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METACOGNITIVE ERRORS AND THE DUNNING-KRUGER EFFECT ASSESSMENT IN TERMS OF MANAGERIAL COMPETENCIES EVALUATION¹

UDC / UDK: 005.7:005.336.5-057.17

JEL classification / JEL klasifikacija: M12, M54, D91

DOI: 10.17818/EMIP/2025/27

Original scientific paper / Izvorni znanstveni rad

Received / Priljeno: April 18, 2025 / 18. travnja 2025.

Accepted / Prihvaeno: May 13, 2025 / 13. svibnja 2025.

Abstract

The contribution focuses on assessing metacognitive errors and the Dunning-Kruger effect among managers within the framework of managerial competencies evaluation. The research aims to determine the presence of statistically significant correlations between metacognitive error assessments and managerial competency evaluations. Additionally, it seeks to identify potential differences in the manifestation of the Dunning-Kruger effect by comparing managers' self-assessments of their personal performance before and after measurement. The study uses a questionnaire method and is carried out on the sample of 367 Slovak managers. The findings reveal several statistically significant correlations between metacognitive error assessments and managerial competency evaluation, as well as notable differences in self-assessed performance levels before and after the measurements. Respondents generally rated their initial performance lower than their post-measurement results.

Keywords: managers, metacognitive errors, Dunning-Kruger effect, managerial competencies

¹ The paper was previously presented at the 15th Annual Global Business Conference 2024

1. INTRODUCTION

Metacognitive biases (i.e., errors in self-assessment of one's own knowledge or understanding; Flavell, 1979) have significant implications for economics, particularly in the areas of decision-making, consumer behavior, risk management, and market efficiency (Siniksaran, 2024). Investors often overestimate their knowledge or ability to predict the market, leading to poor investment decisions, such as trading at too high a risk (Daniel & Hirshleifer, 2015). Less competent individuals may underestimate their ability to understand complex economic or financial products, leading to poor financial decisions (e.g., bad loans, investing in scams) (Zentai & Kovács, 2024). If a metacognitive error is widespread in a population, it can lead to systematic distortions in collective behavior (Blanchard, Jackson & Kleitman, 2020), e.g. the inflation of price bubbles when most investors mistakenly believe that they have “everything under control.” Due to metacognitive errors, entrepreneurs or managers may underestimate risks, overestimate demand for a product, or misestimate costs and revenues (Tong & Feiler, 2017). Such errors often lead to inefficient allocation of capital or bankruptcy. Politicians or economic policymakers may overestimate their ability to manage the economy, leading to erroneous interventions – for example, incorrectly set interest rates, regulatory failures, or unforeseen side effects of interventions. If individuals are unaware of their knowledge gaps, they invest less in education and skill development, which reduces the long-term productivity and innovation potential of the economy. A particular example may be set in 2008 during the financial crisis, when many actors (from banks to households) suffered from metacognitive errors; they overestimated their understanding of the risks associated with mortgages and derivatives, which contributed to the systemic collapse.

Metacognition also plays a crucial role in managerial competencies by enhancing self-awareness, decision-making, and adaptive thinking, which are vital for effective leadership and management (Mango, Koshal & Ouma, 2019). Schraw and Dennison (1994) contributed to the development of assessment tools for assessing metacognitive awareness, which is crucial for identifying and correcting metacognitive errors among managers. The authors focused on measuring metacognition. The Metacognitive Awareness Inventory (MAI) assesses individual aspects of metacognition, including knowledge of one's own cognitive processes (declarative, procedural and conditional knowledge) and the regulation of these processes (planning, monitoring and evaluation). This tool can be useful for managers to self-assess and develop their metacognitive skills (Gutierrez de Blume et al., 2024).

In the managerial context, the work of Dunning and Kruger (2000) is also important, as it deals with the effect of overestimating one's abilities and ignorance of one's own incompetence, which is directly connected to metacognitive errors. This effect can be particularly harmful in a managerial environment, where bad decisions can have far-reaching consequences (Jansen, Rafferty & Griffiths, 2021).

Overall, metacognitive skills are essential for cultivating self-regulation, critical thinking, and continuous learning, all of which are foundational for effective managerial competencies. By integrating metacognitive practices, managers can better navigate complexities, build resilient teams, and drive organizational success. Thus, assessing metacognitive errors in managerial work requires a comprehensive approach that includes self-assessment, feedback and continuous learning (Štimac & Bilandžić Tanasić, 2023; Talaja & Dumanić, 2023), which are an essential part of the presented study.

2. THEORETICAL BACKGROUND: THE DUNNING-KRUGER EFFECT AND MANAGERIAL COMPETENCIES

Assessing metacognitive errors is an important topic in the field of cognitive psychology. A significant contribution in this area was made by Flavell (1979), who is considered the “father” of metacognition and his research deals with how individuals monitor and control their cognitive processes. In this sense, Mayer, Alexander (2017), Alexander and Winne (2006) examine how metacognitive processes influence learning and performance, particularly in an educational context. Their research on metacognition is significant for understanding how people acquire and process information. Azevedo et al. (2010) focus on metacognitive regulations and their role in self-regulated learning. In the field of educational psychology and learning technology, they focus on metacognitive strategies, self-regulated learning and the use of technology to support learning, also in the context of assessing metacognitive errors and their application to managerial competencies.

More recently, the study by Acosta-Gonzaga and Ramirez-Arellano (2021) has confirmed that motivation, emotions, cognition, and metacognition significantly impact students' learning performance in both face-to-face and blended learning environments, demonstrating that these effects vary according to the learning context. In this sense, Eggers, Oostdam, Voogt (2021) and Kuhn (2022) accentuate that self-regulation plays a key role in students' academic success, contributing to higher grades and reduced course delays, yet its function in blended learning environments within higher education remains underexplored.

The Dunning-Kruger effect, named after its discoverers David Dunning and Justin Kruger (2000), is a type of metacognitive fallacy in which individuals with low ability and below-average competency in a given domain significantly overestimate their abilities and significantly overestimate performance relative to others. These individuals have more difficulty recognizing their real abilities, which is mainly due to their lack of metacognitive abilities. On the other hand, qualified people with above average abilities slightly underestimate their performance and underestimate their abilities. Ehrlinger et al. (2008), Gignac, and Zajenkowski (2020) reached conclusions that were qualitatively similar to

Dunning and Kruger's (2002) findings that, unlike high performers, low performers do not learn from feedback.

According to Zibrínová and Birknerová (2015), it is necessary to create certain thinking tools, the so-called mental maps of the world, which help the individual to orient themselves in space, relationships, and in their own abilities and competencies. With the help of them, they can recognize what is familiar and, based on this, choose the right pattern of reaction suitable for a specific situation. Dunning and Kruger (2002) argue that correct self-assessment of competency depends on metacognitive skills. In this perspective, Veenman and Spaans (2005) investigated the mentioned phenomena with an emphasis on the relationship with intelligence. The authors investigated whether the metacognitive assessment of intellectual activities relates to one's own level of intelligence. They measured the relationship of metacognitive processes with the measured score achieved in an intelligence test.

The authors' analysis shows that people achieving a lower level in a given ability have a general tendency to overestimate the level of their own abilities. Conversely, high achievers tend to underestimate themselves. Individuals with a lower level are worse at estimating the levels of others and do not change their ratings much when exposed to a comparison of results. At the same time, people with a higher level of competency, abilities and skills tend to evaluate the performance of others more accurately, or they overestimate the performance of others and adjust their values after comparing the results. The phenomenon was thus named the Dunning-Kruger effect. The study received considerable attention from the professional public, and several replications and alternative interpretations were created on this topic (Burson et al., 2006; Pavel, Robertson & Harrison, 2012).

The research by Jain, Bajaj, and Singh (2023) links metacognition and cognitive competencies with learning, individual and firm performance. The authors encourage researchers and practitioners in organizational and business management to empirically investigate metacognitive ability as a unique factor among management professionals that impacts cognitive competencies and job performance in the workplace.

Ribeiro, Amaral, and Barros (2021) accentuate the importance of cognitive skills as linked to managerial competencies. In this context, Dzwigol et al. (2020), Veteška, and Tureckiová (2008) describe competency as the ability of a manager to successfully perform a function, or a set of functions. Škrinjarčić (2022) sees it as the ability to behave in a way that corresponds to the demands of work within the parameters given by the organization's environment, while bringing desirable results. Wong (2020) defines the competencies of a manager as a set of knowledge, abilities, skills and experience, as well as physical and psychological readiness to use these qualities for the effective performance of certain tasks, functions and roles.

Competencies of managers are usually described in terms of high-quality, competent performance of work tasks (Živković, 2022). They are a prerequisite for creating relationships with business partners, the ability to do business, to lead, to develop a range of information, the ability to make decisions in difficult situations, the ability to resolve conflicts. A manager's competency is their ability to perform a certain function or a set of functions and achieve a certain level of performance (Suseno et al. 2023).

Ribeiro, Amaral, and Barros (2021) understand the competencies of managers as the manager's real abilities, knowledge and experience, which they should use as effectively as possible in achieving the organization's goals. They label the competencies of high performance as Cognitive (recognition), Performance, Motivational, and Goal-oriented. Harris (2009) points to creative managers who will bring success to organizations that can identify talent and invest in the next generation of people. Leadership is about influence and change. Organizations should therefore ensure that the conditions for the development of leadership potential are ensured (Adair 2008).

3. RESEARCH

The research project is aimed at the assessment of metacognitive errors and the Dunning-Kruger effect by managers in the context of the managerial competencies evaluation. The objective of the research is to analyze the links between the assessment of metacognitive errors and the evaluation of managerial competencies. Another research goal is also to confirm the existence of differences in the degree of proving the existence of the Dunning-Kruger effect in ante and post measurements, i.e. tendencies to overestimate one's own abilities in below-average ones, and underestimate one's own abilities while simultaneously overestimating the achieved level among others in tasks in the self-evaluation of managers. In connection with the objectives, the following research hypotheses were formulated:

H1: There are statistically significant correlations between the assessment of metacognitive errors and the managerial competencies evaluation.

H2: There are statistically significant differences in the ante and post measurements in the degree of proving the existence of the so-called The Dunning-Kruger effect through self-report estimation of personal performance.

3.1. Research methods

The research sample of 367 managers consists of 213 (58.04%) male managers and 154 (41.96%) female managers, aged from 24 to 59 years (average age 34.18 years, standard deviation 7.14 years), of which 71 (19.35%) are senior managers, 125 (34.06%) are middle managers and 171 (46.59%) are first-level managers. The questionnaire method was used to carry out the research.

Within the framework of the research project, the aim is to identify the links between the metacognitive errors and the competencies of managers and to specify differences in the level of self-evaluation in the degree of proving the existence of the Dunning-Kruger effect in the ante and post measurements by means of a correlation analysis (Pearson's correlation coefficient) and the differential analysis (t-test for two independent samples), using the statistical software IBM SPSS Statistics 26.

3.1.1. MEQue – Metacognitive Errors Questionnaire (Birknerová & Zbihlejová, 2024)

The original questionnaire verified and designed for the purpose of identifying metacognitive errors contains 33 self-report statements assessed by respondents on a 6-point Likert scale (0 = definitely no, 1 = no, 2 = no rather than yes, 3 = yes rather than no, 4 = yes, 5 = definitely yes). Six factors characterizing managers' metacognitive errors were extracted:

F1 – Selective abstractions (I notice mainly phenomena that can influence my decisions. I do not notice facts that did not attract me. I perceive facts that confirm what I think. The problem is described by a single essential factor. I overlook everything that did not interest me.).

F2 – Dichotomous decision-making (I often categorize others into two groups. I am not interested in making decisions through compromise. I want to get either everything or nothing in life. I make decisions in the yes-no category. I evaluate others in the good-bad categories.).

F3 – Negative emotional expectation (I often expect the worst outcome. I often expect a disaster without any real justification. I often see negative consequences in everything. My unpleasant feelings are decisive for me when evaluating. Emotions do not lie when making decisions. I often follow only the negative feelings when making decisions.).

F4 – Elimination of the positive (I make decisions only on the basis of facts that I understand. I attach importance to minor problems. Even favorable situations often have a negative effect on me. Positive thinking is a problem for me. I judge reality based on its negative features. When evaluating, I pay attention to the negative signs of a complex phenomenon.).

F5 – Unreasonable generalization (I do not need a lot of information to make a decision. I make assumptions even if I don't have enough data. I will comment on a topic for which I do not have substantial information. Based on the experience of dealing with one situation, I will make a decision in other situations as well. I often make decisions based on a single detail. I evaluate the situation on the basis of a specific event.

F6 – Ability to read thoughts (I have the ability to read another person's emotions by looking into their eyes. I have no problem getting into the thinking of others. I

know what others are thinking even from unclear expressions. I read other people's thoughts when making decisions. I can immediately recognize if someone is lying.).

3.1.2. AMC – Assessment of Managerial Competencies questionnaire (Birknerová, 2021)

The original questionnaire designed to assess managerial competencies contains 32 self-assessment statements rated on a 6-point Likert scale (0 = definitely no, 1 = no, 2 = no rather than yes, 3 = yes rather than no, 4 = yes, 5 = definitely yes). Five factors characterizing managerial competencies were extracted:

F1 – Motivational competencies (I can build a positive climate and understanding. I enjoy motivating others to perform. I can inspire people to do what they desire. I support others to use their strengths to their benefit. I motivate others to strengthen their self-confidence. I know how to persuade others to stand by their decision.).

F2 – Performance competencies (I encourage others in the moment of decision-making. I help others perform tasks. I can advise people about new tasks. I encourage people to be creative at work. I like to explain the details of a challenging task. Team-building is important to me. I like to advise others on how to improve their performance.).

F3 – Social competencies (I like to cooperate with others. I resolve conflicts between others effectively. I feel good when I can communicate with new people. I like to support the strengths of others. I can quickly adapt to new people. I am interested in other people's values.).

F4 – Cognitive competencies (I try to solve problems in a more positive way. I try to make the effective strategies and problem-solving procedures clear for myself. I focus my efforts on the positive outcome. When problem-solving, I seek the best options. I try to make as effective decisions as possible. I seek information on what effective steps I shall take.

F5 – Target competencies (I am known for my belief in success. I am able to win people over. Thanks to the support from others I feel self-confident. I am dedicated to my work. I often carry out activities to meet the plans. I can persuade others to fulfill the goals.

3.1.3. Non-verbal test of fluid intelligence – DOMINO D48 (D20 – shortened version) (Gough & Domino, 1963)

A 20-item non-verbal fluid intelligence test adapted by authors of the presented research determines the approximate intellectual level of the respondents. It is based on the tasks of the standardized questionnaire of the

British Navy DOMINO D48 focused on fluid intelligence. Fluid intelligence refers to the ability to solve new problems, think logically and quickly adapt to new situations, independent of previous knowledge. The respondent chooses the correct value of the empty domino cube in the form, marking the answer on the sheet as one of the offered variants – A, B, C, or D. For the correct answer, they are awarded 2 points (if all the conditions are correctly met) or 1 point (if one condition is met). The full number of points is 40.

DOMINO D20 – Self-assessment performance estimates of individual respondents were carried out through comparison of performance estimates of other research participants. It is a comparison of estimates with the level of the achieved score within the level of performance in tasks focused on fluid intelligence in a universal form before and after the administration of the tasks. The evaluation shows whether the person under investigation expects to achieve more or less points than the average (i.e. 20 points) before and after the administration of the tasks.

3.2. Research results

Parametric statistics were used based on kurtosis and skewness testing, and also on the explained variance in terms of the MEQue. The distribution of data in the factors of the MEQue questionnaire (Tables 1a, 1b) and in the factors of the AMC questionnaire (Table 2) can be considered normal.

Table 1a Skewness and kurtosis of the distribution of data in the factors of the MEQue questionnaire

	Selective abstractions	Dichotomous decision-making	Negative emotional expectation	Elimination of the positive	Unreasonable generalization	Ability to read thoughts
Skewness	.083	-.098	.262	.097	.146	-.324
Kurtosis	-.154	.211	.258	-.244	.271	-.223

Source: own processing by authors.

Table 1b Percentage of the variance explained – MEQue questionnaire

Factors	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
F1	4.192	13.523	13.523	3.037	9.795	9.795
F2	2.425	7.824	21.347	2.167	6.989	16.784
F3	1.854	5.979	27.326	2.116	6.824	23.609
F4	1.529	4.933	32.259	2.069	6.673	30.281
F5	1.492	4.814	37.073	1.863	6.010	36.291
F6	1.325	4.273	41.346	1.567	5.055	41.346

Source: own processing by authors.

The extracted factors explain 41.346% of the variance, which can be accepted for the further use of the MEQue methodology (Table 1b). Specification of other factors would not be essential nor definable in a meaningful way. As

indicated above in the methodology description, the specified factors were labeled as follows: F1 – Selective abstractions; F2 – Dichotomous decision-making; F3 – Negative emotional expectation; F4 – Elimination of the positive; F5 – Unreasonable generalization; F6 – Ability to read thoughts.

Table 2 Skewness and kurtosis of the distribution of data in the factors of the AMC questionnaire

	Motivational competencies	Performance competencies	Social competencies	Cognitive competencies	Target competencies
Skewness	.165	.319	.241	.173	.171
Kurtosis	.261	.353	.254	.190	.185

Source: own processing by authors.

We verified the hypothesis H1: "There are statistically significant correlations between the assessment of metacognitive errors and the managerial competencies evaluation." using the Pearson correlation coefficient. We recorded the correlations between the MEQue and AMC questionnaire factors in Table 3.

Table 3 Correlations between the factors of the MEQue questionnaire and the AMC methodology

AMC MEQue	F1 Motivational competencies	F2 Performance competencies	F3 Social competencies	F4 Cognitive competencies	F5 Target competencies
F1 Selective abstractions	-.291** .000	-.197** .000		-.322** .000	
F2 Dichotomous decision-making				-.296** .000	
F3 Negative emotional expectation			-.389* .012		-.279** .000
F4 Elimination of the positive	-.223** .000	-.242** .000	-.197** .000	-.273** .000	-.341** .000
F5 Unreasonable generalization				-.414** .000	
F6 Ability to read thoughts	-.229** .000		-.134* .024		

** statistical significance of the correlation at the .01 level

* statistical significance of the correlation at the .05 level

Source: own processing by authors.

The metacognitive error of F1 Selective abstractions is negatively correlated with Motivational, Performance and Cognitive managerial competencies. It means that motivated managers who use their potential and self-confidence, perform and do what they desire, who help others to fulfill new and

challenging tasks, encourage them to be creative at work and when making decisions, and who try to do the most effective decisions, in terms of errors do not notice only the facts that confirm their thinking, nor do they overlook what does not interest them. A negative correlation indicates that competent managers cannot ignore any facts.

The metacognitive error of F2 Dichotomous decision-making is negatively correlated with Cognitive competencies of managers. Those managers who try to solve problems, clarify strategies and solution procedures, make the most effective decisions and search for information about what effective steps they will take, in terms of errors do not make decisions in absolute categories and do not classify everything into only two groups. A negative correlation indicates that competent managers easily accept anything, even if it is not the best for them at the given moment.

The metacognitive error of F3 Negative emotional expectation is negatively correlated with Social and Target competencies. Those managers who like to cooperate with others, can effectively solve conflicts and communicate with new people, who believe in success, have the ability to win over others and convince them to fulfill goals, in terms of errors are not inclined to be guided by unpleasant feelings, for no reason they do not anticipate worst situations and scenarios. A negative correlation indicates that competent managers use positive emotions and see positive consequences and results of their efforts.

The metacognitive error of F4 Elimination of the positive correlates negatively with all the extracted managerial competencies factors. It means that self-confident, creative, goal-oriented, communicative managers, competent in all areas (motivational, performance, social, cognitive, target-oriented), can create a favorable positive atmosphere for the purpose of achieving goals. A negative correlation indicates that competent managers have no problem thinking positively and that they do not attach importance to problems.

The metacognitive error of F5 Unreasonable generalization is negatively correlated with Cognitive competencies. Those managers who try to solve problems, clarify strategies and procedures for solving, do not tend to draw far-reaching conclusions from the point of view of errors and do not make decisions based on only one detail. A negative correlation indicates that competent managers make decisions based on sufficient necessary data and information.

The metacognitive error of F6 Ability to read thoughts is negatively correlated with Motivational and Social competencies. Managers who can motivate others to perform, know how to convince others to stand by their decision, can build a positive climate and understanding, as well as effectively resolve conflicts and communicate, like to cooperate and support the strengths and values of others, do not feel in terms of errors that they know what others are thinking and do not have the impression that they can read the emotions of others. A negative correlation indicates that competent managers do not think that they can get into the thinking of others and that they have no problem immediately recognizing when someone is not telling the truth. It is not in their ability.

From the point of view of assessing the existence of statistically significant correlations between the metacognitive errors (MEQue) and the managerial competencies evaluation (AMC), only negative correlations were recorded. It testifies to the relationship between capabilities and thinking of managers. Based on the above, we can conclude that hypothesis H1: "There are statistically significant correlations between the assessment of metacognitive errors and the managerial competencies evaluation." has been supported.

Hypothesis 2: "There are statistically significant differences in the ante and post measurements in the degree of proving the existence of the so-called The Dunning-Kruger effect through self-report estimation of personal performance." was further formulated. In order to confirm the existence of the Dunning-Kruger effect phenomenon, when assessing one's own performance values, it is important to record the respondents' estimates before and after the administration of the DOMINO D20 intelligence test (Table 4). It is a comparison of estimates with the level of the achieved score within the level of performance in tasks focused on fluid intelligence in a universal form before and after the administration of the tasks. The evaluation shows whether the person under investigation expects to achieve more or less points before and after the administration of the tasks.

The aim is to estimate one's own abilities and the level of their accuracy, which will best indicate the possible existence of overestimation of one's own achieved results, or competencies by respondents who achieved a lower score than the average, and on the contrary, they will confirm a certain tendency to underestimate their own results by the most capable respondents (principle of the Dunning-Kruger effect in practice). Table 4 describes the average prediction in the Domino D20 IQ test before and after the task. The maximum gross score is 40. Ante-measurement means predicting the respondents' achieved score before the IQ test, post-measurement means personal performance evaluated after the test.

Table 4 Assessment of eigenvalue estimates of performance before and after administration of the DOMINO D20 intelligence test

DOMINO20	Measurement	Score	SD	t - test	Significance
Personal performance Total	ante-measurement	29.512	.594	-1.964	.039
	post- measurement	32.563	.636		
Personal performance Male managers	ante- measurement	28.411	.596	-1.342	.065
	post- measurement	31.923	.641		
Personal performance Female managers	ante- measurement	29.418	.579	-2.553	.010
	post- measurement	32.643	.536		

Source: own processing by authors.

We assumed that there are statistically significant differences in the ante and post measurements in the degree of proving the existence of the so-called The Dunning-Kruger effect through self-report performance estimation before and after the administration of the DOMINO D20 intelligence test. Statistically significant differences were recorded in the level of personal performance before and after the measurement for all respondents together, as well as for female managers. The mentioned groups estimated the level of the achieved score at the input lower than at the output. Since we assumed the existence of the Dunning-Kruger effect (the researched person expects to achieve more points before or less after the administration of the tasks), we note that this assumption was confirmed for the respondents together, as well as for female managers. Male managers did not have a statistically significant difference between ante and post measurements.

Based on the above, we conclude that hypothesis H2: "There are statistically significant differences in the ante and post measurements in the degree of proving the existence of the so-called The Dunning-Kruger effect through self-report estimation of personal performance." may be considered as supported.

4. DISCUSSION

People tend to believe that more positive life experiences and less negative life experiences are more likely to happen to them compared to other people (Helweg-Larsen & Sheppard, 2001; Weinstein & Klein, 1995). This unrealistically optimistic view is extended, albeit in a more reduced form to others who are closely connected to the particular individual (Regan et al., 1995). At the same time, individuals overestimate their ability to predict the future (Kim et al., 2016; Vallone et al., 1990) and underestimate how long it will take them to complete various tasks (Van Gog, Hoogerheide & Van Harsel, 2020). Individuals also tend to overestimate the accuracy of their social predictions.

Eggers, Oostdam, and Voogt (2021) accentuate that self-regulation plays a key role in students' academic success, contributing to higher grades and reduced course delays, yet its function in blended learning environments within higher education remains underexplored. In their research review, they examined twenty-one studies that integrated self-regulation strategies into blended learning contexts, and were able to identify four strategy types: cognitive, metacognitive, motivational, and management. Their findings indicate that most studies emphasized metacognitive strategies, followed by cognitive strategies, with limited focus on motivational and management strategies.

In managerial contexts, the findings acquired by Bastian and Zucchella (2022) underscore the key role of entrepreneurs' metacognitive processes in leveraging social capital. It offers a fresh perspective on social capital for emerging entrepreneurs, showing that interactions with others can activate metacognitive processes. These processes drive new entrepreneurs to extend beyond their immediate networks and affiliations to seek expertise and connect

with external contacts. By incorporating management discipline into theoretical models of metacognition, Dezhbankhan et al. (2021) also provide useful insight into the study of metacognition by discussing the ambiguous boundaries between the individual elements of metacognition.

In the conducted research, we investigated the existence of statistically significant correlations between the assessment of metacognitive errors and the evaluation of managerial competencies, recording several negative correlations. Frankovský and Birknerová (2018) paid attention to the analysis of differences in the assessment of predictors of cognitive errors between male and female managers. They analyzed the interaction of gender and work position in the assessment of predictors of cognitive errors. The results of the analysis carried out by the Multivariate Analysis of Variance confirmed the existence of a statistically significant interaction of gender and job position when assessing the predictors of cognitive errors Unsubstantiated conclusions and Argumentation through emotions. They found that male managers rejected both predictors more strongly than male non-managers. On the contrary, female non-managers reject this predictor more strongly than female managers.

In the research, we also investigated the existence of statistically significant differences in the degree of proving the existence of the so-called Dunning-Kruger effect in ante and post measurements. Our analyses conducted through the self-assessment of personal performance estimates as well as through the self-assessment of metacognitive errors confirmed the differences also in terms of gender. Literature offers several research studies that investigate and describe the issue of assessing competencies and metacognitive abilities. These are, according to Kruger and Dunning (2000), in line with the idea that incompetent individuals do not have the metacognitive skills necessary for accurate self-evaluation, e.g. novices have poorer metacognitive abilities than experts (Morphew, 2024); novices are less calibrated than experts and have less successful estimation than experts (Sanchez & Dunning, 2023). Underachievers do not have the same level of metacognitive skills needed for accurate self-evaluation as their more successful counterparts. However, none of these studies investigated whether metacognitive deficits are reflected in exaggerated self-evaluation, or whether relatively incompetents (novices) are systematically more calibrated than the competent ones (experts) about their abilities. It follows from the above that incompetent individuals have more difficulty in recognizing their true level of abilities compared to more competent individuals, which may be due to a lack of metacognitive abilities.

In their research, Kruger and Dunning (2002) made predictions regarding the links between competency, metacognitive abilities, and inflated self-esteem. They hypothesized that incompetent individuals dramatically overestimate their abilities and performance against objective criteria compared to their more competent peers. They also hypothesized that incompetent individuals would suffer from deficient metacognitive abilities in that they would be less able than their more competent counterparts to recognize competency when they see it – either their own or anyone else's.

5. CONCLUSION

Metacognition refers to the awareness and regulation of one's own cognitive processes. It includes skills such as planning, monitoring and evaluating one's own learning and problem solving. Metacognitive errors are errors that arise during these processes. The Dunning-Kruger effect is a specific type of metacognitive fallacy that refers to an incorrect self-assessment of abilities. Incompetent individuals tend to greatly overestimate their abilities because they do not have sufficient metacognitive ability to realize their own incompetence. Competent individuals, on the other hand, often underestimate their abilities because they realize how demanding their tasks are and therefore evaluate themselves more strictly.

When evaluating managerial competencies, it is important to pay attention to metacognitive errors because managers with insufficient self-criticism can make decisions based on incorrect self-evaluation. Metacognitive errors can affect team dynamics, employee motivation, and overall organizational effectiveness. Assessing metacognition in managerial work is therefore an important aspect that can significantly influence the effectiveness of decision-making and team leadership. Managers who are aware of their metacognitive processes and actively work on them are able to make better decisions, solve problems more effectively and inspire their team to achieve better results.

Our intention was to bring insight into the researched issue and at the same time bring it closer thanks to the connection of metacognitive errors to the assessment of managerial competencies, which are applicable to managers regardless of the preferred theory. In the literature, we encountered limitations regarding the investigation of the given attributes, which are not yet given sufficient attention. We believe that the contribution will serve as an inspiring study for further research focused on the issue of metacognitive errors and the assessment of managerial competencies, as we tried to take one of the first steps and transferred the mentioned concept to the conditions of Slovak management.

Author Contributions: Conceptualization, Z.B. and L.Z.; Methodology, Z.B.; Software, Z.B.; Validation, Z.B. and L.Z.; Formal Analysis, Z.B. and L.Z.; Investigation, Z.B. and L.Z.; Resources, Z.B.; Data Curation, Z.B.; Writing – Original Draft Preparation, Z.B.; Writing – Review & Editing, L.Z.; Visualization, L.Z.; Supervision, Z.B. and L.Z.; Project Administration, Z.B. and L.Z.; Funding Acquisition, Z.B. and L.Z.

Funding: The research was supported by the grant project KEGA No. 018PU-4/2023.

Conflict of interest: None.

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METAKOGNITIVNE POGREŠKE I PROCJENA DUNNING-KRUGEROVA UČINKA U OKVIRU EVALUACIJE MENADŽERSKIH KOMPETENCIJA

Sažetak

Doprinos se fokusira na procjenu metakognitivnih pogrešaka i Dunning-Krugerova učinka među menadžerima u okviru evaluacije menadžerskih kompetencija. Istraživanje ima za cilj utvrditi postojanje statistički značajnih korelacija između procjena metakognitivnih pogrešaka i procjena menadžerskih kompetencija. Dodatno, nastoji identificirati potencijalne razlike u manifestaciji Dunning-Krugerova efekta uspoređujući menadžerove samoprocjene osobnog učinka prije i nakon mjerenja. Istraživanje se koristi metodom upitnika i provodi se na uzorku od 367 slovačkih menadžera. Nalazi otkrivaju nekoliko statistički značajnih korelacija između procjena metakognitivnih pogrešaka i procjene menadžerskih kompetencija, kao i značajne razlike u razinama samoprocjene uspješnosti prije i nakon mjerenja. Ispitanici su općenito ocijenili svoju početnu izvedbu nižom od svojih rezultata nakon mjerenja.

Ključne riječi: menadžeri, metakognitivne pogreške, Dunning-Krugerov efekt, menadžerske kompetencije.

JEL klasifikacija: M12, M54, D91.