

# Adult Learners' Learning Environment Perceptions and Satisfaction in Formal Education—Case Study of Four East-European Countries

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Received: October 13, 2014 Accepted: November 19, 2014 Online Published: January 27, 2015

doi:10.5539/ies.v8n2p101

URL: <http://dx.doi.org/10.5539/ies.v8n2p101>

## Abstract

The purpose of this paper is to explore attitudes towards learning and perceptions of the learning environment. Our theoretical examination is based on the social-cognitive theory of motivation and research that emphasizes the connections between an individual's perceptions of the learning environment and his/her motivation, interest, attitudes and confidence. Recent theories that deal with 'powerful learning environments' (Fraser, 2002) stress that the teacher should not look only at the physical aspects of the environment in which learning takes place, but also at the learner's perceptions and beliefs. The importance of multiple aspects of learning environments will be stressed and some recommendations for improving the effectiveness of these environments will be given. Additionally, some theoretical concepts of learning environments will be reviewed. We will examine empirically the differences and correlations that occur in adult learners' motivation and attitudes due to their psycho-social and physical learning environment. An international comparison between various post-socialist countries has also been carried out.

**Keywords:** learning environment, attitudes to education, motivation, satisfaction, international comparison

## 1. Introduction

Many authors in the field of adult education have examined various characteristics of adults and how these influence adult learning and motivation (Hiemstra, 1991; Knowles, 1980; Wlodkowski, 2008). Knowles (1980) provided the following assumptions about adult learners:

- they are autonomous and self-directed;
- they have a lot of life experiences and knowledge;
- they have a more life-, task-, or problem-centred orientation to learning;
- they are generally motivated to learn due to intrinsic factors.

There is no doubt that one of the most important influences on learning is motivation, so a significant amount of research has investigated how to create learning experiences that are as motivational as possible in order that participants' needs be met and satisfaction with learning be high. There are several theories that deal with motivation during the learning process, and in the context of adult education, we should mention Wlodkowski's Time-continuing Model (Wlodkowski, 2008). Wlodkowski (2008) speaks of the needs, attitudes, competencies and involvement that influence the development of an individual's intrinsic motivation. His model rests on contemporary motivational theories, especially on research done by Deci and Ryan (2009), which stresses the importance of the needs for autonomy, competence and relatedness. These three needs must be met in order to develop an appropriate level of motivation that can lead to active involvement in learning within an educational programme or enhance persistence within it. The most crucial factors in the development of motivation according to Wlodkowski (2008) and Deci (Deci & Ryan, 2009) are the characteristics of the learning environment.

### 1.1 Some Historical Background

The term learning environment is not a new concept; its theoretical background is multidisciplinary and primarily based on Lewin's (1935) Force Field Analysis and Murray's (1938) personality research. According to Lewin (1935), human behaviour is the product of all forces acting at a given moment in the psychological field; therefore, Lewin emphasizes the need for the scientific study of the behaviour of the entire situation under

account, i.e. the characteristics of a person and the environment. Lewin describes this relationship with the formula that states  $B = f(P, E)$ , where B = Behaviour, F = Function, P = Person and E = Environment. Lewin states that behaviour is a function of the person and his/her environment, thus the situational perspective of a person's situation is a greater key to understanding his/her conduct, rather than relying solely on previous experiences and influences. Although interaction between the person and the environment is highlighted, it is not assumed that the environment directly causes behaviour—it always begins within the person. The environment is somehow determined by the perceptions of individuals who act on these perceptions.

Similarly to Lewin, behaviour is also interpreted by Murray (1938), who expanded Lewin's work with his 'needs-press theory' to explain behaviour in a given environment as a result of the interaction of an individual's personal needs (including goals and drives) and the environmental press (including the variables of stimulus, treatment, and process). Murray distinguished 'alpha presses' (the objective characteristics of an object in the environment) from 'beta press' (an individual's perceptions and assessment of that object). Learning environment research has primarily stemmed in the operationalization of the beta-press concept. Primarily, we must mention findings from Pace and Stern (1958), who sought an operational concept of environmental pressures and empirically examine the relationship between the key areas of learning and social atmosphere at colleges and universities with the questionnaire College Characteristics Index (CCI).

The development of learning environment research has subsequently focused on exploring specific learning environments. Stern (1970) has developed a theory of coherence between a person and his/her environment, in which he has tried to describe how the combination of needs and environmental factors impact academic achievement and student development.

Although researchers have seriously considered the dynamics of the classroom climate, they have evolved very little theoretical background in order to systematically study the interactions of students in formal education. Getzels and Thelen (1960) have developed a theory suited to groups within the classroom. They describe the school class as a social system, and they propose that group behaviour can be predicted from an individual's needs, the classroom climate and institutional demands/expectations.

An important contribution to the understanding of the impact of the learning environment on learning performance was also made by Walberg (1969). Walberg's theory of educational productivity (Walberg, 1969) holds that there are nine factors which influence students' cognitive and affective outcomes: his/her age and motivation, the quality and quantity of instruction, and the psychological climate of the home, the classroom social group, the peer group outside the classroom, and the mass media. An empirical examination of the model has shown that student achievements and attitudes are influenced jointly by a number of factors rather than by one dominant factor (Walberg, 2006). Factors related to the classroom and school environment were found to be particularly important influences on student outcomes, even when a number of other factors were controlled.

### *1.2 Defining Learning Environments*

Although Bloom (1974) referred to an (educational) environment as an important component of learning achievements, it must be acknowledge that the terms "learning context" or "learning environment" did not surface in the mainstream educational literature until two decades ago. Despite the fact that the need to address students and teachers as a whole was recognized, researchers have increasingly tended to isolate individual variables, rather than try to understand the complex interaction of social context, thinking, motivation and emotion. Salomon (1995) stresses the importance of the environment and context in which learning takes place and calls for a transition from research of isolated and de-contextualized individuals, isolated processes, and conditions to the study of the wider psychological, disciplinary, social and cultural context. Most modern theories of motivation and learning are not limited only to cognitive and emotional variables of motivation, but also consider contextual aspects in a person's motivation. Learning environment and motivation cannot be treated separately, since they are constantly in interaction. Teaching never affects learning directly, but via mediating variables (factors), which include the perception of teaching, assessment, climate, course content, structure, and the like. Entwistle (1991) notes that perceptions of a learning environment have an even greater effect on approaches to learning than the objective characteristics of the environment.

The term learning environment has many meanings and definitions. It is used in different settings and contexts. Studies dealing with the research of learning environment have explored variables that concentrate on diverse components of a classroom, for instance students personal values, their beliefs, conduct, classroom administration etc.; in short, everything that serves to clarify what is going on in a classroom. Moreover, understanding of the concept relies also on the perspective of the research, which ranges from educational, psychological, to more sociological or anthropological methodology.

Fraser recognizes learning environment as ‘common perception of students and teachers in an environment where learning takes place’ (Fraser, 2002). Regarding learning environments in adult education settings Hiemstra (1991) gives an exceptionally broad meaning of learning environment, which portrays this concept in connection to psychological, social, and cultural conditions:

‘A learning environment is all of the physical surroundings, psychological or emotional conditions, and social or cultural influences affecting the growth and development of an adult engaged in an educational enterprise.’ (Hiemstra, 1991, p. 8)

In this article, we separate from socio-psychological characteristics of learning environment as defined by Moos (2002) and focus to the psychosocial nature of this concept, which incorporates participants’ views of the course, educational program, and the connections among the participants and teachers. Moos defines the psychosocial environment as having three dimensions that indicate our everyday behaviour and experiences: (1) the relationship dimension, (2) the personal growth dimension, and (3) the dimension of the system’s characteristics. First dimension specifies the characteristics of interpersonal relations in a given context (described by quality and power). The relationship dimension comprises the level of subjective participation and cohesion, as well as cooperation between individuals. The personal growth dimension contains methods by which individual growth and career development is advanced in a certain social context. This dimension is demarcated with supporting self-government, goal-setting, and participants requirements. Dimension that describes the characteristics of the system is described by expectations, guidelines, control mechanisms, and its responsiveness.

### *1.3 Learning Environment and Motivation*

It is generally accepted that powerful learning environments contribute to the development of self-motivation and skills. Knowles (1980) has stressed the importance of learning climate in adult education and educators, who followed him were well aware of the importance of these features to encourage motivation and learning. Prior studies on learning environments that have been carried out have revealed a consistent correlation between the classroom environment and learners’ cognitive and affective outcomes (Fraser & Fisher, 1982). Wolf and Fraser (2007) state that students’ perception of the classroom environment is closely related to their learning outcome.

It should also be stressed out that this is a two-way relationship. Some degree of motivation should be regarded as a prerequisite for effective learning in supportive learning environments; it is essential to ‘exploit’ the possibilities offered by such environments. This means that only with a certain level of motivation can we perceive a learning environment as positive and encouraging. Deci and Ryan (2009) have found that the learning environment must have support for the following three characteristics to enable the development of intrinsic motivation: competence, autonomy and social affiliation (Deci & Ryan, 2009). Seidel, Rimmele and Prenzel (2005) identified the following conditions that promote students’ motivation and learning:

- relevance (usefulness of content, the relation to reality, and integration with prior knowledge and other subject areas);
- quality of teaching (contents are listed in an authentic problem context, clarity and consistency of teaching, and its adaptation to the needs of pupils);
- teacher interest (commitment, enthusiasm, and dedication);
- social affiliation (companionship, empathy, cooperation, and a relaxing and friendly atmosphere);
- promotion of competence (feedback and an individual reference frame);
- promotion of autonomy (choice, flexibility, encouragement).

In terms of self-determination theory, powerful learning environments are characterized by a support for autonomy that encourage an internal locus of control within individual and the perception and feeling of freedom of choice and desire. Controlled environments (an external locus promoting control of commitments and a sense of pressure) are distinguished by the fact that the teacher controls and maintains an individual’s behaviour towards the goals that he/she sees as most appropriate. Deci and Ryan (2009) list many studies that were aimed at identifying how various elements of the environment promote or hinder autonomy, e.g. prizes, money, deadlines or time limits, monitoring, threats of assessment, feedback etc.

Several other studies were carried out to examine the influence that learning environment has, e.g. on goal setting (Maehr & Midgley, 1991), on teaching strategies (Varughese & Fehring, 2009), characteristics of learning in groups, class and school settings (Perry & Van de Kamp, 2000; Shera, 2012), and learning in virtual environments (Daghan & Akkoyunlu, 2012; Weller, 2007). On the other hand, there are not many cross-cultural studies that have tried to compare differences in the perceptions of learning environments and its influence on satisfaction in education. Existing studies are limited, focusing primarily on the differences between Asian and Australian students or differences between online and traditional education (e.g. Aldridge, Fraser, & Huang,

1999; Daghan & Akkoyunlu, 2012; Lee et al., 2011; Dorman, 2003) and they primarily tend to validate different learning environment instruments. Comparisons between European, and especially former socialist, countries are even more unusual.

#### 1.4 Purpose and Objectives

The purpose of this study was to determine how student's attitudes and perceptions of their learning environment influence motivation in formal education courses. The objectives of the study were to identify: (a) relationships among student attitudes, motivation, and perceptions of the learning environment; (b) differences in student motivation, attitude, and perceptions of the learning environment in different post-socialist countries.

## 2. Method

### 2.1 Participants

This paper is based on the international database resulting from a European project on policy and practice on lifelong learning (LLL2010), which was carried out within European Commission's Sixth Framework Research Programme. The LLL2010 project consists of five subprojects, from which Subproject 3 focuses on the perceptions and experiences of adult learners enrolled in formal adult education courses in Europe. Thirteen countries situated in Northern, Eastern and Central Europe took part in the research programme. Each participating country collected data from at least 1.000 adults attending a course in formal adult education.

The sample used in this analysis consists of 4.390 participants in formal adult education programmes: 1.852 males and 2.538 females between the ages of 16 years and 65 years. Four former socialist countries were included in this sample: Estonia, Hungary, Russia and Slovenia (see Table 1).

Table 1. General characteristics of participants (N)

	Country				
	EE	HU	RU	SI	Total
<b>SEX</b>					
Male	413	457	401	581	1852
Female	709	548	606	675	2538
<b>AGE</b>					
16-25	671	211	501	336	1719
26-35	309	462	351	489	1611
36-45	87	241	95	336	759
46+	40	79	23	66	208
<b>ISCED</b>					
ISCED 1/2	605	466	377	318	1766
ISCED 3/4	370	436	512	903	2221
ISCED 5/6	135	109	118	41	403

Note. EE=Estonia; HU=Hungary; RU=Russia; SI=Slovenia.

These countries have had similar socialist pasts, but there exist some clear differences between them, which may also be reflected in perceptions of the learning environment. As noticed in the comparative reports (Saar, Ure, & Holford, 2013), the organization of compulsory and post-compulsory education in Central and Eastern European countries still shows some influences from the Soviet legacy, as well as some traces of the pre-socialist era. Because of strong historical links, the Slovenian and Hungarian educational systems certainly came under Austrian influence, and we can expect some similarities in the organization of learning programmes and perceptions of the learning environment. On the other hand, there is a closer geographical, historical and political connection between Estonia and Russia. Post-socialist development of the educational systems in these countries also shows both similarities and differences. In the last few years, Estonian, Hungarian and Slovenian educational policies have been influenced by EU social, economical and political directions in education. As shown in the comparative report, Slovenia differs from other Central and Eastern European countries, and in

many ways it is much more similar to the old EU member states in terms of investment in compulsory and post-compulsory education, participation rates in lifelong learning, etc. At the same time, the education systems of other countries are also becoming more similar to countries with liberal markets (Saar, Ure, & Holford, 2013).

Therefore, my interest is to compare these four ex-socialist countries that have had very similar political systems in the past, but with different implementation of the systems. My goal is to examine only a small, but important detail in the differences in organization of learning, its perceptions, and its influence on satisfaction and self-confidence.

## *2.2 Instruments*

Data was collected using a core questionnaire, which was used in all participating countries. The questionnaire consists of questions regarding learners' educational background and experience in education, their current course, and their experiences and expectations of studying. To observe the participants' views on their learning environment, a shortened version of the Adult Classroom Environment Scale (ACES) was used. This scale was developed by Darkenwald and Valentine (1986), and which has been empirically tested in several other studies (e.g. Langenbach & Aagaard, 1990). The scale's original version contains of 49 items; we used the shortened version with 15 items.

The scale is made of seven dimensions:

- Affiliation: the level of social communication and cooperation among students;
- Teacher support: the level of support, assistance, incentives, and friendly relationship provided by the teacher;
- Task orientation: the degree to which students and teachers focus on tasks and results;
- Personal goal attainment: the teacher's level of flexibility when teaching so that the methods correspond to the students' interests;
- Organization and clarity: the degree to which learning has clear objectives and activities are well-organized;
- Student influence: the degree to which learning focuses on students and allows them to influence the learning process;
- Involvement: the students' attention and activity level in the classroom.

## *2.3 Procedure*

Surveys lasted an average of 30 minutes. Group and individual interviewing was conducted as scheduled in participating educational institutions. Researchers explained all subjects that participation was fully voluntary and their replies would be held in strict confidence.

## *2.4 Statistical Analyses*

To evaluate our research question, several bivariate and multivariate methods were carried out. To determine the relationship of motivational variables correlation analysis were carried out, the differences among countries were analysed with one-way analysis of variance, and the impact of independent variables on dependent variables was measured using multivariate regression.

## **3. Results**

### *3.1 Correlations between Attitudes and Environment Perceptions*

Table 2 presents an overview of the correlations in attitudes and learners' perceptions of learning environments to their satisfaction and confidence to complete study.

Table 2. Pearson's correlation coefficients between attitudes, perceptions of learning environment, satisfaction, and self-confidence

	Satisfaction with process	Satisfaction with outcomes	Confidence to complete study
<b>ATTITUDES</b>			
I enjoy learning with others	0.21	0.20	0.12
I dislike studying	-0.16	-0.18	-0.24
I'm fed up with teachers and classes	-0.25	-0.22	-0.24
Successful people do not need AE	-0.10	-0.11	-0.14
AE is mostly for people with little else to do	-0.07	-0.07	-0.19
AE helps people make better use of their lives	0.10	0.12	0.14
Money spent on AE for employees is well spent	0.20	0.23	0.20
AE can help people cope with changes	0.22	0.24	0.20
Education makes me feel better about myself	0.25	0.27	0.27
<b>LEARNING ENVIRONMENT</b>			
Teacher support	0.48	0.38	0.22
Affiliation between the students	0.35	0.31	0.25
Active involvement of students	0.42	0.38	0.25
Learner-centred approach	0.20	0.23	0.24
Level of task orientation	0.30	0.27	0.19
Clear and well-organized activities	0.51	0.42	0.26
Personal goal attainment	0.32	0.25	0.16

Note. All correlations are  $p < 0.001$ .

Table 2 shows that the learning environment dimension correlates with the variables of satisfaction and confidence to a much greater extent than with attitudes. In general, negative attitudes toward learning correlate negatively with both the variables of satisfaction and confidence. Students who do not like learning activities where they study in collaboration with other students do not like to attend classes and think that adult education has little value. On average, they are also unsatisfied with the process or outcomes of their education and lack confidence that they will complete their studies successfully. On the other hand, positive attitudes lead to higher satisfaction. Correlations are low, but highly significant. The highest correlation is between the opinion that adult education helps people to live a better and more successful life and the opinion that students in adult education will better cope with changes.

The learning environment is connected more closely to satisfaction, and less so with self-confidence in the course. Correlations are moderately high and are all positively directed. It is not surprising that correlations are higher in regard to items that describe satisfaction with the process of learning since the learning environment is inherently a part of the learning process, rather than an outcome. Satisfaction is at the highest level when students feel that activities in the classroom are well organized and the teacher is supportive and allows students to be actively involved in their learning. It is no surprise that a well-organized classroom and the opportunity for group affiliation are the highest correlated dimensions of a learning environment in regard to student confidence in successfully completing studies.

In Tables 3 and 4, some international comparisons are presented. We are interested to see how the measures of attitudes, learning environment, satisfaction and self-confidence differ between four post-socialist countries: Estonia, Hungary, Russia and Slovenia. All results presented in Table 3 are significant at the level  $p < 0.001$

(except where noted). Firstly, we checked for differences in the perception of the value of learning and education in general.

Table 3. ANOVA results for differences in attitudes and perceptions of the learning environment, by country

	Satisfaction with process	Satisfaction with outcomes	Confidence to complete study
<b>ATTITUDES</b>			
I enjoy learning with others	0.21	0.20	0.12
I dislike studying	-0.16	-0.18	-0.24
I'm fed up with teachers and classes	-0.25	-0.22	-0.24
Successful people do not need AE	-0.10	-0.11	-0.14
AE is mostly for people with little else to do	-0.07	-0.07	-0.19
AE helps people make better use of their lives	0.10	0.12	0.14
Money spent on AE for employees is well spent	0.20	0.23	0.20
AE can help people cope with changes	0.22	0.24	0.20
Education makes me feel better about myself	0.25	0.27	0.27
<b>LEARNING ENVIRONMENT</b>			
Teacher support	0.48	0.38	0.22
Affiliation between the students	0.35	0.31	0.25
Active involvement of students	0.42	0.38	0.25
Learner-centred approach	0.20	0.23	0.24
Level of task orientation	0.30	0.27	0.19
Clear and well-organized activities	0.51	0.42	0.26
Personal goal attainment	0.32	0.25	0.16

Note. All correlations are  $p < 0.001$ .

We can conclude that Slovenian students tend to have more negative attitudes toward these aspects than others. They enjoy learning with others the least, they do not like to learn in traditional classrooms (or at least with a teacher), and they feel most strongly that successful people do not need to participate in adult learning programmes. In comparison to students in other countries, they also ascribe less value to lifelong learning as an enabler of a better living standard and the ability to cope with changes. More positive feelings toward education and lifelong learning are expressed by students in Estonia. In regards to the learning environment, students from Russia rate many of its features higher than students from the other countries. They feel more presence of teacher support, affiliation between students, active student involvement, a good level of task orientation and well-organized learning activities.

Table 4. ANOVA results for differences in attitudes, perceptions of the learning environment, satisfaction, and self-confidence, by country

	EE		HU		RU		SI		ANOVA
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>
Satisfaction with process	3.77	0.68	3.74	0.91	3.96	0.73	3.73	0.73	21.14
Satisfaction with outcomes	4.03	0.74	3.66	0.86	4.02	0.81	3.93	0.67	49.52
Confidence to complete	4.26	0.81	4.05	0.79	4.26	0.88	4.44	0.71	44.80

Note. EE–Estonia; HU–Hungary; RU–Russia; SI–Slovenia. All ANOVA's are  $p < 0.001$ .

Russian students are also among most satisfied with their education, especially in terms of its process. Slovenian students are least satisfied with the process of learning, and Hungarian students are least satisfied with learning outcomes. In the Slovenian context, these results supplement previous findings on differences in perceptions of the learning environment, where Slovenian students did not rate any of the scale dimensions very highly. This clearly indicates how strongly the organization of the learning process and its characteristics are connected to student satisfaction. On the other hand, it is surprising to some degree that Slovenian students are the most confident that they will successfully complete their studies. We can argue that students who receive more teacher support and assess their learning environment as well-organized with clear goals are generally more confident about their success in education than other students. One of the reasons Slovenian students are more confident as compared to the other three countries is the characteristics of the sample: unlike the other countries, most of the students in Slovenian sample are enrolled in programmes at the ISCED Levels 3–4 and least (in comparison to other countries) at the ISCED Levels 1–2 (see Table 1).

### 3.2 Prediction Power of the Dimensions of the Learning Environment

In this section we will examine how the dimensions of the learning environment influence satisfaction and a person's confidence in successful completion of an educational programme. Since both satisfaction indexes are highly correlated ( $r = .79$ ,  $p < 0.001$ ), we calculated the overall satisfaction index that will be used in the forthcoming analysis. We conducted four linear regressions analyses (one for each country included in the research) for each dependent variable – all together eight regression models were calculated.

Table 5 presents the results of the combined regression analysis, in which we try to understand which of the factors of a learning environment most influence satisfaction in education in the selected countries. All regression models were statistically significant ( $p < 0.001$ ); however, the proportions of variance indicated vary between 27% and 43%.

Table 5. The dimensions of the learning environment as a determinant of satisfaction across countries: The linear regression results

	EE	HU	RU	SI
Teacher support	0.17***	0.07	0.13***	0.19***
Affiliation between students	0.11***	0.02	0.08*	0.13***
Active involvement of students	0.11***	0.03	0.13***	0.22***
Learner-centred approach	-0.03	-0.09**	0.10***	0.00
Level of task orientation	-0.01	0.10***	0.08***	0.08*
Clear and well-organized activities	0.38***	0.28***	0.30**	0.12***
Personal goal attainment	0.08**	0.20***	-0.04	0.04
$R^2$	0.43***	0.27***	0.36***	0.38***
$F$	117.50	53.48	78.69	106.83

Note. Values in the table are standardized  $\beta$  weights. \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .



With the selected variables, we are most successful at predicting the satisfaction of Estonian and Slovenian students. The most important determinant of their satisfaction is clear and well-organized learning activities. This means that in classrooms where the teacher shows good preparation, sets clear learning objectives, and organizes the class and learning activities in a logical sequence, students will be more satisfied than in a classroom where this is not the case. Other variables have less predictive power, or are not statistically significant. Among the more important determinants is also teacher support. Good organization of the course is also the most important factor for students in Hungary and Russia. For Hungarian students, the opportunity to attain personal goals during study is also an important predictor of student satisfaction. Other dimensions of the learning environment do not show a high value for the prediction of satisfaction. Task orientation is also a positive factor, and a learner-centred classroom is a negative one in terms of predicting success. This means that these students will be most motivated to study when themes and topics that emerge in classroom work are primarily focused on the specific course content. For Russian students, apart from well-organized learning, teacher support and the active involvement of students also predict their satisfaction with learning. Active student involvement and teacher support are the most important aspects that influence the satisfaction of Slovenian students.

The final analysis presented in Table 6 shows the size of the coefficient for each independent variable for confidence in successful completion of the course.

Table 6. The dimensions of the learning environment as a determinant of confidence across countries: The linear regression results

	EE	HU	RU	SI
Teacher support	0.04	-0.12	0.07	0.11**
Affiliation between students	0.11**	0.15***	0.06	0.08*
Active involvement of students	0.02	0.13***	0.03	0.02
Learner-centred approach	0.04	0.05	0.23***	0.15***
Level of task orientation	0.10**	0.06	0.14***	0.00
Clear and well-organized activities	0.18***	0.13	0.17***	0.08*
Personal goal attainment	0.00	0.13**	-0.08	0.07
$R^2$	0.12***	0.15***	0.22***	0.14***
$F$	20.74	25.35	39.04	27.73

Note. Values in the table are standardized  $\beta$  weights. \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

The regression models in which we try to determine student confidence for success in the learning programme were not as conclusive as the previous models. The indicated variances range from 12% to 22%. Estonian students are most confident in their success when they perceive their learning to be well-organized and with clear goals, when they can socialize with other students, and their classes are oriented toward accomplishing tasks. Hungarian students feel more self-confidence in classes with a social connotation and active student involvement. The self-confidence of Russian and Slovenian students is higher when they learn in learner-centred classrooms. In other words, students in these countries have a greater sense that they will successfully complete their learning when greater responsibility for learning is placed upon the student and the teacher is focused on facilitating their learning. Clear and well-organized learning activities are also important for Russian students, as is teacher support for Slovenian students. Teacher support is mainly reflected in areas such as understanding and encouragement of students. It also implies empathy and positive interpersonal relations with them.

#### 4. Discussion

The aim of this study was to explore various aspects of the psychosocial learning environment as perceived by the participants of formal adult education in four post-socialist countries. Upon examination of the relationships between attitudes and learning environment on the one hand, and learner satisfaction and self-confidence on the other, we report that, in general, negative attitudes towards learning correlate negatively with both the variables of satisfaction and confidence, while positive attitudes lead to higher satisfaction. We observed higher correlations of satisfaction with the learning environment, and found the highest association between well-organized classroom work, a supportive teacher, active learning and satisfaction with the learning process.

This is in line with previous research of learning environments and satisfaction (Ibrahim et al., 2014; Majeed, Fraser, & Aldridge, 2002). The results of this study are also generally in line with previous findings that students with goals are more (internally) motivated, and usually outperform those without them (Maehr & Midgley, 1991; Perry & Van de Kamp, 2000; Shera, 2014). The results of this study are also in congruence with authors that stress adults' need for transparent demands, well-structured classes and strong teacher or peer support (Wlodkowski, 2008). These factors within the classroom environment are primarily connected to student needs for safety, and are often attributed to low-educated adults. Our research show that clear and well-organized learning activities are one of the main determinant of students' satisfaction and confidence.

We have also made some international comparisons. The analysis of the results in variance indicates that the Slovenian students in our sample have more negative attitudes to education and lifelong learning than in the three other countries in our study. On average, Estonian students rate the majority of attitude items higher. More than any other country, Russian students positively evaluate the characteristics of powerful learning environments, especially teacher support, affiliation between students, active student involvement, the level of task orientation and well-organized learning activities. One reason for these differences in attitudes can be related to evaluation of the learning environment. Presumably, these two dimensions have a negative correlation –if a student is not learning in a motivating learning environment, he/she will also develop negative attitudes toward learning and education in general. These attitudes could be also influenced by the system or perhaps by historical differences between the countries in our sample.

The final aspect of our analysis concerned the predictive power of variables within the learning environment for satisfaction and self-confidence. Several regression models were established, predicting satisfaction and confidence in each country. Our data suggest that the most important determinants of student satisfaction are clear and well-organized learning activities. This dimension of the learning environment was the most important factor for students' satisfaction in Estonia, Hungary and Russia. For Slovenian students, active involvement in learning was the main influence on their satisfaction. Regression models with self-confidence as a dependent variable do not show great success in explaining the reasons for this. The confidence of Estonian students is higher when they perceive their learning to be well-organized, when they can socialize with other students, and when their classes are oriented towards accomplishing tasks. For Hungarian students, the most important variables are the social dimension and active involvement in learning. The self-confidence of Russian and Slovenian students is higher when they learn in learner-centred classrooms.

It is hard to determine the primary reason for these international differences, since our analysis is limited to some degree by the available space and data. Some may argue that it is the consequence of different cultural patterns within each country, while others may emphasize differences in the educational systems. All of these reasons are correct to some degree. It is also true that differences can occur across different ISCED levels of the educational programme. We can assume that student demands differ at each level of education. When thinking about the learning environment, we must always think about what really caused these differences. Our perceptions and expectations are influenced by several factors at the 'macro' and/or 'meso' level, but nevertheless, they are always channelled through our individual perception. Results from the regression analysis show that classroom influences are fairly strong—they account for almost 50% of variance in student satisfaction with their in education. Indeed, unanswered questions also remain even on this level from one perspective, we can presume that the desires or needs of the individual regularly influence his/her perceptions, however now and then it is the other way around. It is clear from our analyses, that we cannot assume the course of effect, however our results give an agreeable message about particular weight that participants give and anticipate from instruction. What are the main characteristics of learning environment that will facilitate adult learners? Following the theory self-determination by Deci and Ryan (2009), then learning environment must include three basic components to increase or develop adults' intrinsic motivation: competence, autonomy and social relatedness. Satisfaction and confidence of students will develop spontaneously in learning situations in which these needs are considered.

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