Correlation between Dominant Working Styles of Students at the Faculty of Technology and Metallurgy in Skopje and their Curriculum Choice

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Abstract

This paper aims to detect the advantages and disadvantages of Working Styles in general, determining and interpreting dominant Working Styles of students in different curricula at The Faculty of Technology and Metallurgy in Skopje. The research was conducted using Julie Hay's questionnaire to determine working styles. The aim was to recognise individual characteristics reflected through the specific Working Style, i.e. the characteristic pattern for a series of expected behaviours - script pattern. These results were summarised for each group of students from six curricula, and a detailed analysis was made. Advantages, disadvantages, and essential steps were listed to increase the advantages and minimise the disadvantages. Also, recommendations that would motivate further utilisation of their potential were given. This established the connection between the manifested Working Styles of the groups of students and the choice of the corresponding curriculum. This work is expected to improve curricula and teaching methods for the benefit of current and future students in choosing their future profession, including their interests, skills and abilities for building a career as engineers.

Keywords: Drivers; Working Styles; script pattern; Julie Hay's questionnaire; sentence pattern.
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Introduction

Approximately fifty years ago, Kahler (1975) introduced the theory of Drivers, which has since evolved into five distinct styles. These Drivers are named after Freud's concept of drives or fundamental instincts for repetitive behaviour. According to Kahler (1975), Drivers are programmed responses that we unconsciously adopt from significant individuals in our past, such as parents or other authority figures. They manifest as specific compulsive behaviours, particularly when we are under stress (Freud, 1921); (Kahler, 1975).

Drivers are unconscious patterns of behaviour that impact various aspects of our lives, regardless of our location or company. They represent our subconscious efforts to behave in ways that gain recognition from others (Andonovic et al., 2014; Kahler, 1992, 1999, 2008; Woollams & Brown, 1979). Drivers can be seen as survival mechanisms or subconscious strategies we develop to counteract injunctions.

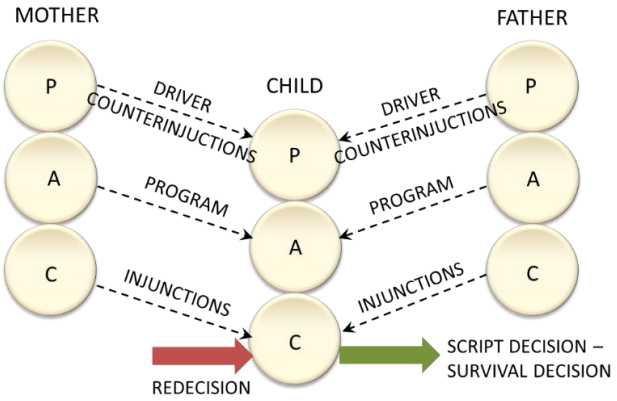
Numerous researchers, including Gellert, Silver, and Tudor, have further developed and expanded upon this concept (Pavlovska, 2013). This work primarily focuses on the positive aspects of Drivers, specifically the Working Styles and their corresponding script processes, as exhibited by a larger group of students at The Faculty of Technology and Metallurgy in Skopje. The research aims to make a connection between the Working Styles in different groups (curricula on the faculty) and the possibility of offering conclusions and recommendations for each student individually, as well as for the different groups/curricula.

Literature review

Drivers possess specific characteristics that can be positive or negative, and their orientation can be directed towards or from people (Andonovic et al., 2014; 2015; 2017; Dimitrov & Andonovic, 2019; Steiner, 1974; Woollams & Brown, 1979). They exhibit behavioural indicators such as words, voice, posture, facial expressions, and gestures. Drivers can be observed as preferred styles of social interaction and specific reactions to problems and stress. While Klein initially reviewed the positive aspects of Drivers, Hay (2009) has specifically focused on and elaborated on these positive aspects, referring to them as Working Styles. Hay (2009) has created the well-known Working Styles Questionnaire to identify a person's Working Styles in professional settings.

Figure 1

Script matrix for developing dominant Drivers (Working styles)



Source: Author's illustration

Figure 1 presents a review of the script matrix according to Transactional Analysis, i.e., it illustrates how messages from important parental figures are transmitted among three ego states (Parent, Adult, and Child). These messages are received on a subconscious level and stored within our ego states. Messages from Parental states to the Child's state are referred to as Counter injunctions, while messages from the parents' Adult state to the Child's Adult state are called Programs or "Showing how things are done."

By identifying and understanding the Working Styles (Drivers) that individuals exhibit, it becomes possible for them to acknowledge and harness the positive aspects of their behaviour while effectively addressing the negative ones.

Five distinct working styles have been identified, each named after the characteristic behaviour they represent. (Andonovic et al, 2014, 2015, 2017; Dimitrov & Andonovic, 2019; Hay, 2009; Steiner, 1974; Woollams & Brown, 1979; Zabevska Zlatevski, 2017). Working Styles and their characteristic features are represented in Table 1.

Table 1
Working Styles' Characteristics

Working Style	Words	Tones	Gestures	Postures	Facial Expressions	Communication door
Be Perfect	Of course Obviously Clearly I think (tells more than asked)	Clipped, Righteous, Efficacious	Counting on fingers, Cocked wrist, scratching head	Erect, Rigid	Stern, Shame, Embarrassment	Thinking Feelings Behaviour
Be Strong	No comment! I do not care! Do not use here-and-now feelings.	Hard, monotone,	Hands rigid, Arms folded	Rigid, One leg over	Plastic, Hard, Cold	Behaviour Thinking Feelings
Try Hard	It is hard! I cannot! I will try! I do not know! Does not answer questions-repeats, tangents.	Impatient	Clenched, Moving fists	Sitting forward, Elbows on legs	Slight frown, Perplexed look	Behaviour Feelings Thinking
Hurry Up	Let us go! Interrupts people-finishes their sentences.	Up & down	Squirms, Taps fingers	Moves quickly	Frowning, Eyes shifting, Rapid	No specific order
Please Others	You know? Could you? Can you? Kinda Um-hmm Would you?	High whine	Hands outstretched, Frequent head nodding	Head nodding	Raised eyebrows, Looks away	Feelings Behaviour Thinking

Source: Authors

Typically, individuals in real life tend to exhibit a combination of two Working Styles, occasionally three, as influenced by their experiences. Research indicates that certain professions demonstrate a statistically significant presence of specific dominant Working Styles (Drivers). For instance, mathematicians often exhibit Be Perfect as the primary dominant Driver, aligning with their need for logical thinking, organisational skills, and the ability to synthesise facts.

In contrast, the try-hard driver is not prevalent as a dominant driver among legal advisors, possibly due to the well-established principles and regulations that govern their profession, limiting the necessity for innovative solutions. The concept of Working Styles can be utilised in the selection process of personnel to assess the presence of essential skills and qualifications for a particular job. Notably, Kahler (1992, 1999, 2008) employed the Process Communication Model (PCM), based on the concept of Drivers, in the selection of astronauts for NASA for over a decade. Furthermore, the concept of working styles is applicable to employee motivation, providing strategies to guide individuals toward optimal performance.

Since individuals are primarily influenced by two Working Styles, the combination of these Styles results in specific characteristics that impact their way of living, as well as their thinking, feeling, and behaviour (Sekovska, 2018). This combination is referred to as a life script pattern. Dr. Kahler (1992, 1999, 2008) has described six script patterns, but we focus on the five most common ones. These patterns influence an individual's manner of thinking, feeling, and behaving. Furthermore, these script patterns are related to our perception of time and how we tend to focus on our past, present, or future (Bary & Hufford, 1990). Dr. Kahler (1992, 1999, 2008) identifies the following script processes associated with these patterns:

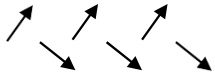
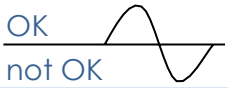
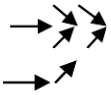
1. AFTER - "I am afraid something bad will happen."
2. UNTIL - "I cannot have fun until..."
3. ALWAYS - Feeling trapped, blaming or waiting for rescue, or manipulating others from a position of being trapped.
4. NEVER - Struggling to complete life goals or projects.
5. ALMOST - Nearly completing tasks or work but not finishing them.

The concept of life script, along with the PAC (Parent-Adult-Child) ego states model, is a central theory in Transactional Analysis. The authors use script analysis to understand how team members may unknowingly create problems for themselves and how they approach solving those problems (Woollams & Brown, 1979).

Each Working Style can be associated with a specific script pattern that has its distinct characteristics (Andonovic & Petkovski, 2013; Petkovski & Andonovic, 2018; Steiner, 1974).

Most individuals tend to follow one script pattern in different aspects of their lives. However, some people may follow one script pattern in their personal life and a different one in their professional or social life. Further details and elaborations on this topic can be found in the literature (Berne, 1963, 1972; Bowlby, 1969; Hay, 1995, 2009; Karpman, 1968; Sandler, 2008; Stanković Janković et al., 2013; Steiner, 1974; Watzlawick, 1995; Woollams & Brown, 1979). Table 2 provides a summary of the main characteristics, particularly focusing on the sentence patterns of the most common life scripts.

Table 2
Characteristic sentence patterns for different life scripts

Script patterns (combination of WS)	Characteristic sentence pattern
NEVER (TRY HARD, rarely others)	 Discontinued, seems like it will never end.
ALWAYS (BE STRONG, HURRY UP, sometimes others)	Non-consistent sentences A lot of qualifying words (maybe, we will see, I am not sure, sometimes…)
AFTER (PLEASE OTHERS, HURRY UP)	+ feelings, but – feelings  OK not OK
UNTIL (BE PERFECT, combined with HURRY UP or BE STRONG)	 apposition
ALMOST (TRY HARD, PLEASE OTHERS)	+++++-  Type I Type Type III

Source: Authors' work

Methodology

In the area of applying theoretical concepts, a survey of students at the Faculty of Technology and Metallurgy in Skopje enrolled in six undergraduate curricula was carried out. The Faculty of Technology and Metallurgy in Skopje is an educational and scientific research institution that covers several areas of technology and metallurgy according to the needs of the Macedonian industry. The survey was conducted using Julie Hay's two-part questionnaire on Working Styles (2009).

The first section is used to determine the characteristic working style, and it consists of twenty-five questions or statements, each scoring from zero to eight, depending on how much they apply to the respondent. Hence, the highest score (eight) means that the respondent completely agrees with the statement that he scores, and on the contrary, the lowest score (zero) means that the respondent does not agree with the stated statement at all. The average (four) means that the respondent is indifferent and ambivalent, neither agreeing nor disagreeing. The second section consists of a scoring table which summarises the results.

The survey was conducted on 110 students (enrolled in the second and third year) of six curricula: Inorganic Engineering and Environmental Protection (IEEP), Clothing Design and Engineering (CDE), Metallurgy, Design and Management (MDM), Food Technology and Biotechnology (FTBT), Material Engineering and Nanotechnologies (MENT) and Design and Management of Technological Processes (DMTP). By applying Julie Hay's Working Styles Questionnaire (2009), Working Styles can be determined. The answers to the questionnaire were statistically processed for each of the surveyed students individually. The scores were entered accordingly in tables, and histograms were obtained for each student individually. Working Styles can appear with various intensities on a scale from 0 to 40. Hence, depending on the results, the degree of

prediction is different. Furthermore, from the individual values of Working Styles, the average values for the groups of students of corresponding curricula were calculated accordingly, and histograms were made for each curriculum. Finally, a summary statistical calculation was made for Working Styles for the entire group of respondents, and a summary histogram was created.

Results

The research in this paper describes the advantages and disadvantages of Working Styles in general. It aims to determine and interpret the dominance of Working Styles and the characteristic patterns of behaviour—script patterns—for studied groups of students from six curricula at the Faculty of Technology and Metallurgy in Skopje.

Their manifestation and the way of their recognition were shown with a specific reference to the groups of students. Working Styles were initially determined for each student (an example is shown in Figure 14). Based on the combination of the dominant Working Styles for each student, the individual characteristics reflected in the characteristic pattern for a series of expected behaviours for a given situation were determined - script pattern, the main communication door and the characteristic sentence structure.

Furthermore, the individual results were summarised in groups (Figure 1 to Figure 13), and the characteristic pattern of behaviour - script pattern, the main communication door and the characteristic pattern of the sentence were determined accordingly. Regarding the latter, several aspects have been determined: an analysis for each group was made, the advantages and disadvantages were determined, the optimal use of the potential of each Working Style, i.e., the script pattern, was determined, as well as the minimisation of the shortcomings with recommendations for improvement among the groups accordingly.

Figure 1
Working Style IEEP

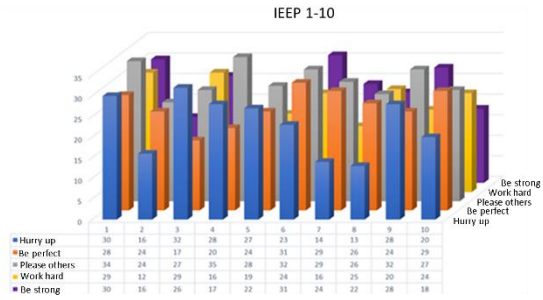


Figure 2
Working Style CDE

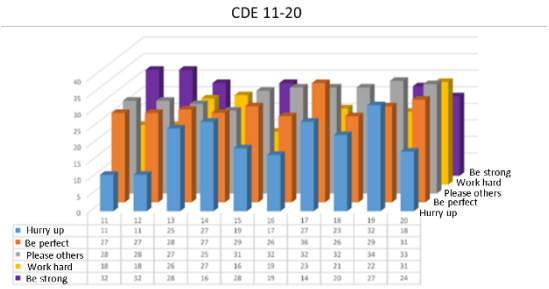


Figure 3
Working Style CDE

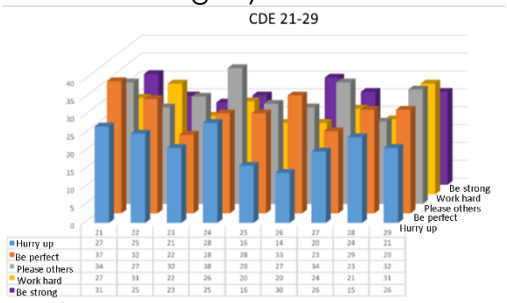


Figure 4
Working Style CDE

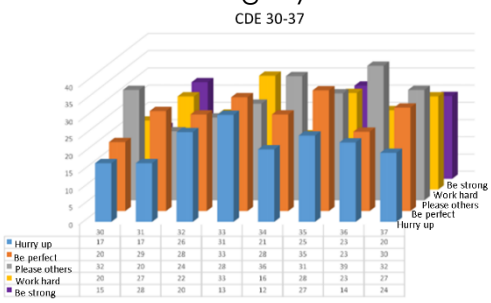


Figure 5
Working Style MDM

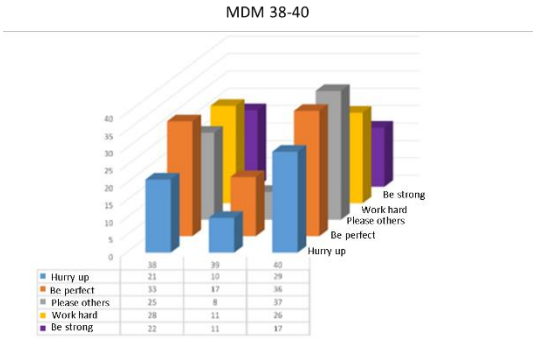


Figure 6
Working Style FTBT

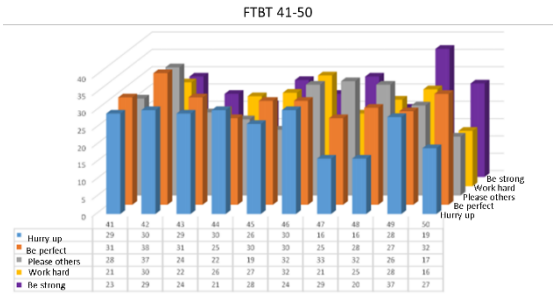


Figure 7
Working Style FTBF

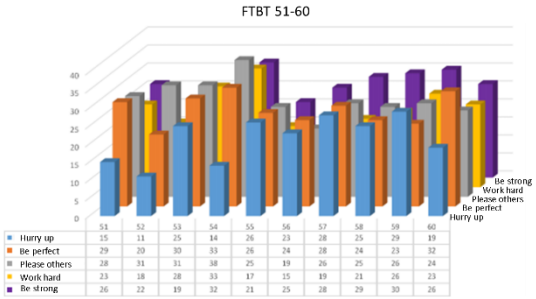


Figure 8
Working Style FTBT

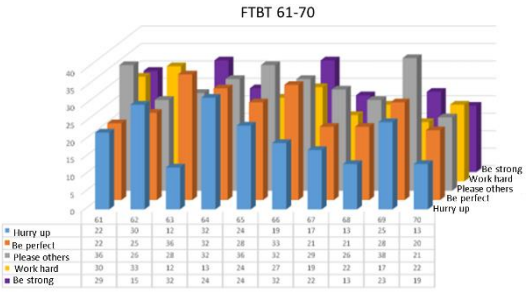


Figure 9
Working Styles FTBT

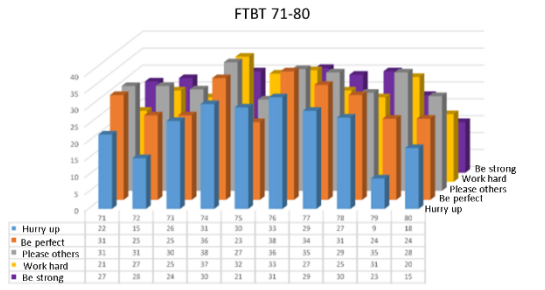


Figure 10
Working Styles FTBT

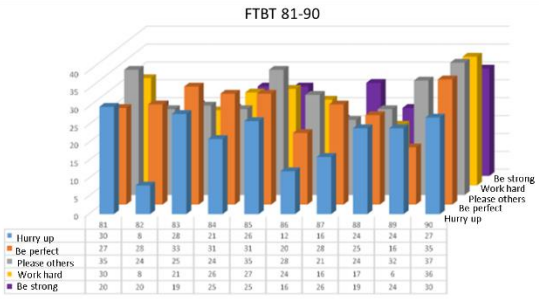


Figure 11
Working Style FTBT

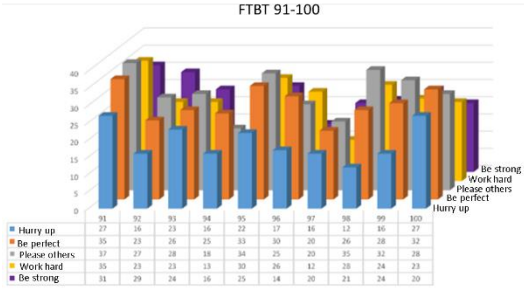


Figure 12
Working Style MENT

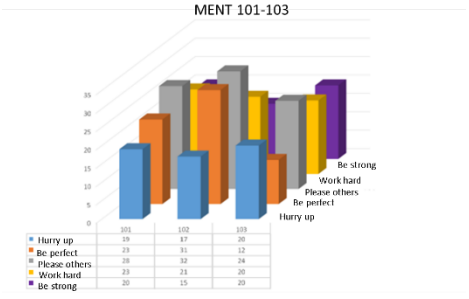
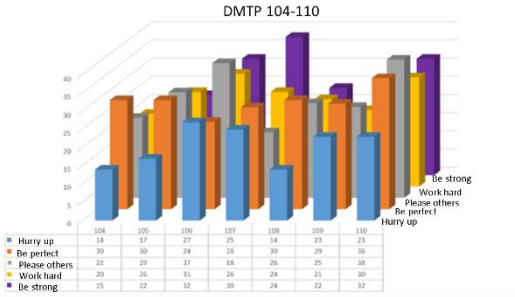


Figure 13
Working Style DMTP



Source: Author's illustration

Discussion

From the results and the analysis of the groups, it can be concluded that among the groups of students from the six curricula, there are two characteristic patterns of behaviour, i.e., two dominant Working Styles. Namely, for the groups of students from the four curricula (IEEP, CDE, FTBT and MENT), the characteristic script pattern is After. Please others is the dominant Working Style, and Be Perfect is the secondary Working Style. The last notable Working Styles differ. The results for the IEEP and FTBT curricula should be identical. The MDM and DMTP curricula have the same characteristics Until the script pattern. The dominant Working Style is Be Perfect, and the secondary Working Style is Please Others. Again, the least notable Working Styles differ.

Figure 14
Individual Working Style of an IEEP student

Characteristic Script Pattern
- Until (Be Perfect and Please Others

Main Communication Door
- Thinking

Characteristic Sentence Pattern
→ apposition →

Source: Author's illustration

From the analysis of the students from the different curricula, the following can be concluded:

1. ***Inorganic Engineering and Environmental Protection (IEEP)***, characteristic script pattern After; dominant Working Style Please Others; secondary Working Style Be Perfect; the least pronounced Working Style is Try Hard.
   - Advantages: Has an affinity for building good relationships and communication; works in a team with the role of integrator; shows empathy and understanding for others. Most effective at tasks related to technical cooperation and consultation with other relevant experts in the field, preparation of scientific papers, and writing of reports.
   - Disadvantages: Lacks commitment to one's ideas, does not criticise even when confronted with wrong points of view, takes criticism personally even when it is constructive, lacks enthusiasm in taking on responsibilities, does not do well in

solving problems, does not have an affinity for exploring opportunities and fails to pay attention to all aspects of the task.

- Recommendations: To think in the direction of what is in everyone's interest, including themselves. Apply basic assertiveness techniques – when necessary, firmly refuse yet in a polite manner, which is usually sufficient to maintain reasonable limits of tolerance. They try to be enthusiastic, generate lots of ideas and make suggestions, be thorough in their approach and pursue all possibilities, carefully approaching the problem by considering and working out all aspects. The environment can best communicate with them through "feelings" or "behaviour" communication door.

2. ***Clothing Design and Engineering (CDE)***, characteristic script pattern After; dominant Please Others Working Style; secondary Working Style Be perfect; the least notable Hurry Up Working Style.

- Advantages: Good team member, encourages group harmony, invites members to discussions, is happy to be surrounded by people, and aims to help them without being asked. Empathetic and understanding. Most effective in matters related to technical cooperation and consultation with other relevant experts. They can also demonstrate success in tasks for studying the technological aspects of individual materials and products, as well as advising on them.
- Disadvantages: Lacks speed in work and is characterised by poor time management skills, avoids any risk of upsetting someone, is careful with criticism, lacks commitment to their ideas, and takes criticism personally even when it is constructive.
- Recommendations: To think in the direction of what is in everyone's interest, including themselves. To learn to voice out their opinion and disagreements and have their attitude and opinions on all matters. Apply basic assertiveness techniques - a firm refusal spoken politely is often enough to maintain reasonable limits of tolerance. Try to respond promptly to tasks with short deadlines. The environment can best communicate with them through "feelings" or "behaviour" communication door.

3. ***Metallurgy, Design and Management (MDM)***, characteristic script pattern Until; dominant Working Style Be Perfect; secondary Working Style Please Others; the least notable Working Style Be Strong.

- Advantages: Precision in work. They check facts thoroughly, prepare well, and pay attention to details. They are well organized, future-oriented, good at planning, and good coordinators. They value both essence/content and appearance. They are most effective research tasks, studying the technological aspects of individual materials or products, as well as designing and developing new or improving existing methods in relation to engineering aspects.
- Disadvantages: They miss deadlines due to double-checking. Frequently make changes at the last minute and multiple drafts before making the final version, misjudge (too high) the levels of detail. They have very high standards for both them and others. Demotivate through criticism. They do not deal easily with stressful and unpleasant situations or problems.
- Recommendations: To set realistic standards for performance and accuracy by accepting the imperfections of things and people. To start accepting mistakes as well as necessary means towards learning. To set priorities, i.e., decide which work tasks require a high level of precision and detail and focus on conveying key information messages. To be less overwhelming when it comes to facts and figures. The environment can best communicate with them through the "thinking" or "feelings" communication door.

4. ***Food Technology and Biotechnology (FTBT)***, characteristic script pattern After; dominant Working Style Please Others; secondary Working Style Be Perfect; the least notable working style Try Hard.

- Advantages: Tends to build good relationships and deep communication; is in the role of integrator in a team; shows empathy and understanding for others. Content to be surrounded by other people and directed to help without being asked uses intuition and encourages harmony in the group. Most effective on tasks related to technical cooperation and consultation with other relevant experts, as well as advising on the technological aspects of individual materials and products.
- Disadvantages: Lack of self-belief, rarely criticise (even when they strongly disagree), takes criticism personally even when it is constructive, lacks enthusiasm in taking on responsibilities, poor at problem-solving, lacks eagerness to explore possibilities and fails to pay attention to all aspects of the task.
- Recommendations: To think in the direction of what is in everyone's interest, including themself. To apply basic techniques for gaining self-confidence, firmly yet politely voice out their opinion and maintain reasonable limits of tolerance. They should try to be enthusiastic, boldly show creativity, be thorough in their approach, pursue all possibilities, and approach problems by considering all aspects. The environment can best communicate with them through "feelings" or "conduct" communication door.

5. ***Material Engineering and Nanotechnologies (MENT)***, characteristic script pattern After; dominant Please Others Working Style; secondary Working Style Be Perfect; the least notable is Be Strong Working Style.

- Advantages: Possesses an affinity for good communication with others and teamwork, but not as a team leader, happy to be surrounded by other people and directed to help without being asked empathic and understanding. Successful in consulting/training on new production methods, techniques, materials and equipment, as well as human resource management - analysing the human resources and using work schedules to determine the optimal combination of available resources.
- Disadvantages: Does not remain calm enough when under pressure or during a crisis, reacts emotionally and is poor in problem-solving. Rarely voice out their opinion.
- Recommendations: Firmly and with integrity, refuse obligations when not agreed upon, voice out their opinion and point of view, and try to give beneficial feedback and constructive criticism without fear of others' reactions. He placed the importance of his affinities at the appropriate level. The environment can best communicate with them through the "feelings" or "behaviour" communication door.

6. ***Design and Management of Technological Processes (DMTP)***, characteristic script pattern Until; dominant Be Perfect Working Style; secondary Working Style Please Others; the least notable Hurry Up Working Style.

- Advantages: Double-checks facts, thoroughly prepares and strives for perfection in both appearance and content. Most effective at conducting research, designing, organising and supervising the industrial production process. They also show an affinity for activities related to technical cooperation and consultations with other relevant experts.
- Disadvantages: They apply high standards to themselves and others, make multiple drafts before making the final version, are less efficient at work, are late with work preparations, do not respond adequately to stress and

deadlines, have poor time management skills, prefer to work alone, are demotivated through criticism, and frequently feel dissatisfied.

- Recommendations: Setting realistic standards for performance and accuracy, being less rigid towards others and themselves, prioritising the stages, and not spending too much time perfecting the unnecessary details while focusing on the timeframe for the execution of the task. The environment can best communicate with them through the "thinking" or "feelings" communication door.

Conclusion

From the analysis of the summary results for all 110 respondents, it emerged that a characteristic pattern of behaviour is After. Please, Others appear as the dominant Working Style, followed by Be Perfect as secondary. As a summary of the six curricula students at The Faculty of Technology and Metallurgy, the following can be concluded.

On one hand, the respondents are good at maintaining harmony in all spheres of activity, such as interaction with other people, work organisation, and time management. Teamwork is dominant. This corresponds to the nature of students' future professions as engineers who constantly work on improving the quality of one's life.

On the other hand, the presence of much-needed characteristics for an engineer profile is notable, such as the ability to analyse and process data, research, plan, design, test and develop operational work methods.

However, a general recommendation to current and future students is that when choosing their profession, they should always consider their interests and desires, as well as their abilities and skills. The results of this research represent an additional insight and path towards new and creative improvements which could be made to current curricula and teaching methods. They also offer additional and valuable information on the appropriate target groups of high school graduates and future candidates of this institution, which can be used in future activities and implemented in the faculty's strategy. Even though the results may vary for different educational institutions, they can contribute towards broader analyses and research in the same area.

References

1. Andonovic, B., & Petkovski, S. (2013). Characterization of Discounting Words as Powerful Factors in Determining the Quality of Cooperation Within a Working Team. *Quality of Life (Banja Luka) - APEIRON, 7*(1-2). https://doi.org/10.7251/qol1301012a
2. Andonovic, B., Spasovska, M., Temkov, M., & Dimitrov, A. (2014). Integral Model for Distributing Functional Roles Within a Working Team. *Quality of Life (Banja Luka) - APEIRON,* 9(1-2). https://doi.org/10.7251/qol1401005a
3. Andonović, B., Zhabevska-Zlatevski, A., Lisichkov, K., & Dimitrov, A. (2016). Criteria for Assessing the Success of new Managers. *Quality of Life (Banja Luka) - APEIRON, 12*(3-4). https://doi.org/10.7251/qol1503062a
4. Andonović, B., Zhabevska Zlatevski, A., Lisichkov, K., & Dimitrov, A. (2017). Assessment of the Success of Potential Managers Within an Organization and Proposals for Improvement. *Quality of Life (Banja Luka) - APEIRON, 15*(1-2). https://doi.org/10.7251/qol1701048a
5. Berne, E. (1963). *Sex in Human Loving.* Beverly Hills, California: City National Bank.
6. Berne, E. (1972). *What Do You Say After You Say Hello?: The Psychology of Human Destiny*. New York: Grove Press.
7. Bowlby, J. (1969). *Attachment and Loss*, New York: Basic Books.
8. Dimitrov, A., & Andonovic, B (2019) *Management of team's business communication*, (in Macedonian). Skopje, University of St Cyril and Methodius.

9. Freud, S. (1921). *Group Psychology and the Analysis of the Ego*. London: Hogarth Press.
10. Hay, J. (2009). *Working it Out at Work: Understanding Attitudes and Building Relationships*. Sherwood Publishing.
11. Hay, J. (1995). *Transformational Mentoring: Creating Developmental Alliances for Changing Organizational Cultures*. Mcgraw Hill Book Co Ltd.
12. Kahler, T. (2008). *The Process Therapy Model: The Six Personality Types with Adaptations*. USA: Taibi Kahler Associates.
13. Kahler, T. (1999). *Addendum to the 1974 Article The Miniscript*. *Transactional Analysis Journal, 2(*1), 1-7.
14. Kahler, T. (1992). *Six Basic Personality Types.* Bottom Line Personal.
15. Kahler, T. (1975). Drivers: The Key to the Process of Scripts. *Transactional Analysis Bulletin, 5*(3), 280-284. https://doi.org/10.1177/036215377500500318
16. Karpman, S. (1968). Fairy tales and script drama analysis. *Transactional analysis bulletin, 7*(26), 39-43.
17. Pavlovska, M. (2013). An Analysis of Dominant Working Styles in Different Professions in Macedonia. *International Journal of Transactional Analysis Research & Practice, 4* (2). https://doi.org/10.29044/v4i2p30
18. Petkovski, S. & Andonovic, B. (2018). *Interpersonal communication skills* (II edition. Skopje. Publisher Doo ISBN 978-608-4569-82-4, in Macedonian.
19. Sandler, L. (2008). *Becoming an Extraordinary Manager: The 5 Essentials For Success*. Amacom.
20. Stanković Janković, J., Milić, V., & Radukić, S. (2013). Quantitative analysis of business success indicators in the banking sector of the Republic of Serbia. *Journal of Central Banking Theory and Practice, 3*, 29-46.
21. Sekovska Z. (2018). *Dominant Working Styles in choosing different curricula on The Faculty of Technology and Metallurgy in Skopje*. MSc thesis, in Macedonian. Faculty of technology and metallurgy. University St. Cyril and Methodius. Skopje.
22. Steiner, C. (1974). *Scripts People Live*. New York: Grove Press.
23. Watzlawick, P. (1995). *The Situation is Hopeless, but not Serious.* New York, London: W.W. Norton & Company.
24. Woollams, S., & Brown, M. H. (1979). *T.A: Total Handbook of Transactional Analysis*. Prentice Hall.
25. Zabevska Zlatevski, A. (2017). *Model of assessment and success development of a new management team*, PhD thesis in Macedonian, Faculty of Technology and Metallurgy, Skopje University of St. Cyril and Methodius.

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