

SELECTED FACTORS AFFECTING THE EDUCATIONAL ACTIVITY OF ADULTS

FACTORES SELECCIONADOS QUE AFECTAN LA ACTIVIDAD EDUCATIVA DE LOS ADULTOS

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ABSTRACT

The aim of the article is to show the importance of educational activity of adults in the process of intentional designing one's life: flexible actions depending on the needs and overcoming the deficits. The life-long education and the learning competences are essential in today's world, that is why a closer look was taken on educational activity of adults and to research their ability to perform a self-directed learning and diagnose their learning motivation. The problem was examined in the salutogenesis paradigm, which was first defined by Aaron Antonovsky. The key concept for Antonovsky's concept is the sense of coherence (SOC), which is a constant disposition of personality in adult life and determines the way we think, interpret, and make decisions and actions in our lives. The sense of coherence is characterized by a dimensional character (from weak to strong SOC) and is defined as a global orientation expressed in the sense of individual certainty that its external and internal environment is understandable and meaningful and life is worth the effort and commitment (Antonovsky 1979, 1986; Antonovsky &Sagy 2001). The ability of self-directed learning was correlated with the level of sense of coherence. In this article the results of the research are presented. The research was conducted on 427 persons in Poland. The research was focused on finding different factors influencing educational activity of adults, especially on the most significant activity: self-directed learning. The dependence of chosen variables was examined, in order to point out the features which might help adults to initiate their own learning activity.

Keywords: adult, education, lifelong learning, self-directed learning, salutogenesis, sense of coherence.

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RESUMEN

El objetivo del artículo es mostrar la importancia de la actividad educativa de los adultos en el proceso de diseño intencional de la propia vida: acciones flexibles que dependen de las necesidades y superación de los déficits. La educación a lo largo de la vida y las competencias de aprendizaje son esenciales en el mundo de hoy, por eso se analizó de cerca la actividad educativa de los adultos y se investigó su capacidad para realizar un aprendizaje autodirigido y diagnosticar su motivación de aprendizaje. El problema se examinó en el paradigma de la salutogénesis, que fue definido por primera vez por Aaron Antonovsky. El concepto clave para el concepto de Antonovsky es el sentido de coherencia (SOC), que es una disposición constante de la personalidad en la vida adulta y determina la forma en que pensamos, interpretamos y tomamos decisiones y acciones en nuestras vidas. El sentido de coherencia se caracteriza por un carácter dimensional (de SOC débil a fuerte) y se define como una orientación global expresada en el sentido de certeza individual de que su entorno externo e interno es comprensible y significativo y que la vida vale la pena el esfuerzo y el compromiso (Antonovsky 1979, 1986; Antonovsky & Sagi 2001). La capacidad de aprendizaje autodirigido se correlacionó con el nivel de sentido de coherencia. En este artículo se presentan los resultados de la investigación. La investigación se realizó en 427 personas en Polonia. La investigación se centró en encontrar diferentes factores que influyen en la actividad educativa de los adultos, especialmente en la actividad más significativa: el aprendizaje autodirigido. Se examinó la dependencia de las variables elegidas para señalar las características que podrían ayudar a los adultos a iniciar su propia actividad de aprendizaje.

Palabras clave: adulto, educación, aprendizaje permanente, aprendizaje autodirigido, salutogénesis, sentido de coherencia

1. Introduction

The article focuses on the issues of educational activity, especially self-directed learning of adults in the context of their lifelong development. The ability of learning, especially the self-directed learning, nowadays is a very important issue. We must learn in order to develop, to have a job, to get employed or to keep the job. If we don't learn, we move quickly backwards. Any adult who educates, does so for a reason. Adults may seek to complete discontinued formal education or improve their qualifications in a particular area. Adults can learn for themselves, to improve their quality of life, out of curiosity, to better understand the surrounding reality, or for work-related reasons (for career advancement, job retention, or fear of losing a job). Therefore, when talking about adult education, we have to take into account its multifaceted, multidimensional nature (Delors, 1986; Lengrand, 1970; Kidd, 1975; also works published by European Commission concerning New Skills Agenda for Europe from 2016 - 2019²).

Modernity is marked by numerous unpredictable changes that take place in the economic, social or political spheres. These changes entail many consequences at the macro level (functioning of the whole society), meso- (life activities of particular social groups) and microstructural (personal perspective). Political and historical events, social phenomena and economic changes have a significant impact on how individuals behave in personal, social and

² All of the published work can be found: <https://ec.europa.eu/social/main.jsp?catId=1223>, the author refers to two papers published in 2016: Susanne Kraatz, Michaela Franke, Mellar Balazs Skills development and employment: New Skills Agenda for Europe, European Parliament, 2016 https://www.europarl.europa.eu/RegData/etudes/BRIE/2016/587318/IPOL_BRI%282016%29587318_EN.pdf European Commission, A NEW SKILLS AGENDA FOR EUROPE Working together to strengthen human capital, employability and competitiveness, Brussels, European Parliament, 2016 [file:///C:/Users/oem/Downloads/COM_2016_381_F1_COMMUNICATION_FROM_COMMISSION_TO_INST_EN_V6_P1_852322%20\(1\).pdf](file:///C:/Users/oem/Downloads/COM_2016_381_F1_COMMUNICATION_FROM_COMMISSION_TO_INST_EN_V6_P1_852322%20(1).pdf)

employment dimensions. These changes may affect both travel directions, investment plans, and education/occupational orientation at both individual and global levels. New geopolitical and social trends can motivate an adult to take new action, and modify their aspirations and plans. Group processes are transformed and come to affect the way entire social groups function (Aronson, 2015).

The perception of phenomena and events at the level of entire societies is constantly changing. In this paper, educational activity will be analyzed in all these aspects, although the perspective of the person will be most emphasized. When analyzing the phenomenon of adult life activity, it is important to focus on its aspirational and incentive dimension of self-directed education: why do adults who have a job, family, stable life, constantly set new goals and tasks? Or we can narrow down the question to the professional and educational dimension: why do adults who have earned an education, diplomas, continue to learn, independently, by spending their own time, money and other resources? What drives them? We often have a situation where internal motivation (I learn, because I want) and external (I learn, because I have to) co-occur in the educational process (Maslow 1943; Vogt et al. 2016). Adults learn by completing courses, studies, training (formal education), self-directed learning (non-formal education) or investing in personal development (in-depth education). From the psychological and developmental point of view, it is interesting to analyze the educational activity of adults as a result of internal motives and therefore the phenomenon has become an inspiration for theoretical considerations and empirical research on the determinants of subjective educational activity connected with self-directed education processes (Kidd, 1975; Lengrand, 1970; Grow, 1996; Grover, 2014; Jarmužek 2018).

Self-directed education, for the purposes of this work, is defined as the ability of a person to plan self-directed education and implement this plan in a lifetime perspective. Self-directed education is defined as a subjective way of life, resulting from the aspirations, motivations and life goals of a person who actively seeks and implements development activities. It is a style of being in which a person consciously adopts a distinctive manner of being, individualized in scope and form, motivation, values, and goals of behavior. Adult self-directed education activities can be realized either by themselves or by incorporating various educational offerings in their own educational path. We can characterize the self-directed education as a combination of values and aspirations with the behavioral choices, that will determine how the adult will transform his or her own lifestyle, that is going to be internally consistent and fulfilling the life goals (Kidd 1975; Grow, 1996; Grover, 2014; Boyer 2014; Jarmužek 2018).

The issue of self-directed education can also be seen from the perspective of a person's competences and resources, which determine the quality of the adult's educational commitment (Grow, 1996; Hiemstra, 2002; Hoban, Hoban, 2004; Crowther, 2004; Boyer et al. 2014; Harkes et al. 2014). The work will analyze the selected subjective conditioning of various adult education forms. Each adult individually identifies his or her own life goals, defines life success, formulates expectations for themselves and others, and specifies and undertakes educational activities. This perspective shows that the adult's educational activity depends on many factors at macro- and microstructural level. The stability of the living and working situation, whether this assessment is objective or subjective, will determine the activity of an individual in various areas of life. Therefore, the needs and educational possibilities of a person cannot be seen only in the metric context of the level of formal education achieved, but also in terms of individual educational, professional and self-fulfillment needs, the type of motivation, and the life goals resulting from the individual concept of a successful and valuable life. The self-directed education of an adult will therefore be considered in the context of internal competences and personal dispositions as a self-designed and realized lifelong education process. In the context of modern educational and development concepts adults are perceived as being capable of being able to change, to realize something important in their lives (Delors 1986; Grover, 2014; Boyer 2014). However, in practice,

not everyone realizes their plans, dreams and develops their potential. The extent to which an adult's life becomes a source of deep satisfaction depends both on the external factors and the internal dispositions and competencies that enable the person to creative realization of the individual sense of life, and the ability to cope effectively with different adversities. In this paper, factors enabling us to realize our own plans and potentials, to skillfully create our lives in the context of educational activity, especially self-directed education will be analyzed (Antonovsky & Sagy, 2001; Hiemstra, 2002 ; Jarmužek, 2018).

The determinants of adult learning will be considered in the context of salutogenesis. The founder of the salutogenic approach was Aaron Antonovsky (1923–1994), professor of sociology. Born in Brooklyn, New York, in the United States, he initially he studied history and economics, then the sociology of medicine. After obtaining his doctorate in sociology in 1955, he emigrated to Israel in 1960. He worked in Jerusalem at the Israeli Institute for Applied Social Research Hebrew University of Jerusalem and the Faculty of Medical Sociology at the University of Hebrew. He also co-founded the University of Ben Gurion, wrote and published 12 books and over a hundred scholarly articles. In 1972 he withdrew from professional and scientific life. At present, there are many research institutes working in salutogenic paradigm, many research centers, clinics and hospitals use the Sense of Coherence (SOC) concept as a tool to assess the level of coherence and its components in order to predict how people will cope with therapy, mourning or convalescence (Feldt et al. 2004; Hintermair, 2004; Eriksson, Lindstrom, 2006; Pisula, Kossakowska, 2010; Pillay, 2015; Ferejao, Oliviera, 2016; Chu et al. 2016). The key concept for Antonovsky's concept is the sense of coherence (SOC), which is a constant disposition of personality in adult life and determines the way we think, interpret, and make decisions and actions in our lives. The sense of coherence is characterized by a dimensional character (from weak to strong SOC) and is defined as a global orientation expressed in the sense of individual certainty that its external and internal environment is understandable and meaningful and life is worth the effort and commitment (Antonovsky 1979, 1986). It has been assumed that one of the important determinants of effective personal and professional development and the ability to fulfill one's own life plans and personal dreams is a high level of coherence. Antonovsky emphasized (and researched) that sense of coherence consists of three components: sense of comprehension, sense of resourcefulness and sense of sensibility. Sense of coherence is understood as the belief that an adult can make the world understandable (sense of comprehension and sense of resourcefulness) and that these are in life, things and people worth engaging (sense of feeling sensible) (Jarmužek, 2018). It was also assumed that the motives of education, educational plans and the intensity of educational activity, especially self-directed education, depend on both the level of coherence and the dynamics of individual components. Otherwise, one perceives the educational opportunity of a person with a high sense of coherence, and the opposite of the person at the opposite end of this personality disposition. In one case, the goal is long-distance education, self-directed education, aiming to fulfill one's own dreams and goals, the other being education solely for the purpose of obtaining a diploma, or pursuing an isolated short-term goal of gaining specific skills or knowledge.

2. Objectives and hypotheses

The main research problem was formulated as follows: How does the sense of coherence affect adult self-education? Nowadays, the role of education in the lives of adults is undeniable. This problem relates to the phenomenon widely analysed and verified on the basis of modern education sciences. It refers directly to the issue of the quality of adult education and internal and external conditions of this process. Thus, the main research question refers to both external and internal phenomena, as well as their interrelationships. The following specific problems were associated with this main problem:

1. What is the relationship between the level of sense of coherence and its components and self-education activity and self-education motivation in adults?
2. What is the relationship between activity and self-motivation in adults?
3. What are the barriers to educational activity in adults?
4. What is the relationship between the level of SOC and its components and educational barriers?
5. What is the relationship between barriers and self-learning activity and motivation in adults?
6. What is the relationship between employment and the level of sense of coherence and its components in adults?
7. What is the relationship between employment and self-education activity and motivation in adults?
8. What is the relationship between employer support and adult educational activity and motivation?

The research problems listed do not exhaust the wide range of the phenomena and processes related to adult education. The need to focus on selected aspects of the phenomena, has also a certain effect at the stage of constructing the tool - it forces the study and interpretation of only a specific section of the studied reality. Research subproblems, which are an extension of the research topic and at the same time constitute independent research issues, remain in this research in mutual relations and constitute the structure of research issues.

The level of sense of coherence and its components are an important factor conducive to self-education of adults. During theoretical considerations, referring to the theory of Aaron Antonovsky and the research carried out, a high level of SOC and its components was associated with activities focused on development and coping with life challenges. Adult education is a challenge or lifestyle - it involves devoting free time, reorganizing activities and interests, and allocating your resources (money, free time) to meet specific internal (lifestyle, interests) or external (professional requirements, threat of unemployment) (Antonovsky, 1986; Antonovsky & Sagy 2001; Strauser, Lustig, 2003; Hoban, Hoban, 2004; Vogt et al. 2016; Przychyżypkowski et al. 2017).

The level of sense of coherence and its components has a significant impact on the self-learning activity of adults and the type of self-learning motivation of adults. The higher the level of SOC and its components, the more intense the self-learning activity is, the more subjective, intentional and independent educational methods are used. Also the respondents formulate their own educational plans and more often they have internal educational motivation (and depending on the situation supplemented by external motivation) (Hiemstra, 2002; Hoban, Hoban, 2004; Vogt et al. 2016).

There is a relationship between the intensity of learning activity and learning motivation. Based on the theory and research carried out by researchers dealing with the process of self-directed learning (SDL), it is clear that more willingness to act is shown by adults who have mastered the competences associated with self-education, their activity is focused on the goal, more intensive and directs internal motivation resulting from the vision of oneself, life goals and interests (Grow, 1996; Hiemstra, 2002; Hoban, Hoban, 2004; Crowther, 2004; Boyer et al. 2014; Harkes et al. 2014; Vogt et al. 2016)

The barriers hindering adult education include both internal factors (low self-esteem, lack of competence or knowledge) and external factors (lack of time, money, family and employer support). Respondents' responses will be dominated by external factors - often they are very difficult to compensate: the lack of money, time, support and acceptance from relatives or the employer is difficult to compensate. Lack of learning skills, lack of confidence in one's own abilities, low self-esteem are factors that are more difficult to realize, verbalize, but also easier to overcome using various coping mechanisms, which are associated with high level of sense of coherence (Grow, 1996; Hoban, Hoban, 2004; Vogt et al. 2016).

The level of sense of SOC coherence and its components have a significant impact on dealing with educational barriers. Antonovsky has repeatedly emphasized that every person is in a state of dynamic imbalance, entropy, because in our lives there are all sorts of requirements and events that require a reaction and reaching for internal and external resources (Antonovsky 1979, 1986; Antonovsky & Sagy 2001). The SOC level has a significant impact on individual, subjective life beliefs, which in turn translates into specific behaviors. It turns out that it is not only objective reality that affects the sense of quality of life - the SOC level is an important moderator. The sense of coherence affects primary assessment (whether challenge, threat or loss), coping styles (active-cognitive, active-behavioral, avoidance), thus affecting resources and level of health. A strong sense of coherence means that a given stimulus is perceived as a challenge, not a threat, and therefore triggers different reactions than those of a person with a low level of sense of coherence. People with a strong sense of coherence experience different emotions than people with a weak sense of feeling - emotions in the former are much easier to regulate. Man, responding to emerging requirements, assesses them in terms of the possibility of mobilizing the appropriate resources. If these resources are lacking, then the tension turns into stress, which is manifested by the intensification of physiological and emotional processes. A high sense of coherence gives a significant advantage in a new or crisis situation, because people with a high level of this variable more often assess stimuli as non-stressful, as such that they can cope with, so they do not experience tension in those situations where people with low the strength of the sense of coherence feel threat and tension. The question arises, however, why people with a strong sense of coherence more often than people with a weak sense of coherence include non-stressful stimuli or, having placed them as stressors, assess them as slightly threatening or harmful. This is because they believe that they will also be able to cope with the new requirement, that everything will work out well, that this problem can be solved and the world does not seem to make no sense to them immediately. Importantly - people with a strong sense of coherence choose a specific coping strategy (emotion or action oriented) that they think is best suited to the stressor. They always choose from the available repertoire of generalized and specific resources the set that they think best suits the situation (Feldt et al. 2004; Eriksson, Lindstrom, 2006;; Pillay, 2015; Strauser, Lustig, 2003; Chu et al. 2016; Jarmužek, 2018).

Educational barriers will only affect the level of learning activity, educational barriers should not affect learning motivation, which is an expression of the life goals and aspirations of a person, their own concept of a successful life. Persons with a high level of educational competences, especially self-education, actively and intensively participating in educational processes will effectively deal with educational barriers. This type of hypothesis is also confirmed by the research of Sheila Hoban and Gary Hoban (2004).

There is a relationship between low levels of sense of coherence and its components and unemployment. Antonovsky defines the sense of coherence as a lasting personality trait, which has been confirmed in studies that showed that the sense of coherence correlates more with personality traits than momentary emotional states and in many studies the connection between SOC and personality has been confirmed. The level of sense of coherence stabilizes around 30 years of age, which has been positively verified by many researchers over the years (Feldt et al. 2004). Therefore, it is unlikely that a person in certain areas of their life exhibits a strong sense of coherence, and in others a sense of coherence of a diametrically different intensity. The impact of life experiences on the SOC level was also examined - positive events affect the consolidation of the SOC level, they can be a resource in the process of intentional change. The same research showed that negative events do not affect the SOC level for people with a strong sense of coherence (Pillay et al. 2015; Strauser, Lustig 2003). In people with low SOC levels there was a significant decrease in the variable, especially the sensibility component (Antonovsky 1979, 1986; Jarmužek 2018).

There is no direct relationship between employment and the level of learning activity and the type of education motivation. There are many reasons why adults undertake self-directed learning - professional activity is just one of many. Individuals can undertake independent educational activities also for reasons of self-fulfillment, interests, and vision of themselves. Of course, the process of training or expanding one's own competences may also be caused by losing or threatening job loss. Research on educational activity shows that its intensity and permanence depend on the level of educational competence, not on the loss of a job. How a person reacts to the possibility of losing a job depends on personality and disposition, internal and external resources. It is unlikely that a person with low educational competences and little educational experience after losing a job will be very active in education or will be guided by internal motivation (Antonovsky 1987, Hoban, Hoban, 2004; Jarmużek 2018).

There is a relationship between employer support and educational activity and educational motivation. Support from employers can maximize and strengthen educational and self-education activities as well as educational and self-education motivation of adults. Forcing employers to conduct educational activities only leads to external motivation and a limited scope of educational activity (Vogt et al. 2016).

3. Methodology

3.1. Design

Solving research problems requires the use of appropriate methods, techniques and research tools, and their selection depends on the subject of research, the scope, but also on the researcher's capabilities. In the methodological literature, the most common quantitative strategies in pedagogical research are: a diagnostic survey, a pedagogical monograph, a method of individual cases and a pedagogical experiment. The diagnostic survey is a way of gathering knowledge about structural and functional attributes and the dynamics of social phenomena. It includes such techniques as: interview, questionnaire, analysis of personal documents, statistical techniques, observation and others. Analyses based on the diagnostic survey method were carried out using a questionnaire as a research technique. The following tools were used for the purposes of the study: The Sense of Coherence Questionnaire for Adults Aaron Antonovsky (SOC-29) and the Self-Education Questionnaire.

The Sense of Coherence Questionnaire for Adults (SOC-29) consists of 29 test items expressed in the form of interrogative sentences. Each item has a 7-point rating scale (the scoring range is 1 to 7) with its extremes labeled. In some items, reverse scoring was used. The Self-Education Questionnaire consisted of 15 open questions about self-education activity and self-education motivation of adults, experienced difficulties in education activity and educational barriers, received support from employers and other questions in order to obtain data such as age, gender, level of education, employment. Before the research stage, the tool was verified by 15 respondents. They were selected from among volunteers who declared to help with the verification of the tool. The respondents' task was to complete the questionnaire and provide feedback on the tool. At this stage, the ease and unambiguity of coding the answers of the respondents was also verified. The conclusions undoubtedly contributed to the final design of the tool, it helped to reformulate a few questions whose language probably seemed too academic to the subjects. After introducing the changes, the questions did not raise any doubts, which means that the introduced modifications contributed to the internal consistency of the tool. Next step was testing the tool by competent judges with the use of Lawshe's method, which helped to verify the content accuracy of the tool. Each element of the tool (question) was analyzed in terms of its relevance and necessity. For each question, the sum of answers proving its accuracy was counted. The final version of the tool eliminated questions that did not meet the required compliance. Among the competent judges were research workers (educators, psychologists and

sociologists) of the University of Adam Mickiewicz in Poznań, who rejected two questions about the variable "educational activity".

3.2. *Participants*

The study included adults who study extramural at the University of Adam Mickiewicz in Poznań: at the Faculty of Educational Studies major in Pedagogy; at the Faculty of Biology major in Biology; at the Faculty of Physics in the fields of Applied Computer Science and Physics with Computer Science and at a private university in Poznań at the Faculty of Social and Economics, major in Pedagogy. The research group was purposefully selected, i.e. adults studying extramural and assuming undergoing self directed learning were asked to fill the questionnaires in order to capture the nature of the interrelationships between the variables important for this research work. The participation in the research was voluntary and anonymous.

3.3. *Procedure and data analysis*

In order to develop empirical material and verify hypotheses, appropriate statistical techniques were used to determine the type and direction of relationships between variables. In the first stage of the analysis, descriptive statistics were used, such as the incidence and distribution of the analyzed variables in the studied group. Then the t-Student test was used, to verify the significance of differences, due to the distribution of dependent variables close to normal and the large size of the research group, despite the fact that the variables were measured on the ordinal scale. Pearson's Correlation Coefficient Test was used for data analysis.

The choice of these methods was dictated by the nature of the data obtained in the questionnaire, in accordance with the algorithm for selecting the significance test and the coefficient of strength relationship between variables. After collecting the researched data, raw results were recalculated, then the partial scores were obtained, answers from open questions were encoded and statistical analysis of all collected data was carried out. The strength of correlation between the results obtained by the study of a person in individual parts of the questionnaire was analyzed at a level of significance equal to or less than $p \leq 0.05$. Cluster analysis by agglomeration of selected variables allowed to identify certain groups of variables in a significant way related to each other.

The research group consisted of 439 people. Twelve adults returned incomplete questionnaires, therefore 427 questionnaires were further analyzed. Thus, the data acquisition efficiency ratio was as high as 97%. The study group was internally differentiated by age, sex, education, type of university and employment.

4. Results

The researched group was strongly represented by women, who constituted as much as 71% of the surveyed population (304 persons), and men only 29% (123 persons). The measures of descriptive statistics ($s=0.64$; $x=1.31$; $Me=1.00$)³ and the structure of the group indicates that the obtained results of the arithmetic mean and median mean that very young people entering adulthood dominated among extramural students. The group age differed from 18 to 64 (see Table 1).

³ Where s is the standard deviation of the value of a given variable in the examined group, x - the arithmetic mean of the given variable, and Me - the median of the variable in the examined group.

Table 1.

The structure of age in the researched group

Age	Numerical distribution	Distribution of percentage [%]
18–25	327	76,58
26–35	73	17,10
36–45	20	4,68
46–64	7	1,64
Together	427	100,00

In the researched group dominated adults with upper high school education (37%). Other levels of education were represented at a similar level (~20% vocational, vocational high school⁴ and bachelor), the MA level was obtained by 6 people in the population of respondents (1.40%).

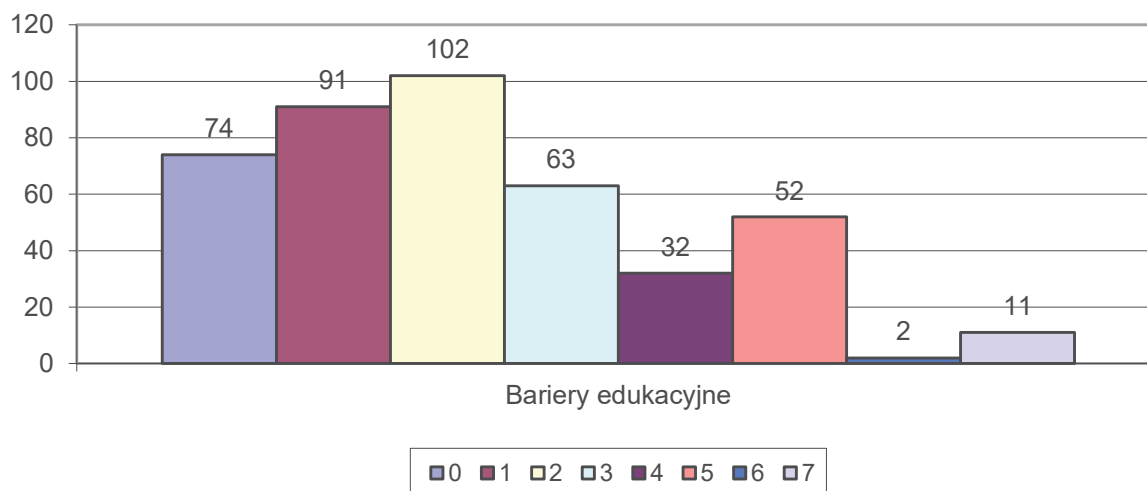
Employment is another variable that characterizes the studied population. The obtained arithmetic mean and median mean ($s=0.45$; $x=0.71$; $Me=1.00$) indicate a clear dominance of people employed in the group. Among the respondents, 29% are unemployed and 71% are professionally active.

Educational barriers, which were defined as factors which influence the quality and intensity of adult's education, are another variable used to characterize the research group (see Table 2 and Figure1).

Table 2.

Educational barriers in the researched group

Types of barriers	Numerical distribution	Distribution of percentage [%]
Lack of barriers (0)	74	17,33
Lack of time (1)	91	21,31
Financial restrictions (2)	102	23,89
Employment duties (3)	63	14,75
House and family responsibilities (4)	32	7,49
Character (5)	52	12,18
Health condition (6)	2	0,47
Too high level of studies (7)	11	2,58
Sum	427	100,00



⁴ In Polish educational system there are vocational high schools, which enable a person to get a vocation and finish high school.

Figure 1. Graphic distribution of the variable educational barriers in the studied group

Measures of descriptive statistics ($s=1.76$; $x=2.25$, $Me=2.00$) indicate that the arithmetic mean of the results obtained suggests the dominance of the time and financial barrier. As many as 17% of the population of surveyed extramural students stated that they did not experience any educational barriers. The case of the barrier resulting from their own disability or illness was indicated by two students: one after cancer, the other in a wheelchair. Below is the percentage distribution of the variable, which clearly shows the number of indications of a specific educational barrier in the extramural student population.

Another variable that was included in the research concerns employer's support. Measures of descriptive statistics ($x=0.50$; $Me=0.50$) indicate that the distribution of the variable is perfectly proportional (50% of all employees surveyed qualified to one or the other group). The number of both groups receiving the employer's help and not receiving it is 152. The number of the employed group is 304. The respondents indicated that they received material support from their employers (financing or co-financing the education, accommodation, textbooks, days off) and immaterial (help, understanding, days off for learning flexibly adapted to the needs of the employee).

Self-directed learning of extramural students in the researched group, using descriptive statistics ($s=8.17$; $x=18.89$; $Me=19.00$) clearly indicate that the studied population is dominated by a low level of self-directed learning (62%), only 37% of the population presents an average level of self-directed learning and less than a percentage manifests self-directed learning at a high level. The research group was also characterised by the type of motivation activating self-directed learning. Measures of descriptive statistics ($s=1.89$; $x=5.40$; $Me=6.00$) indicate that 62% of the results (266 respondents) obtained a result showing that both of types of motivation are being used. 35% of the researched group (147 adults) are learning because of the external motives and only 3% (14 adults) indicated the inner motivation in the studied population of extramural students.

When presenting the results of the sense of coherence in the examined group of extramural students, the arithmetic mean ($s=21.64$; $x=132.55$; $Me=133$) of the studied student population falls within the group of average test results. In the studied group, 34% of students have an average level of sense of coherence, 30% have lower than the average and as much as 36% have high variable level. The SOC is responsible for the way we cope with new challenges, use the inner and social resources and deal with rapid changes. The structure of the research group in terms of the characterized variable is presented in Table 3.

Table 3.

The structure of variable Sense of Coherence (SOC) in the researched group

Types of SOC	i = 7	Numerical distribution	Distribution of percentage [%]
Low SOC	64–100	27	6,33
Medium SOC	101–160	359	84,07
High SOC	161–187	41	9,6
	Razem	427	100,00

It is important to analyse the influence of the components of SOC on self-directed learning of adults. First one of them, sense of comprehensibility is responsible for the way we perceive the world around us, as coherent, explainable and we are able to relate various events of our lives to our own concept of the world and ourselves. It is worth emphasizing that the results of low sense

of comprehensibility is poorly represented in the population. The arithmetic mean ($s=7.63$; $x=43.48$; $Me=43.00$) is in the group of average results. In the studied group of students, the average sense of comprehensibility dominates (78% of the population).

The sense of resourcefulness is another component of the sense of SOC coherence and is responsible for a person's sense that regardless of what the world and life will bring, they will be able to cope that they have important internal and/or external resources. The results of 67% of the extramural students are in the average range (285 adults), and the results of 23% of the population are high (96 adults). Low results also occur in the studied population, but it is worth emphasizing that they are least represented by the surveyed extramural students (45 adults). The arithmetic mean of the population ($s=9.46$; $x=53.00$, $Me=53.00$) is in average results.

The last component of the sense of coherence (SOC) is the sense of meaningfulness, which is responsible for the fact that we have a sense that life is worth living, trying to obtain something that is worth striving for. The arithmetic mean ($s=6.90$; $x=35.65$; $Me=36.31$) is within the average results for the sense of sense. Importantly, only 2% of the surveyed population has low results, and as much as 27% of the adults have high results. From a clinical point of view, these data can be a good predictor of the activity of adults - out of 427 students, only 9 people have a low sense of meaningfulness.

Importantly, the analysed data indicated several surprising and interesting elements:

The youngest group is the most numerous (77%), of which as many as 45% are unemployed! So we are dealing with a group of young people (18 – 25 aged), who do not have professional duties and have unlimited possibilities of educational activity, including self-education! Importantly, among students from early adulthood (25 do 35 aged) as many as 91% of people work, and among the respondents in the middle adulthood (age over 35) there are no unemployed!

Already at the stage of characterizing the researched group, there were preliminary relationships between master's degree, employment and a high level of self-directed learning activity. People who studied, knew their professional, educational and developmental needs and were able to use the resources of a given life situation. They studied because they needed knowledge and they spent their time and money on acquiring knowledge and competences. They also showed a high or medium level of self-directed learning activity, internal motivation and have a high level of sense of coherence! It is worth pointing out that the group of people studying at the Faculty of Physics of Adam Mickiewicz University are working people who have their own enterprises, already had MA degree, they had the highest level of sense of SOC coherence, self-education activity and self-education motivation.

Employment also turned out to be an interesting variable: the unemployed do not show high self-education activity and are not characterized by internal motivation. They are mostly young people, who see many educational barriers. These observations already indicate that conscious, independent self-directed learning activity is more associated with internal attributes of people than situational features, e.g. loss of job. Interestingly, the employed population was entirely male.

While analysing educational barriers, the study showed that women mainly pointed to financial and time barriers. The educational barrier defined by the respondents as character defects, was strongly associated with the lowest level of SOC and the lowest level of self-directed learning activity; while the barrier resulting from the chronic illness or disability was strongly associated with the highest average result of the sense of coherence and the high level of self-directed learning activity.

Again, surprising results were gained regarding self-directed learning activity and the given motives of pursuing self-directed learning. Analysing the interrelationship of both variables, it turned out that 62% of the respondents showed strictly external motivation and a low level of self-directed learning activity. The average level of self-directed learning and internal motivation present in 36% of researched adults. Only a small percentage of people had a high level of self-directed learning and internal motivation. This is a clear result that studying does not necessarily mean practicing independent forms of education, like self-directed learning. There are a lot of extramural (and not only) students, who just want to pass the test, exam or subject.

While analysing the strength of connections between SOC and educational activity of adults, the results obtained in the research suggest a high level of one of the components of SOC – sense of resourcefulness among adults studying extramural, and importantly only very few (2% of researched population) had a low sense of sense.

5. Discussion and Conclusions

An attempt to analyse selected determinants of adult self-education was made. Analysed data of the research results has revealed a number of relationships between the pointed variables. It is worth emphasizing the importance of the level of components of SOC – sense of meaningfulness and sense of resourcefulness as well as support obtained from the employer on the researched self-directed learning of extramural students. The purpose of this publication was to show the determinants of educational activity, with a particular emphasis on adult self-directed learning. The intensity of learning activity and the type of learning motivation were considered in the context of the level of sense of coherence of researched adults. In summary, the research showed the following relationships:

- the relationship between the level of sense of coherence and its components and the level of self-directed learning has been confirmed;
- the impact of the level of sense of coherence and its components on the type of self-education motivation was also confirmed;
- the impact of sense of meaningfulness was particularly significant on the level of intensity of self-directed learning and the type of motivation engaged in the self-directed learning. This may be of particular importance for practitioners and advisors in forecasting the success of self-learning processes in adults;
- it turned out that there is a very strong relationship between the sense of meaningfulness and employment of adults. The value of the third component of SOC depends on employment of researched people;
- strong interrelation of self-education activity and motivation has been confirmed, people with internal motivation are intensively learning,
- it turned out that self-directed learning activity and type of motivation are dependent on gender - women were more often driven by internal motivation and studied more intensively,
- the relationship between the level of self-directed learning activity and age was confirmed, a significant relationship was found to be directly proportional - the older the student, the more intense is her/his self-directed learning activity,
- the relationship between employer support and the level of self-directed learning activity and the type of motivation has been confirmed: employer support (both material and immaterial) strengthens self-directed learning activity and the internal motivation,

In an attempt to formulate practical guidelines based on the above conclusions from the summary of the research, the following suggestions were made:

- In adult education, teachers and educators should consider non-directive learning, strengthening the self-directed learning of adults as well as internal type of motivation.

- Employers should pay attention to the needs of employees studying extramural: granting leave for studies and exams, co-financing trainings, courses, strengthening self-education motivation by participating in creating a knowledge-based society.
- Research shows that adult students value both material and immaterial support from employers. Appreciating the employee's educational effort by the employer, and thus also the logistical effort, perseverance and commitment is very important for extramural students in the employment places.
- The most important factors shaping the processes of independent educational activity turned out to be the level of sense of coherence and its components.
- It is worth emphasizing the importance of the component of meaningfulness in forecasting self-learning activity and the type of self-learning motivation.
- Research had also shown that older people are more motivated to learn, more often they develop inner motivation, and young people more often deficit motivation and are more directive in different life situations.

Adult education is an extremely complex phenomenon, which, however, shows the importance of subjective and personality factors shaping the educational process, especially self-education. On the other hand, research has highlighted the role of education in shaping your own lifestyle and self-concept. The research process carried out also highlighted the importance of a sense of coherence - the development of this personality trait has a very significant impact on human functioning throughout life. Thinking about the future of the youngest, it is worth creating their everyday life in such a way as to strengthen the sense of coherence, comprehensibility, resourcefulness and meaningfulness by providing life experiences characterized by coherence, balance of overload and underload, and encouraging participation and commitment.

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