

# LEVEL OF PERFORMANCE MOTIVATION IN SPECIAL EDUCATION STUDENTS

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## Abstract

*The paper entitled The Level of Achievement Motivation in Students of Special Pedagogy as the title implies deals with achievement motivation. The theoretical part is focused on several main topics among which we include motivation, motivation theories and achievement motivation. The research consists of quantitative research of achievement motivation in students of special pedagogy (N = 94) using standardized questionnaire of achievement motivation (LMI). The aim of this paper is to determine the overall level of achievement motivation in university students of that specific field. Subsequently our aim is to find out what results these students achieve in individual dimensions of achievement motivation and likewise whether there are differences between the compared groups. Special education students scored low on the dimensions of confidence in success, flexibility, fearlessness, compensatory effort, independence, and self-control. Average scores were achieved in the dimensions of persistence, dominance, flow, internality, difficulty preference, status orientation, and competitiveness. The highest values were recorded in the dimensions of commitment, willingness to learn and single-mindedness. The results show that there are no statistically or substantively significant differences in the level of overall performance motivation between students in Bachelor's and Master's programmes. There are no statistically or substantively significant differences in the level of overall performance motivation between full-time and part-time students.*

**Keywords:** Special pedagogy, motivation, achievement motivation, motivation theories, motives.

## INTRODUCTION

Performance motivation is one of the most frequently researched areas of psychology, and it is viewed as a determinant of performance. It is a concept that serves to explain individual differences in behaviour and significantly influences our actions and experiences. It is also reflected in many areas of human life. We can talk about performance motivation in the context of sports or education, while it also significantly affects the work area. It is the relatively constant tendency of a person to achieve good performance, which is both a motive and an end in itself. Performance motivation is a pressing topic in various areas of life, not least in the field of education. More specifically, this paper focuses on research on the level of performance motivation in university students studying special education.

In this paper, we will first discuss motivation, while also introducing the different theories of motivation, which will give us some insight for the subsequent theory of performance motivation. Since this area is quite extensive, it will focus on the main representatives of this movement, such as H. Murray, D. McClelland or J. Atkinson.

The research, as the title of the paper suggests, addresses the issue of performance motivation in university students and examines the level of this motivation using a standardised LMI performance motivation questionnaire. As already mentioned, performance motivation serves to explain individual differences in behaviour in different areas of life. Thus, in this research we focused on finding the overall level of performance motivation and the level achieved in each dimension among special education students based on the type of their study program and form of study.

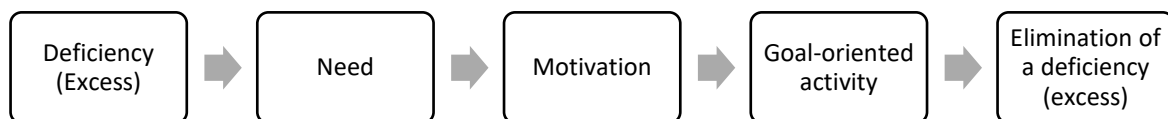
## MOTIVATION

Motivation, a word based on the Latin *moveré*, meaning to move, can be understood as a force of a psychological nature. The word "move" is not used here by accident; motivation is the driving force, the force that sets human behaviour and action in motion. Motivation is therefore not only the state that activates a person's behaviour, but also the force that gives direction to that behaviour. It can be subjectively experienced as a conscious desire that varies in intensity and changes over time (Výrost & Slaměník, 2008; Nolen-Hoeksema et al., 2012).

The concept of motivation explains the psychological reasons for behaviour, encompassing various phenomena such as energy and its focus on a particular goal, selective attention to particular stimuli, and conversely, a change in receptivity to other stimuli. These phenomena include focused activity that persists until initial conditions change. All of these phenomena can therefore be considered as basic characteristics of motivation. The function of motivation is certainly to satisfy the needs of the individual, because of the current deficiency, whether physical or psychological. Among other functions, we can also include the provision of purposeful behaviour, which maintains not only the vital but also the social functions of the individual along with the organisation of behaviour. (Nakonečný, 2014).

### Sources of motivation

The source of motivation can be defined as those factors that create motivation. The basic sources of motivation include needs, habits, interests, values along with value orientation and also ideals. Needs are the basic source of motivation. This term can be defined as a physiological, but also as a psychological deficiency that is experienced by the person, but not always fully realized. The need manifests itself in a person through a state of tension, which leads to a tendency to eliminate it. Thus, the underlying source of motivation usually directs one to a certain activity that leads to the removal of the given deficiency, i.e. to the satisfaction of a specific need by means of a found goal (Nakonečný, 2021). Bedrnová and Nový (2007) provide the following clear diagram in their publication, which illustrates the relationship between deficiency, needs, motivation and action (see fig. 1).



**Fig. 1 - Diagram showing the relationship between needs and motivation**

A special kind of motives, based on primary needs, especially psychogenic ones, and made more specific in the conditions of a given cultural environment, are interests. It is a derived need satisfied by performing a given activity, not by achieving a certain result. Although there are no sharply defined boundaries between interest and need, interest is more active and more strongly tied to a specific object. Unlike physiological needs, an interest can be very easily influenced, attenuated, amplified, and intentionally created (Výrost & Slaměník, 2008; Říčan, 2010). The classification of interests is quite problematic, as there are as many interests as there are activities. Nevertheless, we can mention Stavel's list of types of interest focus (in Bedrnová & Nový, 2007).

Another source of motivation is value orientation. The value orientation is also referred to as a value ranking. Value is defined by Výrost and Slaměník (2008) as objective natural and social phenomena of a material or spiritual nature, which serve to preserve and develop the basic relationships between man and society, man and nature, to preserve and develop human life itself. According to another author, values represent a conception of desirability that serves selective behaviour as a justification for proposed or actual behaviour (Cakirpaloglu, 2009). Values can therefore be seen as a certain degree of importance that we attribute to things, phenomena, and people. It is a subjective appreciation, and value is not only what is necessary for our lives, but also what we admire and appreciate. By subjective appreciation we mean individual sense, the sense of a particular individual. As Smolík (2016) states in his publication, values together with value orientation not only significantly influence a person's behaviour, but also their motives. Although values regulate people's actions and behaviour, it is important not to confuse them with social norms.

The final source of internal driving forces are ideals. According to Bedrnová and Nový (2007), an ideal can be defined as a visual representation of something that is subjectively desirable, positively evaluated. This is the

goal towards which the effort is directed. Ideals can take the form of life goals, relating to personal as well as professional life. It is therefore a kind of high goal, which is often difficult to achieve.

## PERFORMANCE MOTIVATION

As Mareš (2013) states, when the term performance motivation is mentioned, most people intuitively guess what it is. Most of the time, the assumption is that it is a motivation to achieve high performance - to compete with others. However, it is a much more complex phenomenon, and many important names have been instrumental in explaining and putting it into practice.

Motivation is perceived as an essential determinant to performance. Performance motivation is used as a concept to explain individual differences in behaviour in different areas of everyday life, whether at school, in sport or at work. Through this theory of performance motivation, psychologists have been trying to answer various questions for several decades regarding, for example, the different performances of individuals in the same situation or the reasons for choosing a certain preference of task difficulty (Schuler & Prochaska, 2003; Turki, Jdaitawi & Sheta, 2018).

Both the theory and the diagnostics of performance motivation developed in the 1950s, although their roots can be seen earlier. The traditional approach represented by the names Henry A. Murray, David C. McClelland or John W. Atkinson dominated the field until the 1970s. The more modern approach of performance motivation, represented by Andrew Elliot, partially retreats from traditional approaches, even suggesting the abolition of the term performance motivation. The approaches to performance motivation by the above and other psychologists will be discussed in the following subsections (Trash & Elliot, 2001).

### Henry Murray

The American psychologist Henry Murray, in collaboration with his colleagues, contributed to a very interesting theory of motivation, which was presented in 1938 in a publication entitled *Explorations in personality*. Within this motivational theory we encounter the concept of need. Thanks to Murray's conception, this concept has gained a prominent place in modern psychological theories. By need, Murray means a construct denoting a force in the brain that organizes perception, thinking, striving, and action in a particular direction in order to change an existing unsatisfactory situation (Plháková, 2003). In this case, however, it is not an expression of need as a tendency that seeks a general state of satisfaction (such as the drive construct). Murray, on the other hand, views needs as constructs that have a distinctive mode of expression and are accompanied by a particular emotion or affect (Madsen, 1972).

Within his theory, he created a comprehensive list of needs, which extends, among other things, to the areas of ambition, power or relationships, and he divided these needs into two main groups. A distinction is made between viscerogenic, primary needs and psychogenic, secondary needs. Viscerogenic needs are created and subsequently satisfied by physiological processes that are periodic (the need for oxygen, food, water, etc.). Considering the topic of the paper, psychogenic needs seem to be more of interest as two of them in particular are quite relevant to the performance domain. The first is referred to as the need for achievement - the need for successful performance. Murray describes this need as the drive to accomplish something difficult, to control, manipulate, or organize physical objects, human beings, or ideas. It is about striving to overcome obstacles and achieve high standards, to excel, to compete and to outperform others. The second need, related to performance motivation, is the need for unavoidance, which can be described as the desire to avoid ridicule, to end unpleasant situations, or to avoid situations that may lead to humiliation. Murray's theory also emphasizes the element of persistence, endurance (Trash & Elliot, 2001; Schuler & Prochaska, 2003).

The need for successful performance and the need to avoid failure, as well as other needs from this comprehensive taxonomy, have been derived from many methods, including projective methods. For the purpose of his research, i.e. to determine the motives for behaviour, Murray created the Thematic Apperception Test (TAT), during which the subject is presented with ambiguous pictures and is asked to create a story based on them. This test was also used by McClelland and Atkinson in their research on performance motivation (Blatný, 2010).

Trash and Elliot (2001) mention that although other motivation researchers have found Murray's needs to be too numerous and broadly defined, his influence on the development of the field is quite unquestionable.

### David McClelland

David McClelland is another representative of American psychology who has contributed to the psychology of motivation through a number of theoretical as well as experimental studies. McClelland became famous for his research on performance motivation (Plháková, 2003). He began his theoretical work in 1951 with his book *Personality*, in which he integrated various theories of personality, including Henry Murray's. In this work, he also addressed motive as a personality variable, developing this concept into a theory of motivation in 1953 in *The Achievement Motive*, in collaboration with J. Atkinson and others. Motive is defined here as an affective association manifested by purposeful behavior, while being determined by the association of the former. Motives are influenced by innate affective reactions - likes and dislikes. Based on these, McClelland then established two types of motives. The first of these he described as a positive motive (approximation), which is the expectation of pleasure or satisfaction. The second is the negative (avoidance) motive, which is, on the contrary, the expectation of displeasure or pain. This gives rise to the familiar notion of the need to achieve successful performance, the approach tendency, and the need to avoid failure, the avoidance tendency (Madsen, 1972).

McClelland and his associates were not only concerned with the motive of performance, but also with the need for power and the need for association. They also focused on research on performance motivation in different nationalities. This research has led to various findings, including the fact that performance motivation is formed in early childhood. People with a high need for success probably internalized the performance requirements of their parents in childhood, who considered good performance and success as important values (Plháková, 2003). To summarize McClelland's work, we can say that its contribution is significant in that his conception of motivation marked a shift from need-determination to expectancy-determination of affective state change. Expectations of affective state change (motives) are acquired, controlling, and more cognitive. This "cognitive trend" was continued and developed by John Atkinson (Madsen, 1979).

### John Atkinson

The tradition of performance motivation, as formulated by David McClelland, has undergone two revisions. The first revision we will mention here was the revision made by John Atkinson. Unlike McClelland, who was primarily concerned with the application of his theory, Atkinson was primarily concerned with developing the theoretical basis of performance motivation (Trash and Elliot, 2001).

Based on his studies, Atkinson discovered relationships between the motive to achieve successful performance and the motive to avoid failure. These general relationships can thus be considered as laws of motivation for achieving successful performance (Madsen, 1979; Pavlas, 2015):

- Aspiration - people with a motive to achieve successful performance prefer tasks of moderate difficulty and show greater persistence in tasks that are performance-oriented.
- Persistence, resilience - those with a motive to achieve successful performance will persist longer on a task whose difficulty is high compared to those with a motive to avoid failure.
- Success and failure - persons with a motive to achieve successful performance increase the level of aspiration for success and decrease failure. The opposite is true for those with a failure-avoidance motive.
- Occupational preferences - those with achievement motives have realistic occupational aspirations and also demonstrate upward occupational mobility. Those with a failure-avoidance motive tend to have unrealistic aspirations. If we compare their aspirations with their abilities, then their aspirations are too high or, on the contrary, low.
- School performance - when schools are grouped by ability, the performance and interest in school work of pupils and students increases with the motive of achieving successful performance.

Thus, people who have a need for successful performance prefer tasks that they find challenging but are still confident they can do. Conversely, people with low performance motivation tend to prefer easy tasks or, conversely, tasks that are extremely difficult. The reason they prefer extremely difficult tasks is because they feel that failing a difficult task does not reflect badly on them. On the other hand, easier tasks are chosen to confirm one's own competence, while at the same time not making high demands on them. The results obtained from numerous research studies led to several conclusions. People with high levels of performance motive are competitive, but on the other hand they are not power-oriented. They prefer situations that allow them to succeed individually. If a person has a strong need for success, they do not suffer from anxiety about failure, they choose situations in which they have a realistic chance of succeeding (Hrabal et al., 1984; Plháková, 2003).

In Atkinson's view, performance motivation is not only the result of an emotional conflict between the expectation of success and the expectation of failure, but also depends on the situation and on certain incentives. Atkinson, although an associate of McClelland, developed a theory of his own that elevated him to a leading position in the psychology of motivation. Here we can already see a certain departure from the classical approach to the concept of performance motivation (Madsen, 1979).

In addition to these three prominent names, there were, of course, others who addressed the issue of performance motivation. An example is Heinz Heckhausen, one of the most important non-American authors in this field of psychology. Heckhausen extended the model of performance motivation to include a time perspective. He also divided the consequences into immediate (increase or decrease in self-esteem) and delayed (approaching the superior - prospective goal). Heckhausen saw the origin in the avoidance of failure with the child's overloading, which instead of creating realistic demands assumes a high level of demands that is hardly attainable. Another is Atkinson's student Bernard Weiner, who viewed motives as tendencies to attribute specific causal attributions to success and failure. The individual interprets his success or failure on the basis of the causes he attributes to it. Carol Dweck also contributed to a more recent view of performance motivation by developing a theory dealing with performance goals. Based on her research on learned helplessness in school-age children, she identified distinct patterns of emotion, cognition, and behavior in response to failure. It is a learning goal manifested by an effort to master a certain task, where failure is not perceived as an obstacle but as an incentive to make a higher effort or to find another way of solving. The second defined goal is called an achievement goal. The goal of the individual is to receive praise or, on the contrary, to avoid an unfavourable evaluation of his or her own person. Failure in these individuals is perceived as a deficiency in their own abilities; according to Dweck, these individuals are more likely to develop learned helplessness (Hrabal et al., 1984; Trash & Elliot, 2001).

As far as the different approaches to performance motivation are concerned, we can summarise them at least partially into three basic ones. The first of these, already mentioned here, is the classical approach, which conceives of the performance motive as a tendency to approach or avoid based on a change in emotional state. The various authors of this approach then extended this concept to include different variables. The second approach is the attributional approach, where attributions are made about the causes of success or failure. Based on these causes, the individual then interprets his view of his performance. The third approach is goal theory, which defines performance goals as the reason why an individual engages in a given situation. We can also distinguish different alternative approaches and different integration efforts.

### Definition of performance motivation

Although the definition of performance motivation varies from one approach to another, all of these approaches share a common view of performance motivation as a determinant of performance. Performance motivation represents a characteristic and relatively constant tendency of a person to achieve the best possible performance in areas where we can apply a quality measure. The measure of quality can also be a simple "succeeded - failed" (Bedrnová & Nový, 2007).

In their publication, Vrost and Slaměník (2008) define performance motivation as the achievement of good performance, which is both a motive and an end in itself. Performance motivation is therefore undoubtedly a determinant of performance. Performance represents the behaviour that leads an individual to achieve a certain goal and, together with the outcome, is determined by the strength of the tendency to activity, i.e. effort. Performance and its quality are determined on the one hand by the level of performance motivation and on the other hand by the level of the respective skills. Based on this statement, we can define performance very simply as:  $\text{performance} = \text{ability} \times (\text{performance}) \text{ motivation}$  (Nakonečný, 1997).

The need to perform, as we mentioned above, was defined by Henry Murray as the drive to accomplish something difficult, to overcome obstacles and achieve high standards, with the individual striving to achieve it as quickly and also as independently as possible. This need to perform, or performance motive, energizes the personality to strive for success, regardless of whether success is achieved through competition, overcoming personal standards, persistent progress, or is realized in the achievement of something unique (Blatný, 2010).

Performance motivation manifests itself in the fact that each person performs tasks at a specific level and is guided by their own standards of good performance. According to Plháková (2003), people compete with internal performance standards that are determinants of superior performance or vice versa. This situation then leads to the satisfaction of one's own competence or, conversely, to the disappointment of failure due to one's own incompetence. Certain conclusions can be drawn from the relationship between motivation and

performance, which also lead to certain recommendations that can be applied, among other things, in the context of education and training. It is important to keep in mind the level of motivation. If a person is poorly motivated, his performance is usually low. If, on the other hand, there is a high level of motivation, one could say that the person is "overmotivated", he/she will also usually not perform at his/her best or even at his/her usual performance. For this reason, it is necessary to find the optimal level of motivation, the optimal range of motivation that will allow the individual to give the best possible performance. Such a task would then be seen by the individual as a challenge to demonstrate his or her abilities. In terms of education, an individual approach is therefore necessary, as learning aptitudes and actual skills vary from person to person. It is also important to remember that motivation changes over time, depending on what the student has learned, but also on what performance level they are approaching (Mareš, 2013).

## RESEARCH INVESTIGATION

The aim of the research was to determine the level of motivation for performance among university students of special education at Czech universities and to compare the results between the defined groups. As part of the comparison, we examine whether there are differences between students in Bachelor's and follow-up Master's programmes, but also whether there are differences between full-time and part-time students. Thus, we focus not only on the individual dimensions of performance motivation, but also on the comparison of the variables we observe.

Based on the above research objectives, the following research problems were formulated:

- What levels of performance motivation do university students in the special education program achieve?
- What is the relationship between the level of performance motivation of special education students and the type of their program or form of study?

For the purpose of the research investigation, the following research questions were selected according to the research problem and taking into account the variables under investigation:

1. What extent do special education students achieve in overall levels of performance motivation?
2. What are the statistically significant differences in the overall level of performance motivation between undergraduate and graduate students in special education?
3. What are the statistically significant differences in the overall level of performance motivation between full-time and part-time students of the special education programme?

Based on the above research questions 2 and 3, the following hypotheses were formulated:

H1: The overall level of performance motivation is higher for Master's students than for Bachelor's students.

H2: The overall level of performance motivation is higher for full-time students than for part-time students.

## Description of the research sample

The research sample consisted of 94 respondents, full-time and part-time students of the Bachelor's and Master's degree programmes in special education. The research sample consisted of respondents from Jan Evangelista Purkyně University in Ústí nad Labem ( $N = 43$ ), Charles University in Prague ( $N = 21$ ) and Hradec Králové University ( $N = 30$ ). It was therefore an available choice. The LMI performance motivation questionnaire was distributed online to individual respondents via Google Forms survey management software. The distribution of the questionnaires was based on previous communication carried out in online groups bringing together students from the above-mentioned universities, and these groups consisted of students from the special education programme. Women are 98% represented in the research population, so 92 women participated. Men therefore make up 2% of respondents. In terms of age distribution, the average age of all respondents is 30 years, the youngest respondent is 20 years old, and the oldest respondent is 53 years old. For a clear representation of respondents, we present Table 2 showing the representation of respondents in different types and forms of study.



**Tab. 1 Representation of respondents by type of study programme and form of study**

Type of study/ Form of study	Bachelor's degree programme	Follow-up Master's degree programme	Total
Full-time	14	27	41
Part-time	24	29	53
Total	38	56	94

### Characteristics of the research instrument

For the purpose of the research, a quantitative method of data collection was chosen. The research instrument chosen was the standardized Performance Motivation Questionnaire - LMI, first published in Germany in 2001 and authored by Schuler and Prochaska. In the Czech Republic, it was first published in 2003 together with standards for the Czech population, for which it was also standardized (see Martincová, Andrysová & Trubelíková, 2016). This questionnaire is designed in such a way that it can be used in all areas of life where performance effort is manifested and its manifestations can be monitored (Schuler & Prochaska, 2003). The Performance Motivation Questionnaire is a very comprehensive diagnostic method as the authors sought to account for all relevant traits, sub-constructs or dimensions. This questionnaire in its final form has 170 items, which are classified into 17 dimensions. According to the authors, the dimensions of performance motivation are persistence, dominance, commitment, confidence in success, flexibility, flow, fearlessness, internality, compensatory effort, pride in performance, willingness to learn, difficulty preference, independence, self-control, status orientation, competitiveness, and goal orientation. These 17 dimensions are tracked across 170 items, so there are ten items for each dimension of performance motivation. The individual items are formulated as statements where the respondent is asked to indicate one of the seven items on the scale provided based on the extent to which they agree or disagree with the statement. The seven-point scales correspond to a range from 'strongly disagree' (item 1) to 'strongly agree' (item 7). From this description, it is clear that the LMI Performance Motivation Questionnaire operates with a Likert scale at the level of interval measurement. During the scoring of the LMI questionnaire, a raw score calculation is required, which is based on the sum of the individual responses from the specific dimension under investigation. For some items, it is then necessary to reverse the scales, i.e. to reverse the scales, where point 1 corresponds to point 7, etc. (so-called reverse scoring). After obtaining the raw score, standardized scores (percentiles and percentile ranks) are then recorded according to tables standardized for the Czech population in 2011. We then get feedback not only on the overall level but also on the level of individual dimensions of performance motivation.

### Method of data processing

All data collected from the LMI Performance Motivation Questionnaire was exported from Google Forms, through which the data collection was conducted, to a spreadsheet created in MS Excel 2016. Subsequently, the values achieved in each dimension were determined for all respondents, and the total score of performance motivation was determined by calculating the raw scores and converting them into stanine values. The manual of the questionnaire was used to convert gross scores to stanine values. The stanine values form a scale of 9 values with a mean of 5 and a standard deviation of 1.96. The stanines are used to evaluate the results as high, low or average. The observed raw scores were further used to test the stated hypotheses. The Shapiro-Wilk test was used to test the normal frequency distribution of the data.

**Tab. 2 Results of the Shapiro-Wilk test for the data sets considered**

Name of the data file	Shapiro-Wilk test statistic	<i>p-level</i>
Bachelor's degree study students	0.977	0.716
Follow-up Master's degree study students	0.961	0.141
Full-time students	0.965	0.331
Part-time students	0.975	0.533

Since the *p-levels* of the Shapiro-Wilk test for all four data sets considered are greater than 0.05, we cannot reject the hypothesis that the data sets come from a normal distribution. Therefore, the following statistical analyses were performed using parametric statistical methods always at a significance level of  $\alpha = 0.05$ . These were F-test for analysis of variance of data, the appropriate type of Student's t-test (for identical or non-identical variances) for analysis of means as mean values, the ANOVA test was used for multiple comparisons followed by post hoc analysis using the Tukey HSD test.

### Analysis of the collected data

Below is a summary of the mean raw scores along with the mean stanine values achieved by students in the special education program on each dimension examined by the LMI performance motivation questionnaire. The results obtained need to be compared with the results of the Czech standardisation sample from 2011 to determine whether they are above average, average or below average. The stanines we work with here represent a scale from 1 to 9, with a mean value of 5. Based on the LMI performance motivation questionnaire manual, we consider 1, 2, and 3 to be below average, 4, 5, and 6 to be average, and 7, 8, and 9 to be above average. Table 4 shows that students of the special education programme achieve mostly average values. The highest score (stanine 6) is in the dimension of willingness to learn, while the lowest scores are in the areas of confidence in success, flexibility, fearlessness, compensatory effort, independence and self-control (stanine 3). According to the standardization sample, the total score falls into the below average range. For the total score to be considered average, it would have to be between 779 (stanine 4) and 852 (stanine 6), and in the case of above average, between 853 (stanine 7) and above. Stanine 9 is equal to a score of 922 or higher.

**Tab. 3 LMI questionnaire results reported in raw scores (RS) and stanine values (SV)**

Individual dimensions	RS	SV
Persistence	42	4
Dominance	41	4
Commitment	42	5
Confidence in success	44	3
Flexibility	45	3
Flow	47	4
Fearlessness	33	3
Internality	48	4
Compensation efforts	46	3
Pride in performance	57	5
Willingness to learn	52	6
Difficulty preference	38	4
Independence	41	3
Self-Control	42	3
Status orientation	44	4
Competition	37	4
Single-mindedness	46	5
<b>Total score</b>	<b>708</b>	<b>1</b>

Table 4 below presents a descriptive analysis of the raw scores obtained for each dimension. The lowest average raw score was obtained in the dimension of fearlessness, while the highest score was recorded for the dimension of willingness to learn. It is also interesting to see the lowest and the highest total score. The lowest score is equal to 435, the highest is equal to 1069. Thus, these are the lowest and highest levels of performance motivation recorded in this research, with both scores being very much below/above average.



**Tab. 4 Descriptive analysis of individual dimension scores and total LMI questionnaire score**

LMI dimensions	Average	Median	Modus	SD	Max	Min
Persistence	42.585	43	38	11.538	70	11
Dominance	41.330	41.5	43	10.849	64	16
Commitment	41.936	43	47	11.511	70	10
Confidence in success	43.234	44	47	9.575	70	18
Flexibility	44.894	46	49	9.250	69	15
Flow	48.021	48	52	9.615	68	22
Fearlessness	33.170	32	28	11.643	69	10
Internality	47.734	47	46	7.232	70	32
Compensation efforts	46.383	47.5	49	8.978	67	24
Pride in performance	56.585	57	67	8.455	70	33
Willingness to learn	51.734	52	50	9.211	70	28
Difficulty preference	38.181	39.5	31	12.223	64	12
Independence	40.809	41	39	8.691	64	17
Self-Control	42.160	42.5	40	9.262	63	22
Status orientation	44.330	45	47	10.955	66	19
Competition	37.457	38	32	11.137	62	16
Single-mindedness	46.298	46	49	8.107	67	25
<b>Total score</b>	<b>746.840</b>	<b>759.5</b>	<b>637</b>	<b>111.135</b>	<b>1069</b>	<b>435</b>

Subsequently, an analysis of each of the observed dimensions was conducted depending on the type of student groups. Table 5 shows the averages of the values of each dimension for the groups of students and the results of comparing these values between groups.

**Tab. 5 Comparison of LMI dimensions between the groups of students studied**

LMI dimensions	Bachelor's full-time	Bachelor's part-time	Follow-up Master's full-time	Follow-up Master's part-time	Statistically significant difference
Persistence	35.929	44.042	44.370	42.931	NO
Dominance	36.714	45.625	41.889	39.483	NO
Commitment	36.357	46.208	41.815	41.207	NO
Confidence in success	37.643	46.792	44.444	41.862	YES
Flexibility	39.500	47.833	45.852	44.172	YES
Flow	44.643	50.875	48.074	47.241	NO
Fearlessness	27.000	33.500	35.704	33.517	NO
Internality	45.571	49.667	49.037	45.966	NO
Compensation efforts	44.571	47.500	46.333	46.379	NO
Pride in performance	53.929	60.125	55.111	56.310	NO
Willingness to learn	47.857	55.583	50.259	51.793	NO
Difficulty preference	34.643	42.375	38.148	36.448	NO
Independence	36.071	45.083	41.630	38.793	YES
Self-Control	39.071	42.750	42.963	42.414	NO
Status orientation	46.714	44.875	43.444	43.552	NO
Competition	41.286	40.167	34.074	36.517	NO
Single-mindedness	40.857	50.833	46.444	45.034	YES

These results show that in most of the dimensions studied there is no statistically significant difference in the values of means between the groups studied. According to the results of the post hoc analysis, statistically significant differences are observed in the level of the dimensions of confidence in success, flexibility, independence and single-mindedness. For all dimensions with a statistically significant difference in the values of the means, this difference was always observed between the groups of students in the full-time and part-time form of study.

Next, we focus on the evaluation of research questions 2 and 3, which are comparative in nature. A null and alternative one-sided hypothesis was formulated for research question 2:

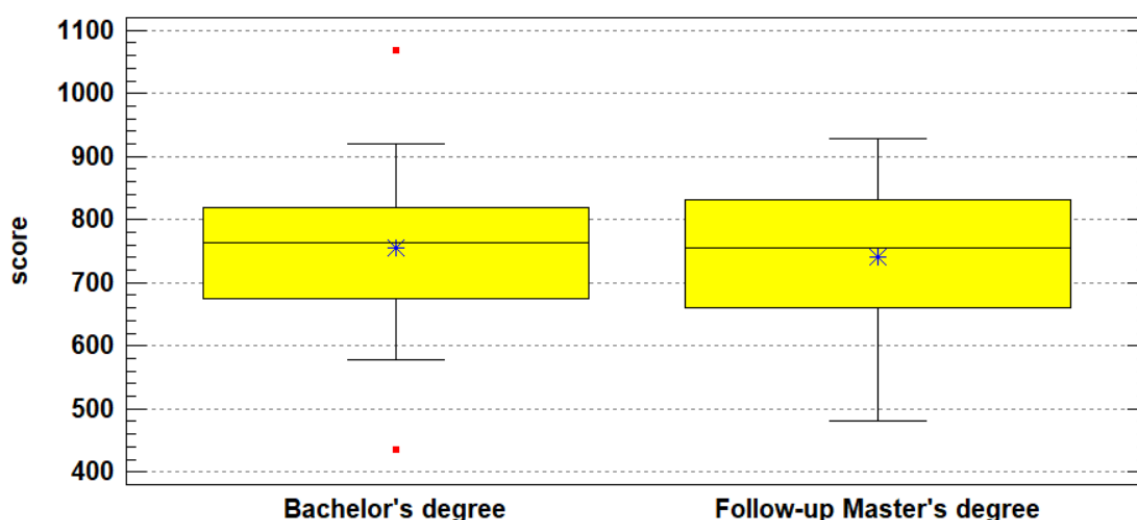
H1<sub>0</sub>: There is no statistically significant difference in the level of performance motivation between Bachelor's and Master's students.

H1A: The overall level of performance motivation is higher for Master's students than for Bachelor's students.

**Tab. 6 Descriptive analysis of raw scores in Bachelor's and follow-up Master's students**

	Bachelor's	Follow-up Master's
Average	754.974	741.321
Median	762.5	755.5
Modus	865	637
SD	112.885	110.613
Max	1069	928
Min	435	481

Based on the results of the F-test ( $F = 1.042$ ;  $p\text{-level} = 0.877$ ), a t-test for equal variances was performed. The results for testing the alternative one-sided hypothesis ( $t = 0.582$ ;  $p\text{-level} = 0.719$ ) indicate that we reject this hypothesis. There is no statistically significant difference between the mean values of the raw scores of the LMI test between the research sample of undergraduate and postgraduate students. This result is confirmed by the substantive significance value for Cohen's  $d^1 = 0.122$  at the confidence interval (Lower = -0.290 ; Upper 0.534) and is illustrated by the quartile plot.



**Fig. 2 - Quartile diagram of the distribution functions of the raw LMI questionnaire scores of Bachelor's and Follow-up Master's degree students**

The quartile diagram shows an analogous distribution of data in both sets of comparisons and comparable magnitudes of mean values. For Bachelor's students, two outliers are recorded, but they also form the minimum and maximum values in this dataset. It can therefore be assumed that they do not significantly affect the value of the mean.

<sup>1</sup> Based on the evaluation: < (0.2-0.5) \* small; < (0.5-0.8) medium; 0.8 and above large (Cohen [1988, p. 25])

A null and alternative one-sided hypothesis was formulated for research question 3:

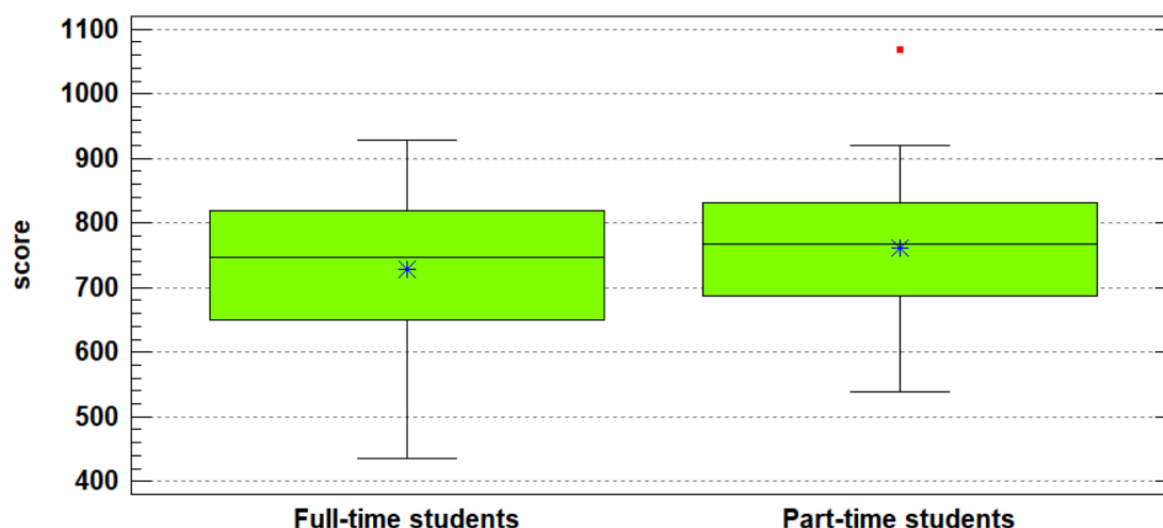
H<sub>20</sub>: There is no statistically significant difference in the overall level of motivation between full-time and part-time students.

H<sub>2A</sub>: The overall level of performance motivation is higher for full-time students than for part-time students.

**Tab. 7 Descriptive analysis of raw scores of full-time and part-time students**

	FT	PT
Average	728.683	760.887
Median	746	767
Modus	746	637
SD	124.664	98.354
Max	928	1069
Min	435	538

Based on the results of the F-test ( $F = 1.607$ ;  $p\text{-level} = 0.108$ ), a t-test for equal variances was performed. The results for testing the alternative one-sided hypothesis ( $t = -1.404$ ;  $p\text{-level} = 0.082$ ) indicate that we reject this hypothesis. There is no statistically significant difference between the mean values of the LMI test raw scores of the research sample of full-time and part-time students. This result is confirmed by the substantive significance value of Cohen's  $d = -0.291$  on the confidence interval (Lower =  $-0.700$  ; Upper  $0.119$ ) and is illustrated by the quartile plot.



**Fig. 3 Quartile diagram of distribution functions of LMI questionnaire raw scores for full-time and part-time students**

The quartile diagram shows some differences in the distribution of the data of the two compared files. The low values of the LMI test raw scores are less represented in the sample of part-time students. An outlier lies in the region of the maximum, which may affect the mean. However, the median as an additional mean value is also higher for students in the part-time form of study. However, the difference is not statistically significant, although the  $p\text{-level}$  is close to the critical level. However, the calculation of substantive significance clearly shows that a real difference between the two groups of students cannot realistically be considered.

## DISCUSSION

The aim of this research investigation was to determine the level of performance motivation among university students in the special education program and then to compare the results among defined groups of students. The research analysed whether there were statistically significant differences between students based on their level of study or on the form of study.

For the purpose of this research investigation, three research questions were set, on the basis of which individual hypotheses were subsequently formulated. Research question number 1 dealt with the overall level of performance motivation achieved by the students interviewed. The overall score was below average. Here, however, the result may also be influenced by the gender composition of the research sample, which is heavily dominated by women. In her research, Pašková (2007) showed that except for the dimension of self-control, men scored higher on all other dimensions of the LMI questionnaire. Special education students scored low on the dimensions of confidence in success, flexibility, fearlessness, compensatory effort, independence, and self-control. Average scores were achieved in the dimensions of persistence, dominance, flow, internality, difficulty preference, status orientation, and competitiveness. On the other hand, the highest values were recorded in the dimensions of commitment, willingness to learn and single-mindedness. Thus, these obtained values suggest that these are students who act more with the expectation of negative results and tend to be pessimistic especially in stressful situations. They show a certain reluctance to adapt to change, fearing failure and negative evaluation. Although students are concerned about failure, there is nevertheless a low tendency for them to compensate for these shortcomings with increased effort. They prefer to lead others rather than behave autonomously and also display low levels of self-control. Since special educators can undoubtedly be viewed as members of the helping professions, low levels of self-control can be viewed as a negative factor, as e.g. Guggenbühl-Craig (2010) lists high levels of self-control among the basic personality prerequisites for the helping professions. The choice of the difficulty of the tasks for these students depends mainly on the possibility of successfully completing them. They do not prefer to choose tasks that can further develop and push them. However, this behaviour may be related to the general tendency of university students to prefer utilitarian approaches to learning (Sun & Zhao, 2012). On the other hand, these students are willing to work on the assigned tasks with a certain concentration, they are able to fix their attention on the assigned task, the set goal. They are consistent, decisive and have less risk of distraction. They are willing to take some initiative, but they do not aspire to a completely leading role. They can do a good job and don't like situations where they have nothing to do for a long time. They don't need much time to recover after doing a strenuous task. These students are also being prepared for a profession in which there is a need for continuing education. They show a desire for knowledge, an interest in information. Last but not least, these students also plan and set long-term goals. They set higher standards for what they want to achieve in the future. In terms of differences between the groups, the dimensions of confidence in success, flexibility, independence and goal orientation show statistically significantly lower levels of these dimensions among full-time and part-time Bachelor's degree students. The difference could be due to the higher age and therefore higher maturity of students in the part-time form of study. Another possible explanation for this phenomenon is the fact that students in the part-time form of study are generally already in a profession and the professional requirements place demands on working students in the areas of flexibility, independence and single-mindedness. Full-time students who have not yet encountered the requirements of the labour market do not yet develop these qualities to such an extent.

The influence of gender has already been mentioned in the text of our work. It is based on research on performance motivation in adolescence (Pavlas, 2015), which also used the LMI performance motivation questionnaire. This research was aimed at finding out the overall level of performance motivation, and the author subsequently compared female and male respondents. Again, the overall score was found to be low, especially in women. Respondents to Pavlas' research scored significantly low in the areas of willingness to learn, independence and goal-orientation. In the case of university students, these are dimensions that are relevant to this level of education.

Research Question 2 was concerned with determining whether there were statistically significant differences in the overall level of motivation between students in the Bachelor's and the follow-up Master's degree programmes in special education. Hypothesis 1, which predicted a higher overall level of motivation among students in the follow-up Master's programme, was not confirmed. Thus, there is no statistically significant difference between the two groups in the overall level of motivation. For example, a study focused on the performance motivation of Czech social pedagogy students (Martincová, Andrysová & Trubelíková, 2016) yielded similar results. In both studies, it appears that the overall level of student motivation is an overly general phenomenon that hides some specific differences. A detailed analysis of the differences in the different dimensions defined by the LMI questionnaire would probably be more useful. Although some differences can already be found here, they are still relatively rare. This may indicate that students perceive their professional training as a continuous five-year process with a blurred boundary between the bachelor and the subsequent master's degree. The two stages should have different objectives. The Bachelor's degree should focus on describing phenomena (question: how?), while the Master's degree should focus on explaining them (question:

why?). In terms of students' performance motivation, however, these differences merge and motivation is determined by the personality traits of students in given fields of study rather than by the specifics of different levels of study programmes and their objectives.

The question of whether there are statistically significant differences in the overall level of performance motivation between full-time and part-time students of the special education programme was addressed in research question 3. Again, it was found that there is no statistically significant difference in the level of performance motivation between students of both forms of study. Again, the analysis of differences in the individual dimensions proves to be more useful, as statistically significant differences in the level of dimensions important for professional employment can be observed in favour of students of the part-time form of study. Here we can look for analogies with Lorencová's (2022) research on students of social pedagogy, which also falls within the helping professions. According to the results of this research, "no differences were found in intrinsic motivation by gender, age, occupational status or form of study. In contrast, differences emerged for extrinsic and mixed motivation. Younger respondents and full-time students were more likely than older respondents to have avoidance motivations associated with alternative study choices. Younger respondents were also more influenced by friends and acquaintances. Regarding mixed career motivation, it was cited as an important factor in the choice of field by older respondents, part-time students and graduates in practice. These respondents were also more likely than others to admit that a supervisor's request played a role in their choice."

The research of Pana (2014) also provides very interesting contexts. In it, the author focused, among other things, on the aspect of the locality from which the students come. Significant differences in performance motivation were found to exist between urban students and those from rural or peripheral areas. This aspect should also be considered relevant and should be included in the extension of research on performance motivation in special education students. Performance motivation in university students was also addressed in the research of Záborská et al. (2021), which was aimed at students of pedagogical disciplines. Respondents were interviewed through the LMI Performance Motivation Questionnaire along with the Aspiration Level Test, the results were then processed through cluster analysis. This analysis revealed four groups, which the authors labelled the "Motivated Type", the "No Confidence Type", the "No Interest Type" and the "Spontaneous Type". The motivated type showed the highest values in most dimensions of performance motivation and also the highest level of aspiration. Research on performance motivation especially among university students has been investigated in other studies that present similar results to those in the present study (Ergin & Karatas, 2018; Turki, Jdaitawi & Sheta, 2018). Alternatively, they relate performance motivation to other factors such as cognitive styles (Fan & Zhang, 2009;), emotional self-efficacy (Pedditzi & Spigno, 2019), gender (Pirmohamed, Debowska, & Boduszek, 2017), burnout syndrome (Meriläinen, 2014), causal attributions (Yuan, Jijun, & Chengting, 2015), parental influence (Kim, Mok, & Seidel, 2020), and others.

## CONCLUSION

Performance motivation determines the aspirational level of an individual, therefore it is necessary to pay special attention to it. If we want to increase performance motivation, to influence it positively, it is very important how the institution, in this case the university, works with the requirements (tasks). Achievement motivation is significantly positively correlated with students' attitudes towards learning. (Kamariah, Rohani & Rahil et al, 2010). First and foremost, it is a requirement of reasonable difficulty that prevents the development of inadequate performance needs and, on the contrary, promotes positive performance needs. Also central to the development of performance motivation is the development of social needs in particular, an example being the promotion of cooperative over competitive tendencies and so on. Adequate work with performance motivation should then represent clearly formulated tasks, where the teacher differentiates the difficulty of the tasks and places great emphasis on the quality of the work done. If a student is identified as having a stronger need to avoid failure, it is necessary to focus on performance behaviors in general. Educators should consider whether they are creating situations in which their students are struggling to succeed. On the contrary, it should aim to reinforce the need for successful performance through appropriate 'dosage' and gradual increase in task difficulty, thus preparing students for the real possibility of being successful. The introduction of an individual relational norm, in which the teacher compares the student's performance with his or her "performance history" (Hrabal & Pavelková, 2011), also has a positive motivational effect.

We are aware that the results obtained in this research study should be viewed through the prism of the limitations that this research study presents. These undoubtedly include the relatively small size of the research sample. When dividing it into defined groups for statistical analysis, this problem is compounded. The low

number of respondents in each group prevents the enforcement of clear differences between the groups from a statistical point of view. It would also undoubtedly be advisable to include students from other universities where special education programmes are offered in the research sample. Some universities have a very long tradition of this, which may influence the motivation of applicants to study special education. The results suggest that it would be useful to repeat the research and focus more on a deeper analysis of differences in the individual dimensions of performance motivation. Of course, we cannot rule out the influence of social desirability, which may have influenced some respondents' answers.

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