their

Table 1. *Summary descriptive statistics.*

	N	Observed range	Possible range	M	SD
Motivation scales					
Value components					
Extrinsic goal orientation	217	1.00–7.00	1.00–7.00	4.28	1.22
Task value	216	2.83–7.00	1.00–7.00	5.69	0.86
Expectancy components					
Control of learning beliefs	216	2.00–7.00	1.00–7.00	5.50	0.97
Self-efficacy	214	2.00–7.00	1.00–7.00	5.43	0.82
Affective component					
Test anxiety	213	1.00–6.80	1.00–7.00	3.62	1.28
Seminar work					
Individual preparation	209	2.00–4.00	1.00–4.00	3.33	0.39
Group work	208	1.86–4.00	1.00–4.00	3.59	0.40
Intrusive thoughts					
Negative self-evaluation	205	1.00–5.00	1.00–5.00	2.21	0.72
Social evaluation	205	1.13–5.00	1.00–5.00	2.36	0.77
Self-assessment					
Seminar presentation	208	1.71–4.00	1.00–4.00	3.05	0.44
Final course achievement					
Final grade in educational psychology course	193	6.00–10.00	6.00–10.00	8.23	1.27

Note. The score of each scale was computed by taking the mean of the items that make up the scale.

individual study and the group work done during the seminar preparation. Considering expectancy component of academic motivation, the students' perceived self-efficacy for learning and performance was significantly positively associated with better individual study strategies, but not with the efficiency of the students' group work. Test anxiety was positively associated with the student's individual study while preparing their seminar work. In regard to seminar presentation – those students who perceived more self-efficacy for learning and performance in the psychology course experienced less intrusive thoughts of negative self- and social evaluation during their seminar presentation. Test anxiety, on the other hand, was positively related to the frequency of intrusive thoughts during the seminar presentation. The value components of academic motivation were positively related to the quality of their seminar presentation (as assessed by the students). Those students who reported more extrinsic goal orientation and higher task value also better assessed the quality of their part of seminar presentation. The students' test anxiety was, contrary to our expectations, positively related to the self-perceived quality of their seminar presentation. None of the academic motivation components was in the end significantly related to the final course grade.

Table 2. *Correlations between motivation for educational psychology course, and students' engagement in seminar work and final achievement.*

Motivation for psychology course	Seminar work					Final achievement
	Preparation		Presentation			Grade
	Individual	Group	IT negative SE	IT social	Self-assessment	Course grade
Value components						
Extrinsic goal orientation	.35***	.15*	−.06	−.02	.30***	−.03
Task value	.36***	.21**	−.10	−.05	.20**	.12
Expectancy components						
Control of learning beliefs	.05	.04	.02	.03	−.01	−.01
Self-efficacy	.17*	.07	−.48***	−.44***	.05	−.04
Affective component						
Test anxiety	.17*	.09	.34***	.33***	.25***	.03

Note. IT = intrusive thoughts; SE = self-evaluation.
*p < .05; **p < .01; ***p < .001.

Table 3. *Correlations between students' engagement in seminar work and achievement.*

| | Achievement | |
	Seminar presentation	Course grade
Seminar work		
Preparation		
Individual	.60***	.19*
Group	.21**	.06
Presentation		
IT negative self-evaluation	−.17*	−.04
IT social evaluation	−.05	.03

Notes. IT = intrusive thoughts; r between seminar presentation and final course grade = .19*; *p* < .05; **p* < .01; ***p* < .001.

Table 3 shows the correlations between students' engagement in a seminar work, the quality of seminar presentation and the final achievement. Students who better prepared the seminar work (on the individual as well as on the group level) also reported better quality of their seminar presentation. Intrusive thoughts of negative self-evaluation, on the other hand, were negatively related to the quality of their seminar presentation. Students' engagement in individual study and students' perceived quality of seminar presentation were related to the final course grade (positively, with low correlation).

Motivation for educational psychology course and the students' engagement in seminar work as predictors of achievement

In the last part of data analyses a hierarchical multiple regression analysis was conducted to predict the two achievement variables (the quality of seminar presentation and the final course grade). In predicting the quality of seminar presentation, the value components of academic motivation (extrinsic goal orientation and task value) were entered first, the affective component (test anxiety) second, and students' engagement in the seminar work preparation (the sum of individual study and group work scales and the sum of two kinds of intrusive thoughts) third. We did not include the expectancy components as predictors in the model because no expectancy scales (control of learning beliefs, self-efficacy for learning and performance) were related to any of the two achievement variables (see Table 2). As shown in Table 4, each set of predictors predicted a significant amount of variance in the students' self-perceived quality of their seminar presentation. The value component of academic motivation was found to predict the quality of seminar presentation better than the affective component. The students' engagement in seminar work significantly predicted the quality of seminar presentation, after accounting for the academic motivation. In prediction of the final course grade, the previous cumulative average achievement

Table 4. *Motivation for educational psychology course and students' engagement in seminar work as predictors of achievement: Results of hierarchical multiple regression.*

	Seminar presentation		Course grade	
Predictors	β	ΔR^2	β	ΔR^2
Step 1: Previous achievement	/	/	.49***	.18***
Step 2: Value components		.15***		.08**
Extrinsic goal orientation	.16*		−.16	
Task value	.05		.26**	
Step 3: Affective component		.03**		.00
Test anxiety	.19*		.09	
Step 4: Students' engagement in seminar				.01
work		.13***		
Preparation (individual + group)	.38***		.07	
Presentation (intrusive thoughts)	−.06		−.05	
R^2		.29		.27

Notes. Standardized β weights are shown. ΔR^2 represents the increment to R^2 associated with each block of variables when they are entered into the equation. For seminar presentation, $N = 178$, and for course grade, $N = 144$.
* $p < .05$; **$p < .01$; ***$p < .001$.

was entered first, the value components of academic motivation second, the affective component third, and the students' engagement in seminar work preparation last. As shown in Table 4, previous academic achievement was the most significant predictor of the final course grade. The value components of academic motivation also significantly added to the prediction of final course grade, over and above the account of previous academic achievement. Task value was the only significant independent motivational predictor of the final course grade. The other motivational components and students' engagement in seminar work did not appear as significant predictors of the final achievement.

A non-expected relation between test anxiety and the students' perceived quality of seminar presentation lead us to perform the additional analyses of possible interaction effects between test anxiety and other motivational scales on performance. Each of the five motivational scores was split at its median to create two groups, a low and a high group, and 2 × 2 ANOVA*s* were performed afterwards to reveal possible interaction effects between test anxiety (TA) and other motivational variables (TA × extrinsic goal orientation, TA × task value, TA × self-efficacy, TA × control of learning beliefs). The only significant interaction effect was found between test anxiety and task value, $F(1, 178) = 4.12, p < .05$. Students who experienced high test anxiety and at the same time highly valued the importance of the educational psychology course presented their seminar work better than the students in the other three groups (low TA/low task value, low TA/high task value, high TA/low task value).

Discussion

The examination of the factor structure of the MSLQ-a motivational part (Pintrich et al., 1991) showed that five factors from the original scale appear as coherent and reliable measures of students' academic motivation. In the sample of Slovenian second-year student teachers, who reported about their motivation in educational psychology course, we confirmed the internal structural validity of the following MSLQ scales: Extrinsic Goal Orientation, Task Value, Control of Learning Beliefs, Self-Efficacy and Test Anxiety. The original Intrinsic Goal Orientation scale, contrary to our expectations, did not prove as a separate motivational construct in the study. Most of the original 'intrinsic goal' items loaded on the task value component. We found some conceptual reasons as well as drawbacks of the study that might explain this result. As has already been argued by some theorists, expressed interest in the course and intrinsic (or mastery) goal pursuit may represent the two overlapping constructs (e.g., Hidi & Harackiewicz, 2000). Students who participate in a course for reasons such as mastery, challenge and curiosity usually perceive the course and tasks in this course as interesting, important and useful. Indeed, Senko and Harackiewicz (2005) found strong positive correlations between students' mastery goal and expressed initial and later ('hold') interest in the introductory psychology course (both constructs were measured twice during the semester). Although the authors confirmed the independence of the mastery goal and the course interest measures, and the same holds true for the studies where the MSLQ motivational scales were used (e.g., Pintrich et al., 1991; studies reported in Garcia Duncan & McKeachie, 2005), our study highlights the need to further examine the distinctiveness of the mastery goal and the course interest constructs. As first it has to be noted that most studies of achievement goals, expectancy beliefs and task value were done in the USA academic environment. Garcia Duncan and McKeachie (2005) listed 52 studies that used the MSLQ (college or junior high school version) in the period of 2000 to 2004. Thirty-five of them were studies with undergraduate college students in a sample. Only six studies using the MSLQ with undergraduate students were done in the countries others than the USA (i.e. Canada, Hong Kong, Australia, Finland, Iran). Four of them did use the MSLQ in its entirety while two used only the learning strategy subscales. Further research replicated in other cultural settings is thus needed to reveal whether the well-known motivational constructs, as were operationalized in the MSLQ, prove their cross-cultural validity. More attention should be also given to the question whether the motivational constructs relate similarly or differently to students' engagement and learning in different cultural contexts.

There were also some limitations of the study that might influence the found overlap between the intrinsic goal orientation and the interest in a course. Student's reports of motivation are context dependent and the characteristics of context (e.g. perceived classroom environment, competence valuation, performance feedback)

influence students' responses in regard to their motivation in a specific course (Church, Elliot, & Gable, 2001; Senko & Harackiewicz, 2005). In our study students reported on their motivation for the educational psychology course at the beginning of the academic year when they just started to get acquainted with the course contents, the teaching methods used and the requirements to complete the course. The student teachers at the Faculty of Arts in Ljubljana often enter the educational psychology course with little past experience and pedagogical knowledge. They focus on their major subject and often choose the educational courses for practical purposes (e.g. having a bachelor degree in teacher education provides better employment opportunities). Their lack of experience with the course might thus be the reason that they did not differentiate between their intrinsic reasons for participating in the course and perceived importance and utility of the course.

The important result of our study for teaching practice is that higher initial academic motivation (extrinsic goal orientation, task value) was related to higher engagement and performance in a specific academic activity (seminar work) later in the academic year. This result offers some practical implications for teaching in higher education. If university teachers want to develop or sustain students' motivation for the course, it is important that they create meaningful tasks during the academic year that develop students' professional competencies. In the case of student teachers education it is important to start developing students' teaching competencies already at the beginning of their professional education and to continuously make connections with their teaching practice. When students take an educational psychology course at the Faculty of Arts in Ljubljana, they do not yet have an opportunity to develop their teaching competencies in a real situation (in the classroom). We try to compensate this deficiency by simulating a teaching (classroom) context in students' seminar work. During the preparation of seminar work students have to plan their presentation as 'a lesson in the average high-school classroom' and during presentation they have to take a role of a teacher that gives a lesson and regulate 'classroom' activity at the same time. Students thus have an opportunity to start developing many of the required teaching competencies; skills for preparing a lecture, managing time limits in the classroom, using examples to illustrate the theory, motivating colleagues in the audience by using active teaching methods, team work skills, self-reflecting about one's own work etc. This kind of academic activities that focus on developing professional competencies have a potential to sustain the initial motivation for the course or even change the initially extrinsic motivation into a more intrinsic one. It has to be noted, however, that we only examined the initial motivation for the course and therefore we cannot make any firm conclusion about the stability or change of motivation for the course as a function of students' experience with a specific academic task. Future studies should therefore examine more thoroughly the stability and change of academic motivation at different time points within an academic year as a function of various assignments and evaluative feedbacks on students' developing professional competencies.

None of the motivation components correlated with the final course grade. There are different explanations for this result. One of them refers to the research design used in the study. The study was a prospective one and we used two informants (i.e. students' self-reports during the academic year and teachers' grade obtained by written exam at the end of the academic year). Thus we reduced the danger of a method variance error (i.e. single informant who simultaneously gives information on different topics of interest). We measured the initial motivation for the course as students at that time did not have any feedback about their competence. Thus we excluded the possible covariation of competence feedback information and motivation on the final grade (Senko & Harackiewicz, 2005). If we measured motivation later in the academic year, there would be higher possibility of getting a significant relation with the final course grade.

The results of the hierarchical multiple regression analysis showed that value and affective component of academic motivation as well as students' engagement in seminar work significantly contributed to the prediction of the quality of seminar presentation. On the other hand, previous cumulative average grade was the best predictor of student teachers' final course grade. An important finding for educational theory and practice is that value components of academic motivation contribute significantly to the prediction of the final course grade, but only after control of previous achievement. Of the two value components, task value was the only significant independent motivational predictor of the final grade. This result leads us to the conclusion that student teachers who proved to be high achievers in academic setting also successfully accomplished the educational psychology course. However, academically successful students who evaluated the educational psychology course as interesting, important and useful performed even better. Students' goal orientation and value beliefs (or interest) for the course usually show none or positive but low correlation with the final course grades (Pintrich et al., 1991; Senko & Harackiewicz, 2005). This study thus highlights the importance of taking into consideration the moderating role of previous academic achievement when researchers investigate the relation between academic motivation and current achievement. We speculate that academic motivation by itself cannot explain students' academic success substantially but its effect depends on students' cognitive capacities and previous feedback about one's academic competence.

Test anxiety was unexpectedly positively related to better quality of students' seminar presentation. This result contradicts many of the previous studies that found negative relation between test anxiety and academic achievement (Chapell et al., 2005; Hembree, 1988; McClendon, 1996; Seipp, 1991). A possible explanation is that highly test anxious students put more effort in their preparation of specific types of academic activity (e.g. presentations in front of others) because they are aware of the possibility that their anxious symptoms could impede their performance. However, we also found the interaction effect of test anxiety and task value on seminar performance. Those students who simultaneously experience high test anxiety and

high interest in the course reported the highest quality of their seminar presentation among the four groups of students (high in test anxiety and task value, low in both components, low in one component and high in other component). The results also showed that the students who reported higher test anxiety at the beginning of the academic year reported higher frequency of intrusive thoughts during their seminar presentation. Negative intrusive thoughts negatively influence academic performance, especially the presentation in front of others, as we have already found in the similar study with student teachers (Peklaj & Puklek, 2001). In future we should scrutinise the role of test anxiety in academic performance; with different kinds of task, in combination with other cognitive processes and emotional states that relate to performance, the possible cross-cultural differences in the meaning of test anxiety in academic setting etc.

The final course achievement was explained mostly by previous achievement. Students' engagement in a specific academic activity that develops their teaching competencies did not predict the final course grade. We cannot deny the fact that previous achievement usually serves as one of the best predictors of future achievement. This result nonetheless poses an important question. Does the final course assessment, which traditionally strives to be an objective measure of students' course knowledge and understanding, really cover all domains of objectives and specific competencies that are written in academic curricula? Affective-motivational goals and complex professional skills (e.g. effective communication, problem solving skills, presentation skills), which are often declared as important learning goals, cannot be measured, like knowledge, by the traditional assessment methods. Alternatively, more process-oriented assessment techniques have to be used in the assessment of these goals. Investigating the relation between academic motivation, specific academic activities and different types of academic assessments that does not merely cover course knowledge but also includes problem-based tasks, critical thinking, team work skills etc. thus seems to be a promising area of future research in the domain of academic motivation and achievement in higher education.

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