ANALYZING MOTIVATION AND NEEDS OF STUDENTS IN TECHNICAL HIGHER EDUCATION

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Abstract: The global engineering and automotive industries face significant challenges in maintaining a skilled workforce among rapid technological advancements. This study focuses on understanding the motivation and needs of engineering students at Óbuda University, Hungary, to better align educational programs with industry demands. A survey was conducted to examine the relationship between intrinsic and extrinsic motivation, the conscious choice of a degree, and the level of effort students invest in their studies. Results indicated that intrinsic motivation plays a more significant role than extrinsic factors, with differences observed between full-time and part-time students. These findings highlight the need for tailored strategies to enhance student engagement and success.
Keywords: engineering education, motivation, needs, part-time studies, full-time studies

1. INTRODUCTION

The global engineering industry, with its rapid technological advancements and increasing demands, faces significant challenges in maintaining a skilled and adaptable workforce. The automotive industry, a key player in this sector, relies heavily on innovation, precision, and efficiency to stay competitive. As a result, the training of engineers has become crucial, and higher education institutions are tasked with equipping students with the necessary technical skills and expertise.

Risk analysis in the automotive industry involves identifying, evaluating, and prioritizing potential threats, including human resource-related risks, to develop strategies that minimize their impact on operations and safety. An important element of the risk categories of automotive suppliers are the risks related to human resources. These risks are generally high and difficult to assess. In our previous survey [1], the risks of automotive suppliers were analysed and grouped into 14 categories. The main categories were Quality, Transport, Flexibility, Costs, Environmental protection,

Occupational Health & Safety, Technology, External environment factors, Fame/Prestige, Natural disasters, External factors, Safety, Installation and replacement of safety equipment, Information security, Vulnerability. Human resource (HR) risks were included in the Safety category within the 14 main categories. In other words, the management of human resources within the automotive supply chain is a key factor in ensuring safety and overall operational stability.

Given the rapid technological changes and the increasing complexity of the industry, the need for highly qualified professionals has never been greater. However, assessing the potential risks stemming from human resources, including issues related to training, motivation, and retention, remains a significant challenge for organizations striving to maintain a competitive edge. This is particularly relevant as the industry faces an evolving landscape of technological demands, where the skillsets required by employees continuously shift.

In the case of applied HR, the necessary training can be obtained from higher education institutions, vocational training institutions, consultancy and internal company training.

Two key aspects are particularly interesting: the needs of students and their motivation. Understanding these factors is crucial for aligning educational programs with the evolving demands of the industry and ensuring that students are adequately prepared for their professional careers.

It is a significant challenge for higher education to keep pace with the rapidly changing needs of industry while ensuring the training of highly qualified professionals who can meet the evolving demands of companies [2]. As industries, particularly in engineering and technology sectors, undergo continuous transformation driven by innovation and globalization, educational institutions must adapt their curricula, teaching methods, and training programs to equip students with both the technical expertise and the soft skills necessary to succeed in a competitive, dynamic workforce [3, 4].

The needs of students include support with their studies, guidance for their future careers, financial help, and a good learning environment [5]. They also need access to resources like practical experiences, internships, and industry knowledge to develop the skills they need for their future jobs.

Motivation is the set of reasons behind human behaviour [6]. It can be categorized into two groups: intrinsic and extrinsic. Intrinsic motivation comes from within the individual, driven by personal interests, values, or a sense of fulfillment. On the other hand, extrinsic motivation is linked to external factors, such as rewards, recognition, or pressure from external sources like grades, financial incentives, or social expectations.

In teacher education in German higher education, correlations between students' motivational factors were investigated [7]. These were typically the feeling of competence, the value of the task and a component of the cost, the effort related to solving the task.

Several studies [8-9] have found that both intrinsic and extrinsic motivation are important for a student's learning and later success in the workplace.

Intrinsic motivation can be influenced by several components. More research has been conducted on autonomy, competence and the development of relationships and their relationship with intrinsic and extrinsic motivation. [10]

This study specifically focuses on the examination of undergraduate and master's engineering diplomas at higher education institutions. It is crucial to understand students' motivation levels and needs. It can be hypothesized that significant differences exist between full-time and part-time students within needs and motivation areas. As their motivations and needs likely differ, tailored strategies are required to achieve the desired academic outcomes. The key performance indicators for the university in this study include drop-out rates, student satisfaction, learning outcomes, and feedback from stakeholders.

A survey was conducted among students at Óbuda University, Hungary to examine the following hypotheses:

1. External motivation is less important than intrinsic motivation in engineering courses, indicating that students who are driven by personal interests and values tend to perform better.

2. There is a correlation between the conscious choice of a degree and motivational factors, suggesting that students who actively choose their degree programs are likely to exhibit stronger intrinsic motivation and a deeper commitment to their studies.

3. There is a relationship between the level of motivation and the energy invested by the student to fulfil the requirements, suggesting that students who are more motivated are likely to dedicate more time and effort to their coursework, resulting in higher levels of academic achievement and improved learning outcomes.

4. Student needs and motivations are different in full-time and part-time courses.

2. MATERIALS AND METHODS

The survey was conducted using a questionnaire consisting of 6 general and topic specific questions 28 questions and 14 statements (Appendix). For this study, the primary focus will be on motivation, its components, and student needs. The analysis is primarily concentrated on the closed questions, which use

a 1-4 (or 1-6) Likert scale, where 1 represents the least important and 4 (or 6) represents the most important. Additionally, the survey includes statements with multiple select types, allowing respondents to choose more than one option.

- Motivation
  - QM01-QM04: Questions for intrinsic motivation (Likert 6)
  - QM05-QM10: Questions for extrinsic motivation (Likert 6)
  - QM11-QM13: Questions for future opportunities (Likert 6)
  - QM14-17: Questions for consciousness of students (Likert 4)
  - QM18-21: Questions for motivation level and its contents (Likert 4)
  - STM01-STM06: Statements for motivation
- Needs
  - QN01-QN03: Questions for needs in case the teacher has direct impact (Likert 6)
  - QN04-QN06: Questions for needs in case the teacher has not direct impact (Likert 6)
  - STN01-STN07: Statements for needs

This structured approach allows for a detailed examination of the key factors influencing student engagement and success.

The survey collected basic demographic and academic data, including gender, age, educational level, full-time or part-time enrolment status, and the type of engineering studies pursued by the students, specifically focusing on the programs offered at the Faculty of Mechanical and Safety Engineering at Óbuda University (i.e. cybersecurity, mechanical, mechatronics and security engineering). This information provides valuable context for analysing the motivation levels, needs, and other factors influencing the students' academic experiences.

Participation in the survey was voluntary and anonymous, with the survey distributed to all students of the Faculty of Mechanical and Safety Engineering at Óbuda University via an electronic form. The survey was conducted during the autumn semester of the 2024/25 academic year.

3. RESULTS

3.1. Basic data

A total of 374 students completed the questionnaire. The frequency data for gender shows that 91.4% of those who completed the questionnaire were male, only 8.6% were female. As the survey was made in a technical university, this explains the gender ratio.

In terms of age, 54.8% of respondents were in the 18-21 age group. This is not surprising as many respondents are enrolled in full-time BSc courses. 24.6 % of the participants in the survey are aged between 22 and 26, the remaining 20.6% are over 27. (Table 1)

Table 1

Frequencies of Age(s)

Age(s)	Counts	% of Total
18-21	205	54.8 %
22-26	92	24.6 %
27 or older	77	20.6 %

Most respondents (94.1%) are studying for a BSc. 5.9% of respondents are in MSc courses. Table 2 shows that 73.3% of respondents are in full-time education, while 26.7% are in part-time education.

Table 2

Frequencies of Enrolment Status

Full_time/Part_time	Counts	% of Total
Full-time	274	73.3 %
Part-time	100	26.7 %

The survey collected data on the type of engineering studies pursued by the students, which were as follows: 47 out of 374 students were enrolled in the cybersecurity program, 209 students were pursuing mechanical engineering, 66 were studying mechatronics, and 52 students were enrolled in the security engineering program. These results provide a breakdown of the distribution of students across the different engineering disciplines offered at the Faculty of Mechanical and Safety Engineering at Óbuda University (Fig. 1), and overall, the sample can be considered representative of the faculty's student population in terms of gender

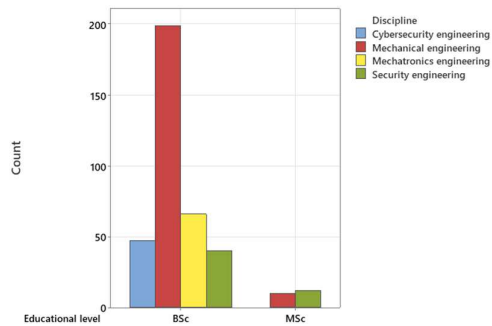distribution, age, level of study, enrolment status, and field of study.

Fig. 1. Frequency diagram categorized by educational level and discipline

3.2. Motivation of students

The questions and statements related to motivation were grouped. The first question group refers *to intrinsic motivation* (QM01-QM04). The mean scores (Table 3) suggest that respondents generally reported high intrinsic motivation, with QM01 (4.89) and QM02 (4.72) being the highest. QM04 has the lowest average (3.79), suggesting relatively lower agreement compared to the other three questions.

Table 3
Statistical data for the answers of QM01 to QM04

	QM 01	QM 02	QM 03	QM 04
N	374	374	374	374
Mean	4.89	4.72	4.59	3.79
Median	5	5	5	4

The responses show that there are no significant differences in means and variances (by profession), but differences between age groups (Fig. 2) for QM01 and QM02. Intrinsic motivation is higher in the age group 27 and above.
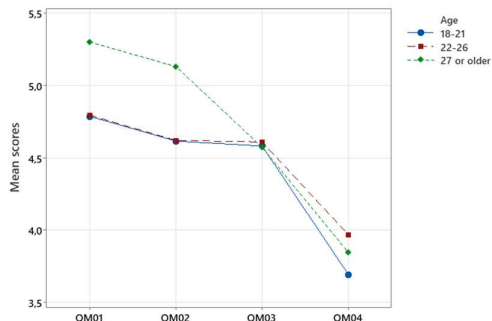

Fig. 2. Line plot of means of answers to intrinsic motivation questions

For QM01, where professional development and career building are the driving forces, this factor appears to be more motivating in the part-time program. (Fig. 3)
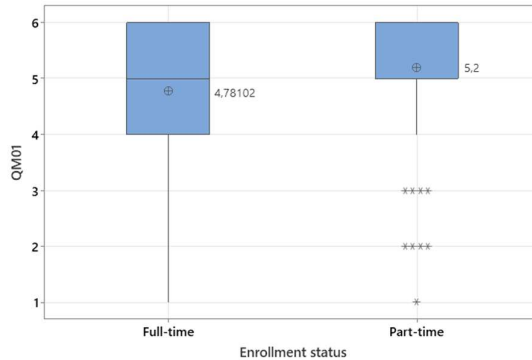

Fig. 3. Box plot of answers of QM01 categorized by enrollment status

The responses to the questions related to *extrinsic motivation* (QM05–QM10) generally show lower mean and median scores compared to those for intrinsic motivation. Among these, QM07 had the lowest mean and median values, indicating it was the least motivating factor. (Table 4)

Table 4
Statistical data for the answers of QM05 to QM10

	QM 05	QM 06	QM 07	QM 08	QM 09	QM 10
Mean	4.16	3.74	2.86	3.39	3.80	4.28
Median	4.5	4	3	3	4	4

The following figure (Fig. 4) illustrates that the differences by enrollment status are more pronounced for questions QM07 and QM08.
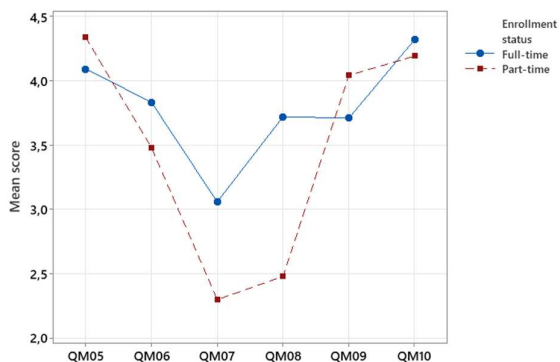

Fig. 4. Line plot of means of answers to extrinsic motivation questions

For QM07, which examines the motivational impact of participating in an international exchange program, the results indicate that it holds little motivational power for full-time students and even less for part-time students, where it appears to have almost no influence. (Fig. 5)
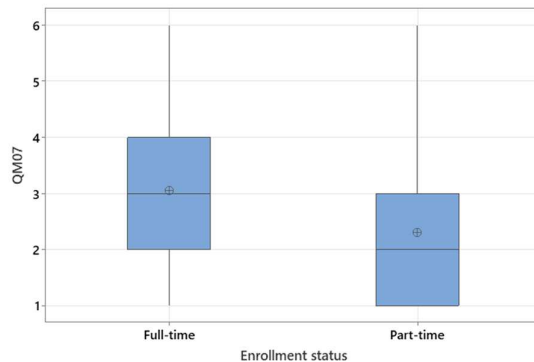

Fig. 5. Box plot of answers of QM07 categorized by enrollment status

The answer received regarding *future opportunities* (QM11-QM13) shows in general that the averages are high, ranging from 4.05 to 5.05 (Table 5).

Table 5
Statistical data for the answers of QM11 to QM13

	QM 11	QM 12	QM 13
Mean	5.05	4.05	4.60
Median	5	4	5

Question QM12, which examines motivation to establish contacts, shows a notable difference for security engineering compared to the other majors. For security engineering students, this factor is significantly more motivating than for students in other disciplines. (Fig. 6)

QM13 explores the motivational impact of labor market opportunities in relation to students' chosen fields. Here, security engineering and cybersecurity engineering show similar scores, while mechanical engineering and mechatronics engineering have lower values (Fig. 6).

The responses to questions QM14 to QM17, which were measured on a 4-point Likert scale, indicate that *students' overall consciousness* is lowest for QM14 and QM17, as reflected in their mean and median values. The highest median value, reaching 4, is observed for QM15. (Table 6)
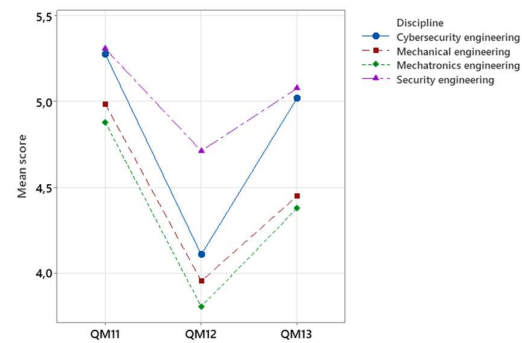

Fig. 6. Line plot of means of answers to future opportunities motivation questions.

Table 6
Statistical data for the answers of QM14 to QM17

	QM14	QM15	QM16	QM17
Mean	2.97	3.30	3.16	2.21
Median	3	4	3	2

There are differences in consciousness between age groups (QM17). The question asked how consciously students had chosen their courses, specifically regarding their attendance at events that were helpful for popularizing the subject and obtaining information. The older age group tends to use online platforms more to gather information about optional courses (Fig. 7).
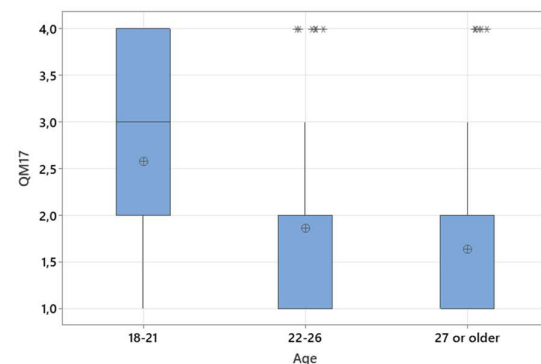

Fig. 7. Box plot of answers of QM17 categorized by age

The answer received to the questions QM18-QM21, which were measured on a 4-point Likert scale, related *motivation level and its contents* show in general that the average responses to the questions is the lowest for Q20 and highest for QM18. (Table 5)

Table 7
Statistical data for the answers of QM18 to QM21

	QM18	QM19	QM20	QM21
Mean	3.39	3.36	2.67	3.16
Median	4	3.5	3	3

There are more significant differences by enrolment for the answers to question Q21 (Fig.8). In question QM21, I asked how motivated the students felt to achieve their learning goals. While the difference between the means is smaller, the medians differ. Part-time students report feeling more motivated.
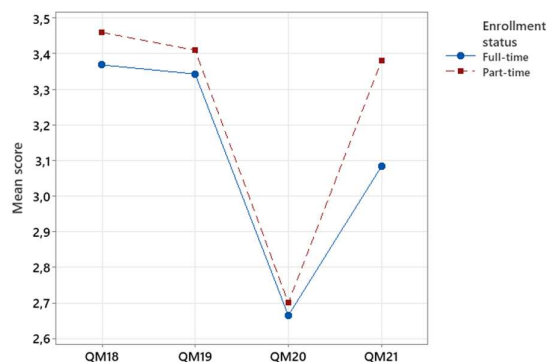

Fig. 8. Line plot of means of answers to motivation level and its contents questions

The statements for motivation concerned the reasons why the student chose the course (STM01 to STM06). In general, the responses to the statements show that three statements appeared most frequently in the responses.
In general, the responses show that three statements were selected most frequently by the respondents. Fig. 9 illustrates the frequency with which the statements were chosen. Respondents could select more than one statement at a time. It is evident that students were primarily motivated by their interest in the subject, as well as the career opportunities and high potential income associated with the course.
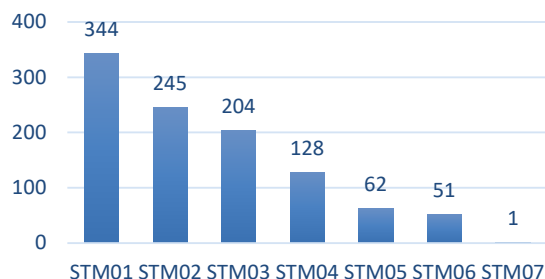

Fig. 9. Frequency diagram of statements of motivation

The analysis of student motivations for choosing their courses reveals clear patterns in the factors that influence decision-making. The most frequent reasons cited include a strong interest in the academic field, career opportunities, and the potential for high income. These motivations align with the increasing emphasis on career-oriented education and financial prospects. In contrast, factors such as social recognition, family or friends' influence, and professional advancement were less frequently mentioned. This suggests that students tend to prioritize personal interest and tangible career benefits when selecting their courses. Understanding these motivational factors can help educational institutions better tailor their offerings and support services to meet the needs and expectations of prospective students.

3.3. Needs of students
The needs-related questions were grouped into two categories. The first group (QN01-QN03) includes those on which we *have a direct impact*. The answers for the questions for needs in case the teacher has direct impact (Table 8) show that high average values were in general.

Table 8

Statistical data for the answers of QN01 to QN03

	QN01	QN02	QN03
N	374	374	374
Mean	4.97	5.21	5.53
Median	5	6	6

There are differences in this group of questions in several respects. As can be seen in the below figure, there is also a significant difference in responses by gender. Female students are higher demanding for all three questions. (Fig. 10.)
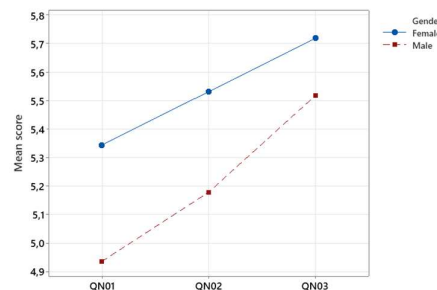

Fig. 10. Line plot of means of answers to needs (QN01-QN03) questions categorized by gender

Additionally, there are age-related differences in responses to questions QN02 and QN03, with older age groups showing higher levels of demand for tutor support, as well as the

quality and relevance of course material (Fig. 11).

Educational level also plays a role in shaping student needs. Fig. 12 clearly shows that MSc students express higher demands for laboratory and classroom facilities, as well as teaching support, compared to other education levels.
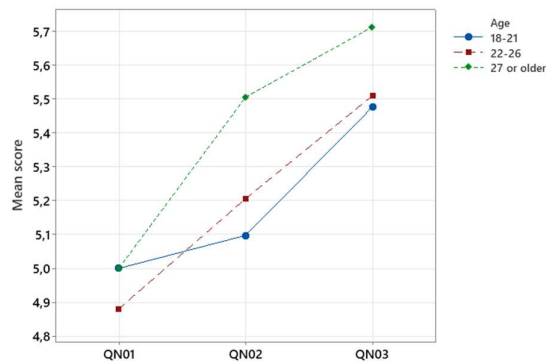

Fig. 11. Line plot of means of answers to needs (QN01-QN03) questions categorized by age
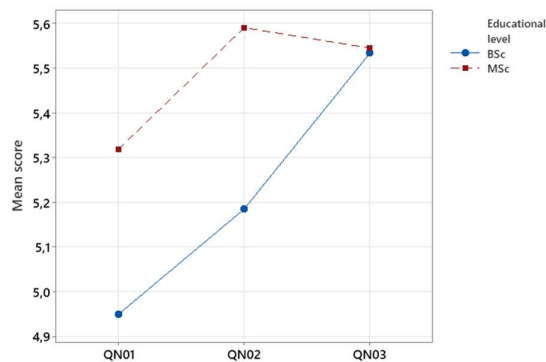

Fig. 12. Line plot of means of answers to needs (QN01-QN03) questions categorized by educational level

Furthermore, there is a variation in needs based on program specialization. Fig. 13 indicates that Mechanical Engineering, Mechatronics Engineering, and Security Engineering students exhibit similar levels of need, while students in Cybersecurity Engineering report higher demands. Full-time and part-time students also differ in their needs, with part-time students generally exhibiting higher demands.
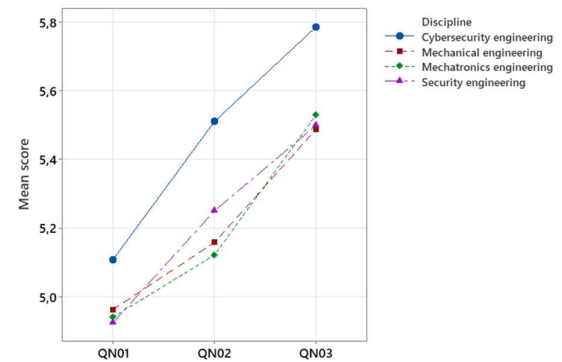

Fig. 13. Line plot of means of answers to needs (QN01-QN03) questions categorized by discipline

The answers to the questions (QN04-QN07) on needs in the case where *the teacher has no direct influence* show that the averages are generally lower than in the previous group.

Table 9

Statistical data for the answers of QN04 to QN07

	QN04	QN05	QN06	QN07
Mean	5.14	4.42	4.09	4.71
Median	6	5	4	5

For questions QN06 and QN07, a gender difference is visible. For females, factory visits and networking opportunities are more important. (Fig. 14.)
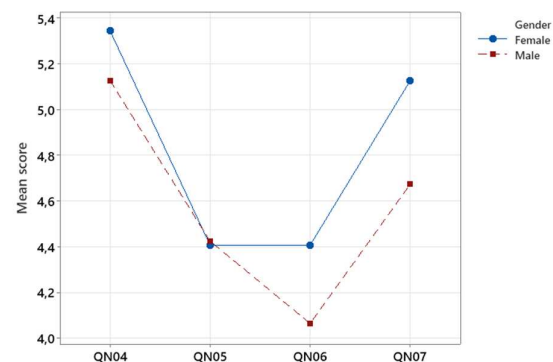

Fig. 14. Line plot of means of answers to needs (QN04-QN07) questions categorized by gender

Although the trend is very similar for full-time and part-time students, part-time students have higher needs.(Fig.15.)
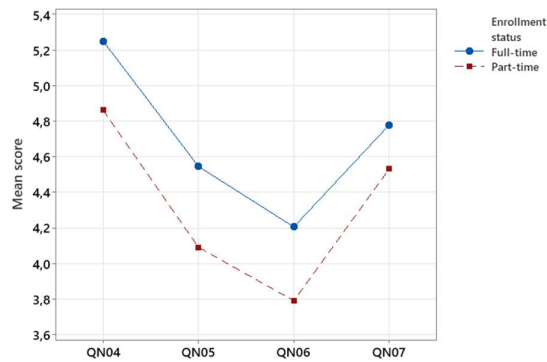
Fig. 15. Line plot of means of answers to needs (QN04-QN07) questions categorized by enrollment status

The statements (STN01-STN07) are about student needs related to personal and professional development during their academic journey.

The most frequently expressed need is for professional development through practical examples, highlighting the importance of hands-on experience in enhancing students' learning (Fig. 16). Additionally, career advice, communication skill improvement, and language courses also emerged as significant needs, indicating a strong desire for resources that enhance employability and personal development.
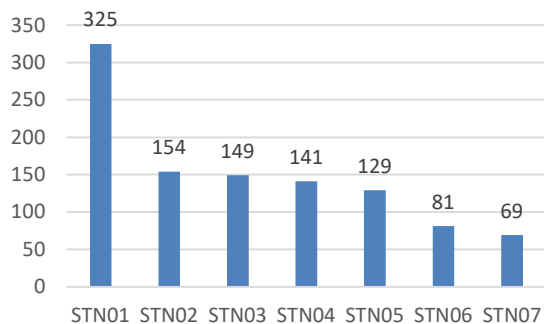

Fig. 16. Frequency diagram of statements of student needs

The responses suggest that students are particularly focused on acquiring skills that will directly benefit their future careers, with mentoring programs and psychological support being less frequently prioritized. Understanding these preferences can guide institutions in tailoring their services to better meet student expectations, ensuring they receive the

necessary support to succeed both academically and professionally.

3.4 Correlations

A correlation analysis was analyzed to see if there is a correlation between conscious choice, interest in knowledge, effort, sense of competence, motivation and need to achieve learning goals. Pairwise Spearman correlations were calculated among the QM01-QM21, QN01-QN07 questions. The significant (at 5% level) correlation coefficients above 0.400 (or below -0.400) values are presented in Table 10.

The results indicate that Spearman correlation coefficients are predominantly positive. Initially, correlations within each group were examined. Among the *intrinsic motivation* items (QM01–QM04), nearly all questions exhibited significant correlations. In contrast, within the *extrinsic motivation* group, significant correlations were observed only between QM08–QM07 and QM10–QM09. Regarding *future-oriented* questions, QM13 was found to be correlated with QM11 and QM12. In terms of *consciousness* items, a higher correlation was identified between QM15 and QM16. However, within the final motivation group, no strong correlations were detected. Among the need-related items, high correlations were found between nearly all question pairs.

Table 10

Paiwise Spearman correlations above 0.400

1	2	Corr.	1	2	Corr.
QM02	QM01	0.435	QM16	QM15	0.399
QM03	QM01	0.453	*QM21*	*QM05*	*0.469*
QM03	QM02	0.409	*QN01*	*QM10*	*0.412*
QM04	QM03	0.415	QN02	QN01	0.401
QM06	*QM03*	*0.415*	QN03	QN02	0.529
QM08	QM07	0.42	QN04	QN03	0.407
QM10	QM09	0.525	QN05	QN04	0.454
QM12	*QM06*	*0.512*	QN06	QN05	0.468
QM12	*QM03*	*0.434*	*QN07*	*QM12*	*0.565*
QM13	QM11	0.501	QN07	QN05	0.519
QM13	QM12	0.477	QN07	QN06	0.426
QM13	QM01	0.438			

Several notable cross-group correlations were identified. A strong correlation was observed between QM06 and QM03, suggesting

that participants responded to recognition-related questions in a consistent manner. The correlation between QM12 and QM06 implies that individuals motivated by relationship-building also exhibit a strong influence from family and peer support.

The strong correlation between QM21 and QM05 indicates that students who are motivated to achieve academic goals are also driven to attain outstanding academic performance.

Furthermore, two strong correlations were identified between needs and motivation. The association between QN01 and QM10 highlights the impact of well-equipped classrooms and laboratories in fostering a motivating learning environment. Additionally, students who consider relationship-building an essential need demonstrated a corresponding motivational tendency in this area (QN07–QM12).

This article focused on the relationship between conscious choice and motivation level. Related questions QM14-17. A correlation is observed between questions QM14-QM16 and the motivation level (QM21). Correlation coefficients are: 0.337 (QM14,QM21), 0.232 (QM15,QM21), 0.233 (QM16,QM21).

No correlation was found between QM17 and QM21. The correlation coefficient is 0.065 with a value of p=0.208.

3.5 Evaluation of survey

The Cronbach's alpha and the McDonald's omega were determined for the reliability of the questionnaire using a statistical program. The results showed (Table 11) that the questionnaire was reliable. [11]

Table 11

Scale Reliability Statistics

	Mean	Cronbach's α	McDonald's ω
scale	3.95	0.867	0.870

4. DISCUSSION

There are differences among the answers in average related to intrinsic and extrinsic motivations (Table 12). It is obvious that intrinsic motivation factors were more important to respondents than extrinsic motivation factors.

Table 12

Mean values for the answers

Intrinsic motivation			Extrinsic motivation		
	Mean	Median		Mean	Median
QM01	4.9	5	QM05	3.76	4
QM02	4.72	5	QM06	2.84	2
QM03	4.59	5	QM07	3.39	3
QM04	3.79	4	QM08	3.79	4
			QM09	4.29	4

Table 12 presents the mean and median values for the responses related to intrinsic and extrinsic motivation factors. The data reveals notable differences between intrinsic and extrinsic motivations, with intrinsic motivation being consistently more important to the respondents than extrinsic factors.

For intrinsic motivation, the average mean scores are generally high, with responses for QM01 (4.9), QM02 (4.72), and QM03 (4.59) indicating a strong preference for factors such as personal interest and internal satisfaction. The median scores for these questions are also high, with most respondents selecting the highest values (5), demonstrating that intrinsic motivators are a primary driver for engagement and commitment.

In contrast, the extrinsic motivation factors show lower mean and median values. The highest mean score for extrinsic factors is QM05 (3.76), which relates to external rewards or recognition. Other extrinsic motivation factors, such as QM06 (2.84), QM07 (3.39), and QM08 (3.79), show that respondents place significantly less importance on external motivators, including material benefits and external validation, compared to intrinsic motivators.

It can be concluded that, as in previous research [9], intrinsic motivation was more important for respondents than extrinsic motivation.

As expected, there was a positive correlation between interest in the subject and motivation level (Fig. 17). There was a weak negative correlation for energy (effort) invested, while the feeling of competence gained by completing tasks was positively correlated. It can be said that the results of our research are consistent with those of previous research in other fields [7].
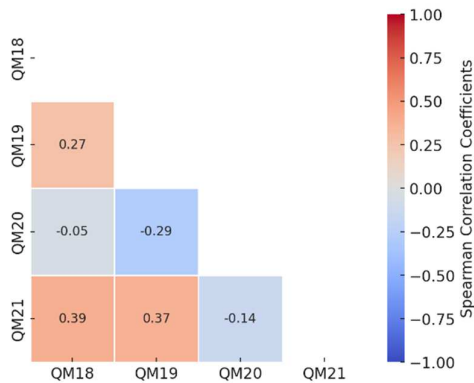
Fig. 17. Heatmap for correlation

5. CONCLUSION

This study provides valuable insights into the motivation and needs of students at the Faculty of Mechanical and Safety Engineering at Óbuda University. The findings reveal that intrinsic motivation plays a significant role in shaping student engagement with students primarily driven by personal interest, academic curiosity, and career aspirations. Extrinsic factors, such as external rewards or recognition, were found to be of lesser importance. These results align with existing research that suggest intrinsic motivators are key drivers for academic success and persistence.

In terms of student needs, students demand strong support from their instructors, particularly in the areas of course material quality and relevant practical experiences. This is especially true for female students, older students, and those enrolled in postgraduate programs. The need for professional development through practical examples, career advice, and skill-building opportunities was frequently cited by respondents, highlighting the importance of aligning academic offerings with future employment requirements.

The analysis also revealed differences across demographic and program categories, indicating that student motivation and needs can vary based on factors such as gender, age, enrollment status, and program specialization. Understanding these differences allows educational institutions to tailor their programs and support systems more effectively, ensuring that they meet the diverse expectations and requirements of their student population.

The correlation analysis demonstrated that a student's sense of competence and interest in their studies are strongly associated with their motivation to achieve learning goals. Interestingly, a weak negative correlation was found between energy invested in learning and motivation, suggesting that while effort is important, intrinsic motivation may be a more significant factor in sustaining academic engagement.

The following conclusions were drawn from the hypotheses tested:

1. External motivation is less important than intrinsic motivation in engineering courses, indicating that students who are driven by personal interests and values tend to perform better. The hypothesis is confirmed.

2. There is a correlation between the conscious choice of a degree and motivational factors, suggesting that students who actively choose their degree programs are likely to exhibit stronger intrinsic motivation and a deeper commitment to their studies. The hypothesis was partially confirmed. A correlation with motivational level was found for three questions and for one question no correlation was found.

3. There is a relationship between the level of motivation and the energy invested by the student to fulfil the requirements, suggesting that students who are more motivated are likely to dedicate more time and effort to their coursework, resulting in higher levels of academic achievement and improved learning outcomes. Only a slight negative correlation was confirmed.

4. Student needs and motivations are different in full-time and part-time courses. or questions QN04-QN07 there was a difference between full-time and correspondence students. Although the trend is very similar for full-time and part-time students, part-time students have higher needs.

This research emphasizes the importance of fostering intrinsic motivation, providing meaningful support, and offering relevant professional development opportunities to enhance student success. By understanding and

addressing the motivations and needs of students, academic institutions can create a more engaging and effective learning environment, ultimately leading to higher levels of academic achievement and career readiness.

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7. APPENDIX
Questions

QM01 Motivation for professional development and career development.

QM02 Deep interest in the subject matter is your motivation.

QM03 Achievement and recognition are your motivation.

QM04 Social contribution and usefulness are motivating factors.

QM05 How important is excellence in academic achievement to the student.

QM06 Family and friends' support/recognition is a motivator.

QM07 Motivation to participate in an intercultural exchange program

QM08 Scholarship is your motivation.

QM09 Deadlines, clear requirements are your motivation.

QM10 Suitable modern learning environment is a motivation.

QM11 Financial stability and future income are your motivation.

QM12 Relationship building is your motivation.

QM13 Labour market opportunities is your motivation.

QM14 How aware is the student of his/her labour market goals.

QM15 How well informed the student about the chosen course is.

QM16 How familiar is the student with the sample curriculum of the chosen degree program.

QM17 How consciously did the student choose his/her degree course (Did he/she participate in events?)

QM18 How interested is the student in the knowledge he/she will acquire during the course.

QM19 To what extent does the student feel able to fulfil the training requirements.

QM20 How much effort does the student make to meet the requirements.

QM21 How motivated is the student to achieve the objectives of his/her studies.

QN01 The importance of classroom and laboratory facilities.

QN02 The importance of the availability and support of lecturers.

QN03 Importance of quality and relevance of course material.

QN04 Importance of internships and practical training opportunities.

QN05 Importance of career guidance and labour market support.

QN06 Importance of factory visits.

QN07 Importance of networking opportunities.

Statements

STM01: Students' interest in the given academic field

STM02: Career opportunity

STM03: Opportunity for high income

STM04: Passion for problem solving and innovation

STM05: Family or friends influence

STM06: Social recognition or prestige

STM07: Professional advancement

STN01: Professional development (through practical examples)

STN02: Career advice on the labour market

STN03: Improvement of communication skills

STN04: Language courses

STN05: Opportunity to develop presentation skills

STN06: Mentoring program

STN07: Psychological support

Analiza motivației și a nevoilor studenților din învățământul superior tehnic

Industriile globale de inginerie și automobile se confruntă cu provocări semnificative în menținerea unei forțe de muncă calificate în contextul progreselor tehnologice rapide. Acest studiu se concentrează pe înțelegerea motivației și nevoilor studenților în inginerie de la Universitatea Óbuda, Ungaria, pentru a alinia mai bine programele educaționale la cerințele industriei. A fost realizat un sondaj pentru a examina relația dintre motivația intrinsecă și extrinsecă, alegerea conștientă a unei diplome și nivelul de efort investit de studenți în studiile lor. Rezultatele au indicat că motivația intrinsecă joacă un rol mai semnificativ decât factorii extrinseci, cu diferențe observate între studenții cu normă întreagă și cei cu normă parțială. Aceste constatări evidențiază necesitatea unor strategii adaptate pentru a spori implicarea și succesul studenților.

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