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**INDIVIDUAL TRAITS, ENVIRONMENTAL VARIABLES AND
STUDENTS' PERCEPTIONS OF AUTONOMOUS LEARNING
DIFFICULTY**

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Abstract

Learner autonomy is currently regarded as an important educational aim. Therefore the main research problem was formulated as follows: which selected individual traits and environmental variables correlate with how students perceive the difficulty of their autonomous learning? The hypothesized relationships between research variables were presented in the form of a model. The main aim of the study was to verify the model in which temperamental traits and autonomy support from teachers and parents are treated as independent variables, student's autonomy, self-efficacy as a learner, learning motivation and preferences towards autonomous tasks - as mediating variables and perceived autonomous learning difficulty – as a dependent variable. Autonomous learning difficulty was measured by a questionnaire encompassing difficulty in reflective evaluation of learning, motivation to learn and planning. Temperamental traits were measured by EAS Questionnaire, general autonomy by Adolescent Autonomy Questionnaire created by Noom (1999) and co-workers. Questionnaires measuring remaining variables were constructed for the purpose of the research. The participants were 454 students of middle and secondary school. Autonomous learning difficulty questionnaire proved to be reliable and valid. Student's self-efficacy and autonomy were most strongly related to autonomous learning difficulty. Student's perception of high autonomous learning difficulty was related to the low level of parental autonomy support. The relationships hypothesized in the model can be generalized to population but the model does not explain satisfactory amount of dependent variable variance.

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1. Introduction

Autonomy is generally defined as independence in thinking and acting (Reber, 2000). It can be operationalized as a tendency to separate oneself from other people, ability to govern oneself or a quality connected with the tendency to depression (Hmel, Pincus, 2002). Deci and Ryan (2013) define autonomy as self – governance. In self-determination theory autonomy is regarded as perceiving oneself as the source of one`s actions. Autonomous action results from individual interest`s and integrated values. Self-determination theory assumes that an individual aspires to create relationship with other persons which can contribute to his or her growth through satisfying his or her basic needs of competence, relatedness and autonomy. The theory further assumes that both individual and environmental variables contribute to shape identity and autonomy of a person.

From other perspective, which combines psychodynamic, cognitive and eclectic theories, attitudinal, emotional and functional autonomy can be distinguished. Attitudinal autonomy relates to the ability to define goals of actions, emotional autonomy is connected with having certainty as far as the value of one`s goals is concerned and functional autonomy is understood as being able to act in order to achieve a goal (Noom, 1999).

Attaining autonomy is regarded as one of the goals of education (Cuypers, Haji, 2006). Because of civilizational changes, rapid growth of knowledge and technological progress, specific competences needed by students in their adult life are harder to predict than in the past (Harari, 2014). Therefore learning autonomy, which is defined as the ability to direct one`s own learning (Benson, 2001) seems to be increasingly important in modern world. Learning autonomy consists of the ability to take responsibility for the decisions concerning learning content, external behaviours as well as internal cognitive, motivational and affective processes which accompany learning. Ponton, Derrick and Carr (2005) list initiative, perseverance and ability to cope with stressful situations as components of learning autonomy. The notion which is closely related to learning autonomy is self- regulation. Self- regulated learning is understood as a set of “active, constructive processes through which learners set goals for their learning and then work to monitor, regulate and control their cognition, motivation and behavior to accomplish those goals” (Wolters, Taylor, 2012: 635). Self –regulation in learning is thought to consist of three cyclical processes of planning, acting to put plans into practice with monitoring and evaluation of outcomes combined with self-reflection (Cleary, & Zimmermann, 2012). Self-regulation is regarded as autonomous if is performed because of the value of a goal or satisfaction from action itself (Grouzet et al., 2013).

Learning autonomy can be measured by various methods like observation, think-aloud protocols from task performance, student diaries, interviews and questionnaires (Boekaerts, Corno, 2005). Among questionnaires the following instruments are widely used: Learning and Study Strategies Inventory developed by Weinstein and co-workers (Weinstein, Palmer, 2002), Motivated Strategies for Learning Questionnaire constructed by Pintrich et al. (1991), Metacognitive Awareness Inventory by Schraw and Dennison (1994), Self-regulated Strategy Inventory by Cleary (2006) and Learner Autonomy Profile. Learner Autonomy Profile was constructed by Derric, Carr and co-workers (2007). The inventory consists of five scales, measuring learner desire, initiative, resourcefulness, persistence and appraisal of learner autonomy. The most commonly used instruments measuring autonomy consist of numerous items –

generally above 50 – and provide data concerning frequency of action and not sense of difficulty accompanying performance.

Research has shown that self-regulation contributes positively to academic achievement (Duckworth, Carlson, 2013) and well - being reflected in self-evaluation and self-acceptance (Weinstein et al. 2012). Therefore it is valuable to study variables which are connected with autonomy and especially, learning autonomy. Research have shown that both individual and environmental traits are related to individual`s autonomy in various areas of life.

Among individual traits the relationship between temperamental dimensions, personality traits from Five Factor Model, self-efficacy and autonomy was researched. Concept of self-regulation, which is close to autonomy, is connected to temperamental components of individual capacity to inhibit impulses or desires which are contrary to persons`s goals (Gramzow et al. 2004). Works of the researchers like R. Koestner i Losier (1996), Hmel i Pincuss (2002) and Weinstein and co-workers (2012) were analysed. The analysis has shown that the measurements of extraversion and agreeableness are related positively to the results of the instruments in which autonomy is understood as self-government. However, negative correlations of extraversion and agreeableness with autonomy were found in the case of instruments in which autonomy was operationalized as separation from others. Out of personality traits distinguished in Five – Factor Model, conscientiousness and openness to experience proved to have the strongest relationship with autonomy. Personality traits also proved to have relationship to learning self-regulation. Conscientiousness, openness and agreeableness facilitate learning self-regulation. Conscientiousness is related to cognitive self-regulatory skills, persistence and time management. Openness is linked to deep and elaborative learning and effort management. Agreeableness is connected to reproductive learning and high effort. Extraversion is connected negatively with learning self-regulation through its link to poor reflective skills and effort regulation. Neuroticism is connected to poor cognitive, analytical and critical thinking skills (Bidjerano, Yun Dai, 2007).

Zimmermann (2011) in a research review has shown that there is empirical evidence for the positive relationship between sense of self-efficacy and usage of learning strategies as well perseverance in performing learning tasks. Self - efficacy beliefs determine learning goals (Schunk, & Mullen, 2012).

Two kinds of environment proved to be especially important for shaping individual autonomy: family and school. Both parents and teachers can support autonomy of children and youth by refraining from behaviours which make young people feel controlled, reacting with empathy and respect when a child behaves contrary to expectations, giving a child opportunity to choose and make decisions, giving rationale for what is expected from a child, giving example of internally motivated behaviours, encouraging young people to reflect on values and goals which direct their actions and giving them opportunity for authentic decision making (Assor, 2012).

Out of parenting styles, authoritative and democratic influences proved to be most beneficial to social development of a child and their ability to adjust to school requirements. These influences are characterized by lack of excessive control and balancing between focusing on satisfying child`s needs, expressing warm feelings towards a child and placing demands (Baumrind, 2005). Weinstein and co-workers (2012) have proved the existence of positive relationship between child`s autonomy and such behaviors of their parents as supporting childs`s independence and interests as well as expressing positive

feelings towards them. The study by J Piotrowski (2013) showed positive relationship between parental authoritative style and the level of child's self-regulation.

Research by Stefanou et al. (2004), Boekaersts and Corno (2005), Sirens et al. (2009), as well Morrison et al. (2010) list the following teacher behaviors which support students' autonomy: granting students the right to freely express their opinions, taking students' aims, preferences and interests into consideration, allowing students to make decisions concerning organization of school activities and work performed during lesson, providing opportunities for problem solving and independent thinking, giving feedback on work effects, communicating with students which gives them support in difficulties and motivating students to work, for example by developing the sense of self-efficacy and competence as well as indicating the importance of tasks being solved.

Research were also conducted to show the role of learning autonomy in mediating between environmental factors and students' functioning in life. Such studies were conducted for example by Soenens, & Vansteniste (2005) and Mich (2013). In both cases the results of structural equations modelling confirmed that young person's self-determination level mediates between autonomy support received from parents and teachers and variables describing his or her functioning in life. In the case of the research conducted by Soenens i Vansenkiste (2005) it was proved that autonomy support from parents and teachers is related positively to student's self-determination level. In turn, student's self-determination level correlates with average mark for school examinations and self-evaluation of social and academic competences. Data collected by Mich (2013) has shown that parental autonomy support is related to autonomous learning motives in youth, which in turn correlate with higher persistence, resulting in deeper processing of learning material.

2. Problem Statement

Data from subject literature indicate the need of:

- Formulating reliable and valuable research tools which enable assessment of difficulty level experienced by learners implementing self-regulation strategies (Boekaerts i Cascallar 2006).
- Further verification of data which indicate relationship between autonomous learning with self-efficacy and related traits (Schunk, & Mullen, 2012).
- Research of relation between self-regulation and variables describing cognitive and motivational processes (Wigfield, Klauda i Cambria 2011).
- Verification of the models explaining the level of learning autonomy which simultaneously include environmental and individual variables (Mich, 2013).

The main research problem was therefore formulated as follows: **Which individual and environmental characteristics are related to experiencing difficulty in directing one's own learning?**

3. Research Questions

The main research question was formulated as follows: **does the suggested hypothesized model of the relationships between selected individual traits and environmental variables fit the data?**

The hypothesized model of the relationships between research variables was constructed on the basis of self-determination theory which assumes contribution of environmental and individual characteristics in shaping person's autonomy. Selection of research variables was guided by empirical research by Stefanou and co-workers (2004), Soenens and Vansteenkiste (2005), as well as Weinstein and co-workers (2012). In the model autonomous learning difficulty perceived by a student was selected as dependent variable. Student's temperamental traits like sociability, activity and emotionality, as well as autonomy support experienced from parents and teachers were regarded as independent variables. The role of mediating variables in the model was assigned to such student's traits as general autonomy, sense of self-efficacy as a learner, learning motivation and preferences towards actions of teachers aimed at supporting student's autonomy. On the basis of the adopted model of the relationships between research variables 35 hypotheses were formulated. The hypotheses were assigned numbers from 1 to 36. The hypothesized model of the relationships between research variables is presented in Figure 01

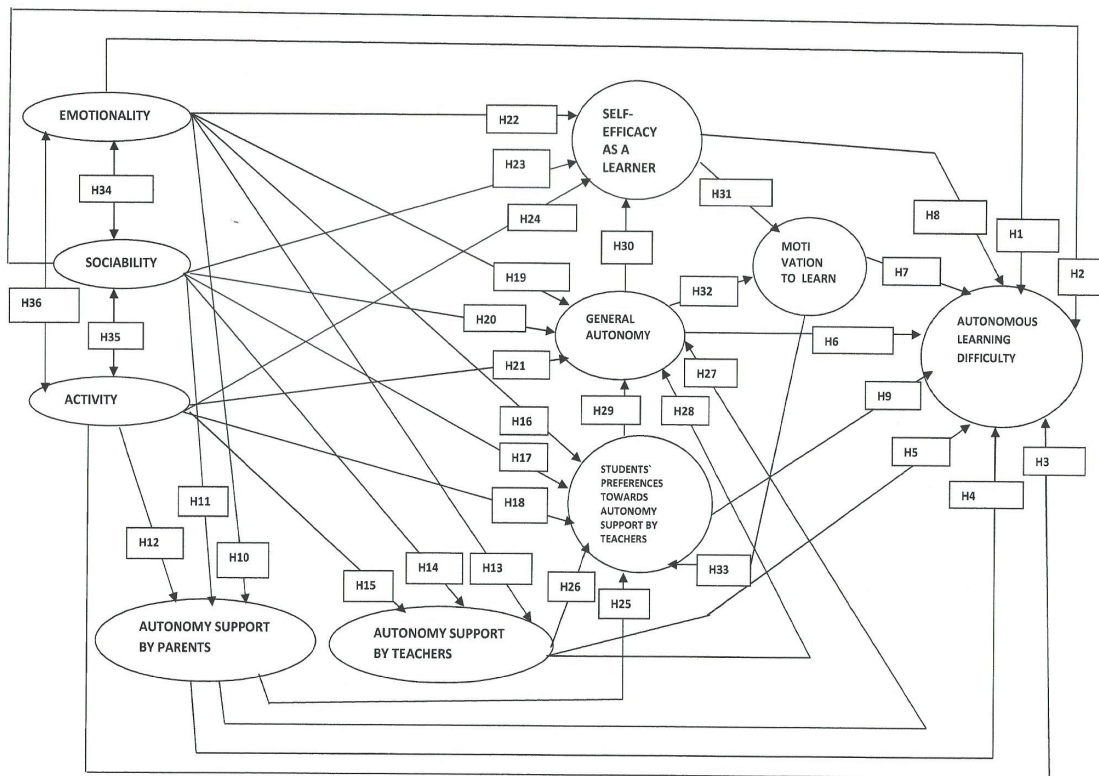


Figure 01. Hypothesized model of the relationships between research variables

4. Purpose of the Study

The main purpose of the study was to verify the hypothesized model of the relationships between research variables. Such verification would indicate which individual traits and which environmental factors contribute to explaining variance of the perceived autonomous learning difficulty. Model verification was made by means structural equation modelling.

5. Research Methods

5.1. Instruments

To measure dependent variable, Learning Autonomy Difficulty Questionnaire (LADQ) was constructed for the purpose of the research. The final version of LADQ consists of 34 items. Each item begins with a phrase: “When you learn independently, how difficult is it for you...” and then describes an activity characteristic to autonomous learning. Participants choose a number from the scale ranging from 0 to 6. The more difficult the activity described in an item, the higher the number from the scale should be indicated. Exploratory principal components analysis of the answers of 264 university students and confirmatory factor analysis of the data obtained from the group of 452 students of middle schools and upper secondary schools revealed that the constructed questionnaire measures three components of autonomous learning difficulty. These components are reflected in three questionnaire scales measuring: difficulty in reflective evaluation of learning outcomes ($\alpha = 0,86$), difficulty in controlling motivation to learn ($\alpha = 0,80$) and difficulty in planning learning ($\alpha = 0,87$). Discrimination power of LADQ items was analysed. For each Questionnaire scale the analysis revealed an item most strongly related to the total scale score. In the case of difficulty in reflective evaluation of learning outcomes scale it was an item concerning difficulty in evaluating effectiveness of one’s own learning. The item most strongly related to difficulty in controlling learning motivation proved to be the one referring to difficulty in continuing learning when other activities seem more pleasant. Among items of difficulty in planning scale, the strongest correlation with the scale score was found in the case of the item concerning difficulty in deciding about the way of learning material which is to be mastered. The relationship of LADQ items with the total score of the whole questionnaire was also determined. The items most strongly related to the total score of the whole instrument proved to be the items from difficulty in reflective evaluation of learning outcomes scale.

The analysis of the Learning Autonomy Difficulty Questionnaire measurements confirmed the assumption concerning normality of the distribution of instrument’s general score.

During verification of the hypothesized model between research variables short version of Learning Autonomy Difficulty Questionnaire was used consisting of 21 items. These items were characterized by path coefficient equal or higher than 0,55.

The data concerning reliability of Learning Autonomy Difficulty Questionnaire short version are shown in Table 01.

Table 01. Reliability of short Learning Autonomy Difficulty Questionnaire version

Subscales of Learning Autonomy Difficulty Questionnaire	Number of items	Cronbach alpha	Mean correlation between items
Difficulty in reflective evaluation of learning outcomes	9	0,833	0,358
Difficulty in controlling motivation to learn	5	0,793	0,435
Difficulty in planning learning	7	0,837	0,422
General autonomous learning difficulty – 21 items	21	0,90	0,30

Items of the Learning Autonomy Difficulty Questionnaire short version which were used during verification of the hypothesized model of the relationships between research variables were the following:

Items from difficulty in reflective evaluation of learning outcomes subscale:

When you learn independently, how difficult is it for you to ...

- choose the way of checking the level at which you have mastered learning material;
- pay attention whether your learning proceeds correctly;
- check the effectiveness of various ways of learning;
- evaluate the effectiveness of your learning;
- determine whether the level at which you have mastered a certain knowledge or skill is satisfactory;
- reflect what changes you should introduce to make your learning better;
- make changes in your learning when you think it is necessary;
- determine whether goals you want to achieve are worth your time and effort;
- determine whether what you are going to do will help you to achieve goals you strive for.

Difficulty in controlling motivation to learn subscale consists of the following items:

When you learn independently, how difficult is it for you to...

- put learning plans into practice;
- increase the willingness to learn in yourself;
- concentrate on learning in the face of various distractors;
- continue learning when other activities would be more pleasant;
- to resign from doing things which distract you from learning;

Items from the subscale termed Difficulty in planning learning were the following:

- plan how you will use what you are good at to help you with your learning;
- decide what learning outcomes you want to achieve;
- determine the level of detail at which you should master learning material;
- identify what is required to master certain material or to perform a given task;
- plan how much time you will devote to learn a given material;
- decide how you will learn a given material;
- to choose the way of learning which will enable you to obtain results you want to achieve.

The model was verified which assumed relationship between the items of LADQ short version and three components of autonomous learning difficulty which were distinguished: difficulty in reflective evaluation of learning outcomes, motivation to learn and planning learning. Value of CMIN/df was equal to 3,55. RMSEA reached the value of 0,08. These values indicate acceptable model fit to the data. The GFI index equal to 0,88 and AGFI index equal 0,85 did not reach acceptable values.

In order to measure independent and mediating variables included in the model already available questionnaires were used as well as instruments constructed for the purpose of the research. From the original instruments only the items with path coefficient higher than 0,39 were retained.

The measurement of **temperamental traits** was conducted by EAS Questionnaire, adapted for the research in Poland by Oniszczenko (1997). From emotionality scale three items were used, expressing

tendency to feel worried, tense and unsafe ($\alpha=0,68$). Sociability scale was represented by two items reflecting preference of being with people and working in a team ($\alpha=0,57$). Three items from activity scale which were used concerned the tendency to be busy, in a hurry and having the impression of high pace of life ($\alpha=0,44$).

General autonomy was measured by means of Adolescent Autonomy Questionnaire, constructed by M. Noom and co-workers (1999). Out of 15 items four were used, which belong to attitudinal autonomy scale. The items reflect certainty what to answer when questioned, being able to decide easily what one wants, not having trouble with making choices and not hesitating when making decisions ($\alpha = 0,73$).

The instruments measuring preferences towards autonomy support received from teachers, autonomy support from teachers, autonomy support from parents, self-efficacy as a learner and learning motivation were constructed for the purpose of the research. All instruments constructed for the purpose of the research measuring independent and mediating variables are provided with the same 5-degree scale ranging from “definitely not” to “definitely yes”.

The questionnaire of **students preferences towards autonomy support received from teachers** consists of four pairs of items describing learning situations during a lesson. In each pair one item indicates the possibility of independent learner's action, the second one shows conditions in which student's independence is constrained. The reliability of the instrument, expressed by Kuder-Richardson's index was equal $r_{tt}=0,576$.

The measurement of **autonomy support students receive from their teachers** was made by means of 6 items relating to: informing students what they have done well and what needs to be improved, providing students with reasons for the recommended way of conduct, demonstrating various ways of learning, showing students how to overcome obstacles they face in learning, encouraging students to observe the ways in which they learn and outcomes they achieve, as well as helping students to develop their interests and talents ($\alpha = 0,82$).

Three items served to measure **autonomy support students receive from their parents**. The items concern showing loving affection to a child, making a child understand that parents believe in him/her and acceptance of child's ideas and independent actions ($\alpha=0,72$).

All three items from the questionnaire measuring **sense of self-efficacy as a learner** were used ($\alpha=0,72$). The items refer to evaluation of one's ability to cope with mastering learning material, learning difficulties and everyday school situations.

Learning motivation was measured by three items ($\alpha=0,72$) describing external, identification and integrated learning motives: learning to get good marks and good job, learning because good education is regarded as important and learning to be able to become a person one wants to be in life.

5.2. Participants

Four hundred and fifty four students took part in the main study. Among participants there were 150 middle school students (mean age $M=14,63$; $sd=0,93$) and 302 upper secondary school students

(mean age $M=17,38$; $sd=0,83$). Women consisted 51,3% of the participants from middle school and 56,6% of the secondary school students taking part in the research.

6. Findings

The results of verification of the hypothesized model of the relationships between research variables are presented in Figure 02.

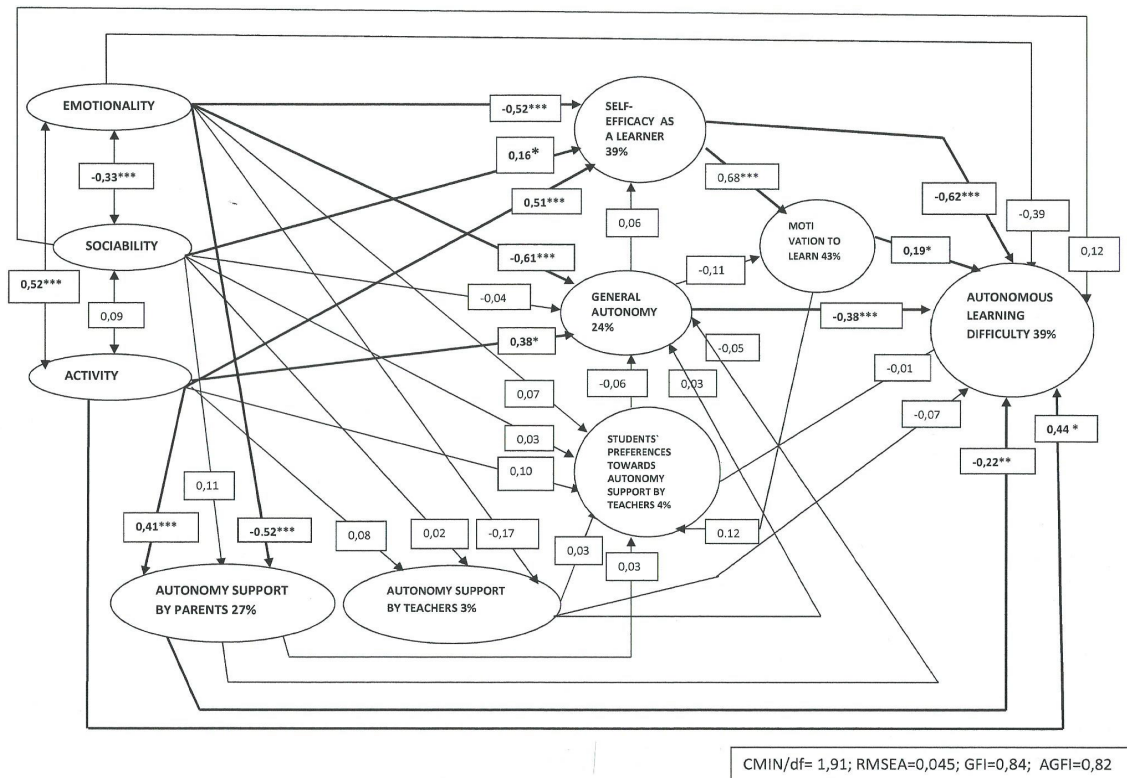


Figure 02. The results of the verification of the hypothesized model of the relationships between the research variables.

Structural equation modelling proved significance ($p<0,05$) of 15 out of 36 relationships hypothesized in the model.

These were the relationships between:

- H3 Activity and general perceived autonomous learning difficulty ($w_s= 0,44$).
- H4 Autonomy support by parents and general perceived autonomous learning difficulty ($w_s= -0,22$).
- H6 General autonomy and general perceived autonomous learning difficulty ($w_s= -0,38$).
- H7 Learning motivation and general perceived autonomous learning difficulty ($w_s= 0,19$).
- H8 Sense of self-efficacy as a learner and general perceived autonomous learning difficulty ($w_s= -0,62$).
- H10 Emotionality and autonomy support by parents ($w_s= -0,52$).
- H12 Activity and autonomy support by parents ($w_s= 0,41$).

- H19 Emotionality and general autonomy ($w_s = -0,61$).
- H21 Activity and general autonomy ($w_s = 0,38$).
- H22 Emotionality and sense of self-efficacy as a learner ($w_s = -0,52$).
- H23 Sociability and sense of self-efficacy as a learner ($w_s = 0,16$).
- H24 Activity and sense of self-efficacy as a learner ($w_s = 0,51$).
- H31 Sense of self-efficacy as a learner and learning motivation ($w_s = 0,68$).
- H34 Emotionality and sociability ($w_s = -0,33$).
- H36 Emotionality and activity ($w_s = 0,52$).

The verified original hypothesized model of the relationships between research variables explains 38% of the perceived autonomous learning difficulty variance. Indices reflecting model fit to the data, based on the comparison of the model variance – covariance matrix with empirical or population matrix proved to have acceptable values. CMIN/df index was equal to 1,91, which is lower than the highest acceptable value of 5. RMSEA index was equal 0,045 and also did not exceed the highest acceptable value. Fit indices based of the percent of data variance-covariance matrix explained by the model proved to be lower than acceptable value of 0.90. GFI value was equal to 0,84, AGFI to 0,82. Fit indices based on comparison of the tested model and independence model also had values indicating the necessity of introducing modifications to the original model: NFI=0,73; PNFI=0,68; IFI=0,85; CFI=0,85. In order to correct original model of the relationships between research variables, modification indexes were analysed and insignificant paths were removed.

The corrected model of the relationships between research variables explaining autonomous learning difficulty and the results of its verification are presented in Figure 03.

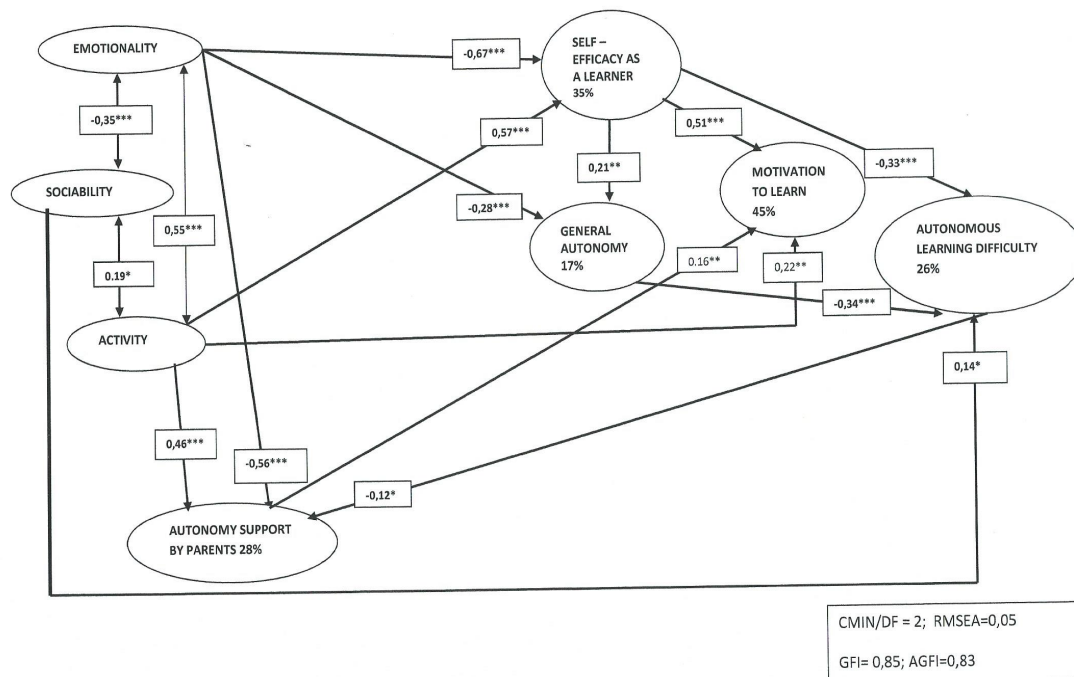


Figure 03. Corrected model of the relationships between research variables and results of its verification.

The results of the corrected model verification confirmed findings from the original model analysis with respect to the relationships between:

H6 General autonomy and general perceived autonomous learning difficulty ($w_s = -0,34$).

H8 Sense of self-efficacy as a learner and general perceived autonomous learning difficulty ($w_s = -0,33$).

H10 Emotionality and autonomy support by parents ($w_s = -0,56$).

H12 Activity and autonomy support by parents ($w_s = 0,46$).

H19 Emotionality and general autonomy ($w_s = -0,28$).

H22 Emotionality and sense of self-efficacy as a learner ($w_s = -0,67$).

H24 Activity and sense of self-efficacy as a learner ($w_s = 0,57$).

H31 Sense of self-efficacy as a learner and learning motivation ($w_s = 0,51$).

H34 Emotionality and sociability ($w_s = -0,35$).

H36 Emotionality and activity ($w_s = 0,55$).

The analysis of the corrected model of the relationships between variables revealed that in two cases the direction of the relations between variables should be opposite to the ones originally hypothesized. It was found in the case of hypotheses H4 and H30. In the corrected model there were significant paths leading from students's perceived autonomous learning difficulty to autonomy support a student receives from their parents ($w_s = -0,12$) and from student's sense of self-efficacy as a learner to their general autonomy ($w_s = 0,21$).

The corrected model included also relationships which did not prove to be significant during original model verification. These were the relationships between:

H2 Sociability and general perceived autonomous learning difficulty ($w_s = 0,14$) and

H35 Sociability and activity ($w_s = 0,19$).

The analysis of the corrected model also revealed three significant relationships which were not included in the original model of the relationships between variables. The first one is the relation between autonomy support by parents and student's motivation to learn ($w_s = 0,16$). The second one is correlation between student's activity with their motivation to learn ($w_s = 0,22$) and the third one – relationship between autonomy support by parents and motivation to learn ($w_s = 0,22$).

The corrected model of the relationships between research variables proved to explain 26% of the general perceived autonomous learning difficulty variance. The values of fit indices based on the comparison of model and population variance – covariance matrices show that the model can be accepted. The value of CMIN/DF index was equal to 2, the value of RMSEA equaled 0,050. The values of GFI = 0,85 and AGFI = 0,83 indicate, that the model explains about 85% of the observed variance-covariance matrix, which is too low to accept the model. Other indices also did not exceed criterial values allowing to accept the model: NFI = 0,75; PNFI = 0,70; IFI = 0,86; CFI = 0,86.

The corrected model satisfactorily reflects the picture of the relationships between research variables. Therefore it can be the basis for formulation of plans of practical actions which support learning autonomy. The model does not sufficiently explain the perceived difficulty of autonomous learning. This indicates the necessity for further search of variables affecting difficulty in independent knowledge and skill acquisition.

7. Conclusion

The aim of the study was to verify the model explaining perceived autonomous learning difficulty. In the model temperamental traits and autonomy support from teachers and parents are treated as independent variables, student's autonomy, self-efficacy as a learner, learning motivation and preferences towards autonomous tasks - as mediating variables and perceived autonomous learning difficulty - as a dependent variable

The hypothesized model of the relationships between research variables contains following elements which were not included in the previous research in the subject. These elements are:

- Incorporating both individual and environmental variables into the model explaining learning autonomy.
- Inclusion student's preferences towards actions of teachers aimed at supporting student's autonomy into the group of research variables.
- Studying relationship between general autonomy and autonomy in specific area of functioning.
- Operationalizing autonomy through the measurement of difficulty experienced during independent learning.

Data was gathered from a group of 454 participants - students of middle and secondary school. Learning Autonomy Difficulty Questionnaire was constructed for the purpose of the research. Temperamental traits were measured by EAS Questionnaire, adapted for the research in Poland by W. Oniszczenko (1997). The measurement of general autonomy was performed by means of Adolescent Autonomy Questionnaire, constructed by Noom and co-workers (1999). Instruments measuring autonomy support from teachers and parents, student's autonomy, self-efficacy as a learner, learning motivation and preferences towards autonomous tasks were constructed for the purpose of the study.

Results of the research allowed to formulate the following theoretical conclusions:

- Learning Autonomy Difficulty Questionnaire which was constructed enables for the measurement of the perceived difficulty in such aspects of independent knowledge and skill acquisition as planning, motivational control and reflective evaluation of outcomes. The instrument can be regarded as reliable.
- Among research variables the level of general autonomy and sense of self-efficacy as a learner proved to be the strongest predictors of the perceived autonomous learning difficulty.
- The level of autonomous learning difficulty perceived by a student is related to autonomy support he or she receives from parents. The higher autonomous learning difficulty experienced by a learner, the less probable is that they will receive autonomy support from parents.
- The higher student's activity, the more parental autonomy support they receive.

The data obtained indicate several guidelines for educational practice:

- Students should be instructed how to use strategies allowing to control motivation and emotions which accompany their learning.
- It is highly advisable to develop students' sense of self-efficacy.
- Supporting students' autonomy can be regarded as an important educational goal. During teacher's meetings with parents it would be beneficial to encourage student's parents to use such ways of supporting autonomy as communicating to a child belief in his or her competencies and assisting in developing his or her interests.
- Assistance in autonomy development should be provided especially to individuals who do not manifest outwardly their predispositions to take responsibility for their actions because of their high emotionality and low activity.

The results of own research indicated also directions for further research. The data obtained showed that the hypothesized model of the relationships between all variables included in the research explained 38% of the perceived autonomous learning difficulty. The corrected model containing lower number of variables accounted for 26 % of the perceived autonomous learning difficulty variance. The percent of the data variance - covariance matrix compared to the model variance-covariance matrix also was not high. This fact indicates the necessity to search for the factors connected with the sense of difficulty in taking charge of one's own learning.

The data presented may be summarized by a statement that an individual who manifests autonomous behavior stimulates support of their autonomy from persons from their environment. |

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