THE BEHAVIORAL PREFERENCES OF LEADERS AND TEAM PERFORMANCE – THE NOTIONS OF NEUROLEADER AND NEUROORGANIZATION

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INTRODUCTION

The fourth industrial revolution, based on three pillars (physical, digital and biological) is changing the way business is done. It enables the production of innovative goods and services while also providing new opportunities for identifying and exploiting the potential of employees. It is a well-known fact today that teams are more effective than individuals. But not all managers know how to use teamwork to achieve the results they desire.

In early 2017, analysts at the Deloitte University Press, published the Global Human Capital Trends 2017 report (http:// https://dupress.deloitte.com) – as many as 90% of the managers it included felt that the most important task the companies are facing today is to build a future-based network of teams[1]. Particular emphasis is placed on teamwork, the development of new management concepts, and a new approach to managing work efficiency and organizational culture. Organizations are demanding completely new leadership models. The time has now come to build high-performance organizations based on neuroscience – neuroorganizations – which will be headed by neuroleaders [Rock 2016].

High-performance organizations are distinguished by their ability to achieve significantly higher results than competitors [Chong 2007, Loew 2015]. For many years, experts around the world have sought to understand what makes organizations achieve high performance. There are a lot of scientific papers and books on the subject, but

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[1] The study was conducted on 10,400 companies and human resources leaders in 140 countries on world's continents.

few management experts have turned to neuroscience for the answers [Katzenbach and Smith 1993].

Modern neuroscience is based on the premise that our thoughts, feelings, perceptions and behaviors arise from electrical and chemical communication between brain cells. PRISM Brain Mapping tools developed by PRISM Brain Mapping Technologies Limited are based on these assumptions. These are online tools for to identify behavioral preferences and team performance research [www.prismbrainmapping.com, Korzeniewska and Wierzchowska 2016]. The factors that can be analyzed with the PRISM tools are described in the following chapters.

Through the prism of the tools of neuroscience, this article presents the interactions between the behavioral preferences of a leader and the factors that allow a team to achieve high performance. On this basis, the concepts of neuroleader and neuroorganization are defined.

PURPOSE AND METHOD

To define neuroleader and neuroorganization, it is necessary to first define the key leader behavioral preferences that determine the success of the team in a modern organization based on high-performance teams. Apart from using this information to build definitions, it may also be the basis for benchmarking a neuroleader brain map. It will also be useful in recruitment, career planning and promotion. Conclusions can be used to build high-performance teams and explain to managers the role of organizational innovation and teamwork based on neuroscience tools.

The work is conceptual, based on research I carried out in February 2017. The study consisted in identifying how a leader's behavioral preferences affect team performance factors. The scientific work of Katzenbach and Smith was used, as was that of PRISM Brain Mapping Technologies Limited itself. The results of this research may provide the basis for further research into the influence of the behavior of leaders and employees on team performance in organizations and on organizational innovation research. Additionally, PRISM Brain Mapping and a heuristic method, cross-impact matrix, were used.

When examining interactions, the following were taken into account:
– behavioral preference factors for a high-performance leader that can be tested with the PRISM tool calls the PRISM Brain Mapping Professional;
– high performance organizations that can be tested with PRISM's Team Performance Diagnostic tool.

For the analysis of interactions, the following 25 behavioral preference factors were measured using PRISM Brain Mapping Professional: eight dimensions of behavioral preferences (finishing, evaluating, innovating, initiating, supporting, coordinating, focusing, delivering), emotional intelligence factors (self awareness, self management, awareness of others, relationship management, self motivation, influencing others, decisiveness, consistency), mental immunity (self belief, ambition, resilience, self management, optimism, determination, independence, competitiveness, adaptability). They were placed in a cross-impact matrix in the row position to investigate whether the identified behavioral preferences would allow for high team performance.

There are 25 team performance factors that can be measured on a scale of 0–100 with the PRISM Team Performance Diagnostic tool [Korzeniewska and Wierzchowska 2016]:

- achievement-related factors (goals and strategies, team cohesion, accountability, decision making, drive for results, driving change);
- factors related to team relationships (trust, positive outlook, communication, team spirit, valuing diversity, handling feedback);
- organizational culture factors (a desire to succeed, a one team culture, personal ownership, passion and energy, being action-orientated, externally focused, embracing change, inspirational leadership);
- other factors (teamworking skills, team morale).

Because the brains controls all human behavior, every person has his or her own way of looking at the world (perception) and reacting to it (behavior). These reactions – some inherited and some learned – make up behavioral preferences. Their source is in the way the brain functions. The left and right hemispheres of the brain process information differently when they react to what is going on around the individual. The right hemisphere of the brain is focused on people as individuals, and therefore on self-awareness, empathy, expression and understanding feelings, intuition, originality and flexibility in thinking, social behavior, and experiencing different types of emotions. The left hemisphere is not sympathetic to empathy, but rather seeks to reap benefits for the individual, so its main motivations are achievement, power and control. The left hemisphere is responsible for
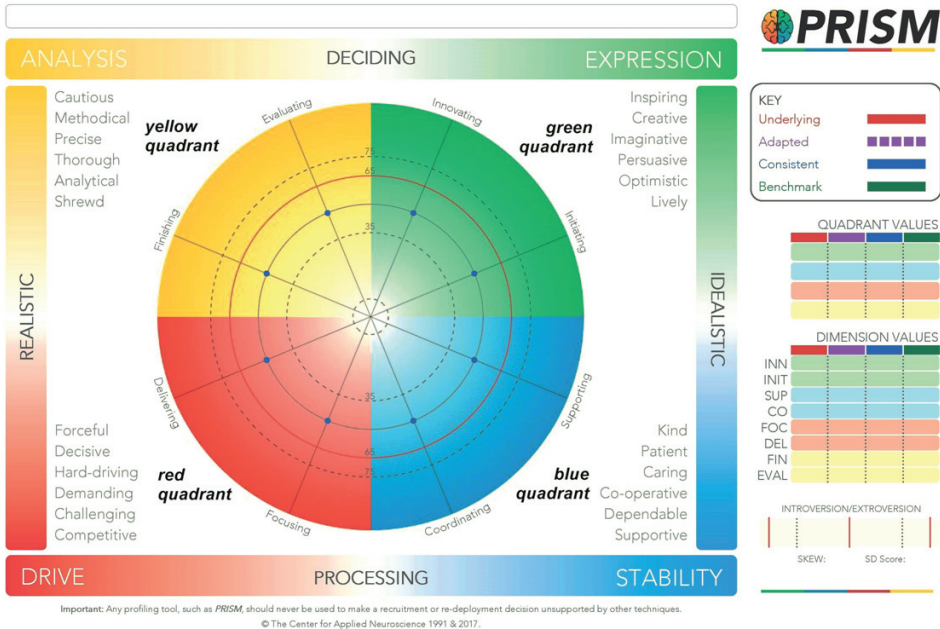

FIG. Sample map of preferred behaviors

Source: www.prismbrainmapping.com/Resources/Documents/SampleProffessionalwithBenchmark2017.pdf.

focusing one's attention on facts, data, tasks, and systems. It is more focused on what is impersonal and mechanical, than with personal relationships and thus works best in routine, predictable situations.

The following is an example of a preferred behavior map diagnosed using the PRISM Brain Mapping Professional online tool (Fig.).

Red and gold areas on the Figure include the person's preferred behavior when engaged in a task and / or when under pressure to achieve results. The green and blue areas include the preferred behavior of the person in the social environment, when establishing relationships with others. When people switch between two modes of action, they can present very different – even opposite – behaviors.

The PRISM map is divided into four parts, reflecting the quadrants of the brain:
– yellow – analytical, measures how detail-oriented and prone to evaluation a worker is;
– green – innovative and good at initiating;
– blue – supportive and coordinating;
– red – focused on purpose and execution.

RESULTS AND DISCUSSION

A total of 476 interactions were identified using a cross-impact matrix in which the behavioral factors of the leader and 25 factorial factors were identified. The matrix is presented in the Table.

The leader's behavioral preferences that can affect the team's high performance to a major extent include self-awareness, awareness of other needs and relationship management. Interestingly, these are all elements of emotional intelligence. In addition, the leader of a high-performance team should be primarily an initiator (green quarter) and a supporter (blue quarter).

Based on the presented cross-impact matrix, a neuroleader can be defined as a leader who knows and understands the importance of using neuroscience tools in building a high-performance team. Utilizing a high level of emotional intelligence and the preferences of one's own behavior and team members leads the team towards achieving high team performance rates.

A neuroleader is a person who is aware of his or her own feelings and emotions in various professional situations, is able to control their influence on his or her own behavior, and has a highly developed right brain hemisphere (blue and green quadrant). Mapped with neuroscience behavioral preferences, points to the special development of the "blue" brain quadrant (right hemisphere, back patch) a leader is supportive, sensitive, friendly and sympathetic. He or she prefers a slower pace, and is a very good listener as well as empathic, kind, helpful, values harmony, understanding, and is patient and willing to share knowledge with others.

A "blue" leader is a typical team player who strives to create harmony in the team, loves to support the team and solve problems. He or she values loyalty and trust. On the "blue" team, there is no pressure, rudeness, negative attitudes or stress.

However, if the leader prefers green-quarter behavior, he will be flexible and versatile. Such a leader is fast and unconventional, full of enthusiasm, open and inventive. He or

TABLE. Interactions between leader's behavioral preferences and team's high-performance factors

		Team performance factors																									Number of interactions
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Behavioral preferences	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	5
	2	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	5
	3	1	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	1	1	0	9
	4	1	0	0	1	1	0	0	1	1	1	0	1	1	1	1	1	0	0	1	1	0	0	0	1	1	15
	5	0	1	0	0	0	0	1	1	1	1	1	1	1	1	0	1	0	0	1	1	1	0	0	0	1	14
	6	1	0	0	1	0	0	0	0	1	0	0	1	1	1	0	0	1	0	1	0	1	0	0	0	1	10
	7	1	0	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	1	1	10
	8	1	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	6
	9	1	0	0	1	1	1	0	1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	19
	10	1	0	1	1	1	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1	1	0	1	10
	11	0	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	0	1	1	17
	12	0	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	1	1	15
	13	1	0	0	1	1	1	0	1	0	0	0	0	0	1	0	0	0	1	0	0	1	1	0	0	1	10
	14	1	1	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	6
	15	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	1	1	7
	16	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	3
	17	0	0	0	1	1	0	0	1	0	1	0	0	0	0	0	0	1	1	0	0	1	1	0	0	1	9
	18	1	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	1	1	0	0	1	1	0	0	1	9
	19	1	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	1	7
	20	1	0	1	1	1	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	11
	21	0	0	0	0	1	0	0	1	1	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	1	8
	22	0	0	0	1	1	0	0	0	0	1	0	0	0	1	0	1	1	1	0	0	0	1	0	0	1	9
	23	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
	24	0	0	0	0	1	0	0	0	0	1	0	0	0	1	1	1	1	1	0	1	0	1	0	1	1	11
	25	1	0	0	1	1	0	0	0	0	1	0	0	0	0	1	1	0	0	1	0	0	1	0	1	1	10
Number of interactions		16	5	6	16	19	3	3	10	7	11	5	3	7	9	16	9	5	11	5	6	6	17	8	13	22	
The sum of all interactions																											476

Interaction evaluation: 1 – the factors interact, 0 – they do not interact.

Behavioral preferences: placed in the matrix lines are: 1 – Finishing, 2 – Evaluating, 3 – Innovating, 4 – Initiating, 5 – Supporting, 6 – Coordinating, 7 – Focusing, 8 – Delivering, 9 – Self-awareness, 10 – Managing emotions, 11 – Awareness of others, 12 – Relationship management, 13 – Self-motivation, 14 – Influencing Others, 15 – Decisiveness, 16 – Consistency, 17 – Belief in Self, 18 – Ambition, 19 – Resilience, 20 – Self-management, 21 – Optimism, 22 – Determination, 23 – Independence, 24 – Competitiveness, 25 – Adaptability.

Team's performance: 1 – Goals and Strategies, 2 – Team Cohesion, 3 – Accountability, 4 – Decision Making, 5 – Drive for Results, 6 – Driving Change, 7 – Trust, 8 – Positive Outlook, 9 – Communication, 10 – Team spirit, 11 – Valuing Diversity, 12 – Handling Feedback, 13 – Teamwork Skills, 14 – Commitment to Teamwork, 15 – Team effectiveness, 16 – Team Climate, 17 – Team Morale, 18 – A desire to succeed, 19 – A one-team culture, 20 – Personal ownership, 21 – Passion and energy, 22 – Action-orientated, 23 – Externally focused, 24 – Embracing change, 25 – Inspirational leadership.

Source: the author.

she loves to work in a positive and friendly environment, introducing interesting, innovative solutions. This provides an unlimited number of different opportunities. Certainly, he or she will be able to use the tools of neuronal science in teamwork. If the human brain is 95% active at the level of the unconscious, then the actual understanding of the needs of the entire team (including yourself) requires the use and application of brain mapping tools [Mlodinow 2016]. A neuroleader using neuroscience tools will lead the team to achieve high scores in at least 12 core performance areas above 75% (0–100%) [Katzenbach, Smith 1993, Korzeniewska, Wierzchowska 2016].

With the help of these tools, the neuroleader perfectly understands the needs, feelings and emotions of team members, and appreciates and respects diversity [Mitchel et al. 2015]. He engages team members in joint problem solving, including in the decision-making process. A neuroleader recognizes the needs, opinions and views of colleagues, does not impose their own solutions, and always finds time to talk to colleagues. A neuroleader has a strongly developed right cerebral hemisphere, meaning he or she will be a joyful, cheerful, kind and cultural idealist who sees the world as more beautiful than it is. He or she will understand that to get to know and understand the needs, feelings and emotions of colleagues, the latest neuroscience achievements, such as brain mapping tools, must be used. Because only 5% of cognitive activities (decisions, emotions, actions, and behaviors) are generated consciously, a neuroleader uses brain maps (yours and coworkers) to find solutions in the 95% unconscious.

A high-performance organization does not need managers, only neuroleaders. A neuroorganization is an organization which focuses on neuroscience. The neuroleader of the neuroorganization applies neuroscience to the development of high team performance and uses the potential of the unknowing behavioral preferences of all members of the organization.

In teams led by a neuroleader, each team member knows his or her behavioral preferences and is able to use that knowledge for the needs of the organization. In such a team, there is no individual responsibility, nor stereotypical work positions with responsibilities assigned rigidly to the workplace. Neuroleader-led teams jointly set goals, tasks, methods and deadlines.

In the interaction matrix, it can be seen that among the factors of a team's performance are those with which the neuroleader has a greater or lesser effect. Inspiring leadership has the most influence. In conjunction with a dominant right hemisphere, especially the dominant behavioral preferences for initiation and support, a leader-oriented image of joint action, joint achievement and joint decision making is created. Neuroleaders do not make decisions himself, nor need to be analysts. They do not judge or criticize. The results of the present research may provide an introduction to a broader study of the influence of behavioral characteristics on team performance. It would be revealing to conduct research on a larger number of companies in order to find correlations between high team performance and the behavioral preferences of team members and leaders. It would also be useful to know the answers to the following questions:

1. Do high-performance organizations use neuroscience tools to manage behavioral preferences in their work? If so, what kind?

2. As would follow from the definition, a team leader with a more developed left-brain hemisphere (red and yellow quadrant) may become a neuroleader. Does this stand up to the facts?
3. Which hemisphere of the brain dominates in leaders of high-performance organizations? Will the hypothesis of the dominant right hemisphere and the dimensions of initiation and support be confirmed?
4. Which behavioral traits of a neuroleader help to develop the behavioral characteristics of team members expected on a high performance team?
5. How can a neuroleader leverage knowledge about unconscious but identified behavioral preferences of team members to build high-performance teams?
6. What neuroscience tools (besides PRISM tools) can a neuroleader use to build a high performance team?
7. Will neuroscience tools help to leverage the team's diverse capabilities to build a high-performance team [Sui et al. 2016]?
8. What is the importance of a neuroleader's age and his work experience in creating a high team performance? According to the guidelines for building high-performing organizations, the best leaders in such organizations are long-standing and well-established employees in the organization [de Waal 2015, De Waal and Hanna 2016]. Does this bear out?
9. If the team's high performance is influenced mainly by the emotional intelligence of the leader, would not it be appropriate to build a school curriculum?

Are organizations ready for such revolutionary changes? In many countries, problems with teamwork and performance management are not recognized. I intend to take up these questions in further research on high performance in neuroscience. These studies will enhance the knowledge of management, decision making and human behavior in teams and organizations.

CONCLUSIONS

The scientific literature on management increasingly points to the importance of neuroscience tools in creating organizational innovations and building effective teams. The Global Human Capital Trends 2017 report prepared by analysts at the Deloitte University Press shows that the organization of the future will be based on networks of teams. The leaders of these teams, defined in this article as neuroleaders, play a special role. It will be their responsibility to lead and support their teams in building a team's high performance and building neuroorganizations. The article has presented a study that identifies the interaction between the behavioral characteristics of a leader and the performance factors of a team. A total of 476 interactions were identified using a cross-impact matrix featuring the behavioral factors of the leader and 25 factorial factors. These factors made it possible to identify the most important characteristics of a neuroleader and to define precisely what such a leader is. The article has also put forward a definition of a neuroorganisation. Cross-impact matrix results and built-in

definitions are part of further research into the impact of behavioral preferences on high performance teams and building a preference-based organization analyzed with modern neuroscience tools.

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Summary. The article presents the interactions between behavioral preferences of a leader and the factors of a high-performance team. A total of 476 interactions were identified using a cross-impact matrix featuring the behavioral factors of the leader and 25 factorial factors. On this basis, the most useful features of the leader are identified and the definitions of neuroleader and neuroorganization developed. Interacted studies have shown that the neuroleader leading the organization toward neuroorganization prefers behavior that is characteristic for people who are particularly developed in the right hemisphere (blue and green, in PRISM terminology). The article presents the characteristics of "blue" and "green" leaders. The results of the present research may provide an introduction to a broader study of the influence of behavioral characteristics on team performance. It would be revealing to conduct research on a larger number of companies in order to find correlations

between high team performance and the behavioral preferences of team members and leaders. The author want to take up these questions in further research on high performance in neuroscience. These studies will enhance the knowledge of management, decision making and human behavior in teams and organizations.

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