

PSYCHOLOGICAL PORTRAIT OF MANAGER FROM THE PERSPECTIVE OF THE FIVE-FACTOR PERSONALITY MODEL OF P. COSTA AND R.M. McCRAE

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Abstract

The Five-Factor Model, commonly referred to as the Big Five, is a simple and yet universal personality structure model defining the five basic personality features: Extraversion, Neuroticism, Conscientiousness, Agreeableness and Openness to experience. The identified dimensions allow for depicting human behaviours stemming from the given personality traits and recognising differences between individuals. As regards the managerial behaviours in the organisational context, the features in question enable to diagnose personality potential and foresee behaviours likely to be displayed in the future. The empirical part of the article presents results of a research concerning Polish professionally active managers. The obtained empirical material was analysed in the light of the Big Five theory. A managerial profile was developed based on the five personality features and it was analysed and interpreted psychologically. The obtained results were compared against the foregoing literature recommendations concerning the desired construction of personality traits of people in managerial positions.

Keywords: The Five-Factor Model, managerial profile, manager, personality, personality traits

INTRODUCTION

The Five-Factor Model of personality, commonly known in the world of science as the so-called Big Five, was developed conclusively in the 1980s and redirected both work psychology and management studies towards the human personality context. The Big Five is now considered a universal personality model which identifies the following traits constituting personality: Extraversion, Neuroticism, Openness to experience, Conscientiousness and, Agreeableness

(Pervin, 2002). The Five-Factor Model of personality has been created to incorporate the personality traits which people consider particularly important in life (Cervone, Pervin 2011:319). The goal of the article is to build up a psychological portrait of a manager based on the five basic personality features of the Big Five and point out to a possible application of the personality diagnostics in management practice in modern organisations.

The article identifies the essential terms related to the Five-Factor Model, depicts the five basic personality traits and eventually recognises them as a significant source of managerial behaviours. It also quotes results of research conducted based on the Big Five theory presented as dependencies established between the particular personality features and the level of professional efficiency. It all makes up a point of reference for the results of own research presented in the article and conducted on a group of professionally active managers. The final part of the article focuses on the analysis and interpretation of the received empirical material against the personality traits of the Big Five and ultimate construction of a manager personality profile. It also includes conclusions embracing discrepancies between the received research findings and the literature's indications referring to the composition of personality traits desired for managerial efficiency.

THE FIVE-FACTOR MODEL BY P. COSTA AND R.M. McCRAE

The Five-Factor Model developed by P. Costa and R.M. McCrae is contemporarily one of the most popular personality concepts (Ostendorf & Angleitner, 1992; Berndt, 2015).

This concept is colloquially referred to as the Big Five as it embraces five personality traits –Neuroticism, Extraversion, Openness to experience, Agreeableness, Conscientiousness. This model was shaped in mid 1980s though its beginnings date back to the 1930s and 1940s when Cattell and Allport published their works. Since the 1990s this model has been acknowledged by scientific environments from various culture areas based on numerous scientific researches empirically proving existence of the five personality “super-factors”. The studies of the Big Five resulted in recognition of the identified five factors as the basic human personality factors underlying all the other ones and determining most of the major differences in human personalities (Barrick & Mount, 2005; Berndt, 2015; Hall & Lindzey, 1990; John & Srivastava, 1999; Oleś, 2003; Pervin, 2002; Robbins et al., 2014).

Authors of the Big Five model define the five identified personality features as a *universal personality builder* (McCrae & Costa, 1992). Thus, these five dimensions describe nature of every person including traits considered to be the most resilient to change in the course of human life (Berndt, 2015). A significant role in shaping the discussed personality features is played by genetics as to a large extent these personality traits are passed on

genetically. The largest share in heritability is ascribed to Openness to experience which is estimated to be at the level of 57%. Extraversion is inherited at the level of 54%, Conscientiousness at 49%, Neuroticism at 48% and Agreeableness at 42% (Bouchard & McGue, 2003; Pervin, 2002).

Originally, the Big Five was described using slightly different terms but the present-day personality theorists turn to the following names: Extraversion, Neuroticism, Openness to experience, Conscientiousness, Agreeableness and such terminology is applied in numerous researches performed recently (Pervin, 2002). What is more, in the source literature one can find an acronym OCEAN consisting of the first letters of the personality traits of the Five-Factor Model (Cervone & Pervin, 2011). It is also worth pointing out that, although for all the features of the Big Five single terms are used, in fact they are bipolar dimensions. It means they have a nature of continuum and every person finds a place for themselves in each of them. Dimensions which constitute the Big Five and names of the opposite ends of each dimension can be presented as follows (Zimbardo et al., 2012):

NEUROTICISM vs. EMOTIONAL STABILITY

EXTRAVERSION vs. INTROVERSION

CONSCIENTIOUSNESS vs. SLOPPINESS

AGREEABLENESS vs. NEGATIVE ATTITUDE, UNFRIENDLINESS

OPENNESS TO EXPERIENCE vs. LOW INTELLECTUAL CURIOSITY

The easiest way to comprehend the sense of the notions mentioned above is through analysis of some more comprehensive descriptions of the five dimensions identified by the Big Five model and referring to persons rated high or low in the given scale (Berndt, 2015; Robbins & Judge, 2016; Spirling & Persaud, 2003):

NEUROTICISM– this factor refers to the given person's resilience to stress represented by various emotional burdens. Persons characterised by a high degree of neuroticism are described as emotionally unstable. They tend to be sad, nervous, tense and insecure. They often experience states of concern and are vulnerable to all kinds of anxiety and depression. On the other hand, persons who are emotionally stable are usually level-headed, relaxed and calm, feel secure and self-confident. They are also less likely to experience negative emotions and they are better at coping in conditions of stress and frustration.

EXTROVERSION–this dimension defines the level of general sensation of an individual while in contact with others. Extroverts are cheerful, optimistic and active. In terms of people relations, they tend to be sociable, friendly, talkative and assertive. Introverts, on the other hand, in

general are aloof, reserved and withdrawn. They appreciate their solitude and remain calm and independent in interpersonal relations.

OPENNESS TO EXPERIENCE– this factor concerns a person’s fascination with novelties. Persons with a high intensity of this feature are curious of the world, seek emotions and new impressions, and they are open to changes and new experiences. This dimension is related to the intellectual curiosity of the world, wide horizons of cognition, ability to learn new things and imagination. Highly open persons appreciate art, are creative and independent and willing to experiment and cross borders. Conversely, persons with a low level of openness tend to be conservative and conventional. They feel comfortable with what is certain and known. They demonstrate realism, factuality, and sober judgement of reality.

AGREEABLENESS– this dimension describes the tendency of a given person to be considerate of others. Agreeable persons demonstrate a positive attitude to others, compassion and altruism in interpersonal relations. They are eager to cooperate, offer help and they are kind, warm-hearted and trustful. On the other hand, a low level of agreeableness usually means higher self-absorption. Such persons are less friendly, less sympathetic and do not trust others. They prefer to compete rather than cooperate. They can be unlikeable and antagonistic.

CONSCIENTIOUSNESS– this factor is a measure of reliability. Conscientious persons are responsible, well-organised, persistent in their actions, ambitious, disciplined and dependable. Too high conscientiousness might lead to perfectionism. Conversely, low conscientiousness means more spontaneity, worse organisation, and lesser diligence in actions. Persons with low conscientiousness are perceived as unreliable, changeable and sloppy.

Taking into account the earlier indications concerning the genetic conditioning of the discussed personality traits, it can be concluded that the Five-Factor Model faithfully reflects the human personality structure and provides stability in drawing conclusions about behaviour of particular individuals based on the basic personality construction (McCrae & John, 1992).

It is also worth noting that each personality trait has different stability. As the research shows, with age people get more and more responsible and agreeable and their *Openness to experience* decreases. What is interesting, the *Neuroticism* dimension seems to remain unchanged for decades. Authors of the Big Five suggest that changes in the super-factors of personality are more dependent on biology rather than culture, which confirms relative stability of personalities over longer periods of time (Berndt, 2015). Findings of numerous researches are consistent enough to justify talking about “significant stability of personality traits” which

means that personality variables enable description of relatively constant features of particular individuals (Cervone & Pervin, 2011:333). Despite the identified stability, some personality changes do occur in people. However, any changes in own personality features require strong internal motivation caused by occurrence of a significant emotional stimuli or a resolution to undertake a personal effort aimed at some planned changes (Berndt, 2015).

PERSONALITY TRAITS – SOURCE OF MANAGERIAL BEHAVIOURS

The biggest advantage of the Five-Factor Model of personality is the fact that it constitutes a very effective and, what is more, widely accepted tool which can be deployed to address problems of the applied psychology. Psychologists, psychotherapists, and also employers need effective tools to measure individual differences. Five-factors questionnaires which are based on the Big Five model allow to perform such diagnostics and are commonly applied (Cervone & Pervin, 2011). Theories of traits enhance predicting behaviours of people in typical situations connected with health, professional successes or successes in social relations (Spirling & Persaud, 2003; Zimbardo et al., 2012). In the five-factor theory “traits are presented as causative factors shaping course of life of every human” (Cervone & Pervin, 2011:329).

Theory of the Big Five is widely applied in health psychology. Longitudinal studies demonstrated that conscientious people have a longer lifespan as they tend to take care of themselves more and they engage in highly risky behaviours less often (see Bogg & Roberts, 2004; Cervone & Pervin, 2011).

Extroverts, on the other hand, live happier lives due to the connection of this personality trait with a tendency to more frequent and deeper experiencing of positive emotions and good mood in everyday life (see McCrae & Costa, 2005; Watson & Clarc, 1992).

Supporters of the trait approach also point at the fact that it proves useful in diagnostics and therapy. Utility of the Five-Factor Model of personality is advocated by numerous clinical researches and their findings that emphasise a clear link between disorders and indicators within particular factors (Pervin, 2002). It should be noted that personality disorders are understood by the trait approach supporters not as a distinct condition but rather exorbitantly intensified indicators of normal personality features and the effect of their particular specific configuration. For instance, compulsiveness (compulsive personality) is demonstrated by people with very high *Conscientiousness* and *Neuroticism*, whereas inclinations to antisocial disorders are revealed by people with an extremely low level of *Conscientiousness* and *Agreeableness* (see Cervone & Pervin, 2011; Pervin, 2002). Therefore, the multidimensional approach to disorder diagnosis insists on considering personality disorders on the continuum of a healthy personality and interpreting the affected behaviours as an intensified form of normal personality

traits (Widiger, 1993). As a result, the Big Five can be useful when planning a psychological therapy and choosing the form of therapy appropriate for the expected problems and difficulties originating from the traits' structure (Cervone & Pervin, 2011).

Another possible application of the Big Five is within psychology of work. Determining the configuration of personality traits can be a vital factor when deciding on a career path and reaching professional success. Based on the five-factor model, one can assume that persons with high levels of *Extraversion* ought to choose professions involving development of social relations and will do better in such occupations than introverts. On the other hand, persons featuring high *Openness to experience* might succeed in artistic occupations that require creativity, cognitive curiosity and independence in thinking and functioning (Cervone & Pervin, 2011).

Selection of the desired personality traits for a given job position is of special importance given the subject matter of this article with regards to managerial roles.

Usefulness of the Five-Factor Model in description of a managerial role and predicting managerial behaviours proves particularly valuable. Identification of the most desired configuration of personality traits can ensure optimal fulfilment of the given role by individuals characterised by a specific configuration of features.

Research into the Big Five brought a number of findings establishing dependencies between particular personality dimensions and level of professional efficiency (Barrick & Mount, 1993; Robbins et al., 2014).

Based on the subject literature one can formulate a few personality indications for effective delivery of managerial functions. It has been empirically proved that persons with a high level of *Openness* and intensity of the *Extraversion* feature are effective managers. Many of the researches underline an important forecasting role of *Extraversion* in realisation of managerial functions (see Robbins & Judge, 2016). In the context of social psychology *Extraversion* constitutes a crucial personality dimension as it touches the whole of the social nature of an individual. Persons who are in charge of others contribute to establishing specific relations between people and therefore shape contentedness and efforts of their subordinates or their unwillingness and withdrawal. Thereby, by developing suitable people relations, superiors can become the main source of work satisfaction and good mental condition of their subordinate personnel (Argyle, 1994).

What is also desired for the managerial role is a high level of emotional stability (low *Neuroticism*) which ensures control over emotions, optimistic attitude, and improved efficiency in coping with situations causing stress. On the other hand, moderate levels of *Conscientiousness* and *Agreeableness* are recommended for managers. As the research shows, kind people

achieve better results at work which entails participation in interpersonal relations although too excessive kindness (*Agreeableness*) might hinder firmness and ability to set requirements for people, which in turn affects the leadership power of the superior. On the other hand, too high *Conscientiousness* might affect creativity and narrow the area of finding creative solutions due to the overly intense meticulousness and difficulty in coping with sudden and unexpected circumstances. As a result, what is actually needed is high *Openness to experience* providing a proper level of creativity in one's approach to changes and organisational flexibility (see Robbins & Judge, 2016; Zimbardo et al., 2012).

The personality context of managerial skills justifies the researchers' use of the traits approach within the framework of the Big Five and providing descriptions of dimensions of the desired managerial behaviours. This knowledge can be treated as crucial since the manager's personality is an incredibly characteristic element for their personal image and equally vital for functioning of the organisation. Managers who possess personality inclinations expected for the given position, thanks to the specific behavioural tendencies, are able to shape appropriate and favourable organisational environment.

RESEARCH METHODS

The study and Sampling frame

Findings of the presented research originate from a research project conducted on a group of 80 managers from October 2015 to June 2016 the purpose of which was to determine personality potential of the managerial personnel in the Big Five context. To meet the requirement of a random sample selection, cluster sampling scheme was applied (Brzeziński, 1996).

Participants of the research were people holding managerial positions, which means they met the criterion of performing a managerial function understood as a process of direct management of subordinate personnel. The analysed managers came from different levels of management and were employed in various business organisations.

The research was carried out through direct group and individual meetings. Additionally, it was absolutely voluntary and anonymous in order to fulfil the criterion of research credibility as well as provide the participants with conditions facilitating genuine answers.

Research tools

The tool applied in the research was Personality Inventory by P.T. Costa and R.R. McCrae (NEO-FFI) in its Polish adaptation made by a team of Polish researchers. The NEO-FFI Inventory is one of the most modern and best constructed tools for diagnosis of the five basic

personality traits identified in the Big Five model and constitutes “the only tool in Poland allowing for diagnosis of traits according to the five-factor personality model” (Zawadzki et al., 2010:9).

The NEO-FFI questionnaire consists of five scales which enable to measure the five personality traits believed to be the basic ones: Neuroticism (N); Extraversion (E); Openness to experience (O); Agreeableness (A); Conscientiousness (C). Each of the five measured personality traits provides a lot of information within some more detailed components which make up the given factor and therefore allows to draw up personality analysis both in individual and group studies.

Characteristics of the study group

The group involved in the research was varied in terms of age and gender. As regards the criterion of *gender*, the group comprised representatives of both genders – women and men with the men slightly outnumbering the women. The number of women in the analysed group was 34 whereas there were 46 men, which totalled to 80 research participants. In terms of percentage, women constitute 43% of the group and men 57%.

Table 1. Characteristics of the analysed group based on the variable: gender.

GENDER	NUMBER	%
WOMEN	34	43%
MEN	46	57%
Total:	80	100%

Characterisation of the analysed group based on the *age* variable was conducted taking into account seven age ranges. The research participants were assigned to seven age groups ranging from 21 to 55 years of age. Table 2 presents structure of the numbers of the analysed group in terms of age in the adopted age groups, each covering five years.

Table 2. Characteristics of the analysed group based on the variable: age.

AGE GROUPS	NUMBER	%
21-25	5	6%
26-30	9	11%
31-35	14	18%
36-40	19	24%
41-45	16	20%
46-50	9	11%
51-55	8	10%
Total:	80	100%

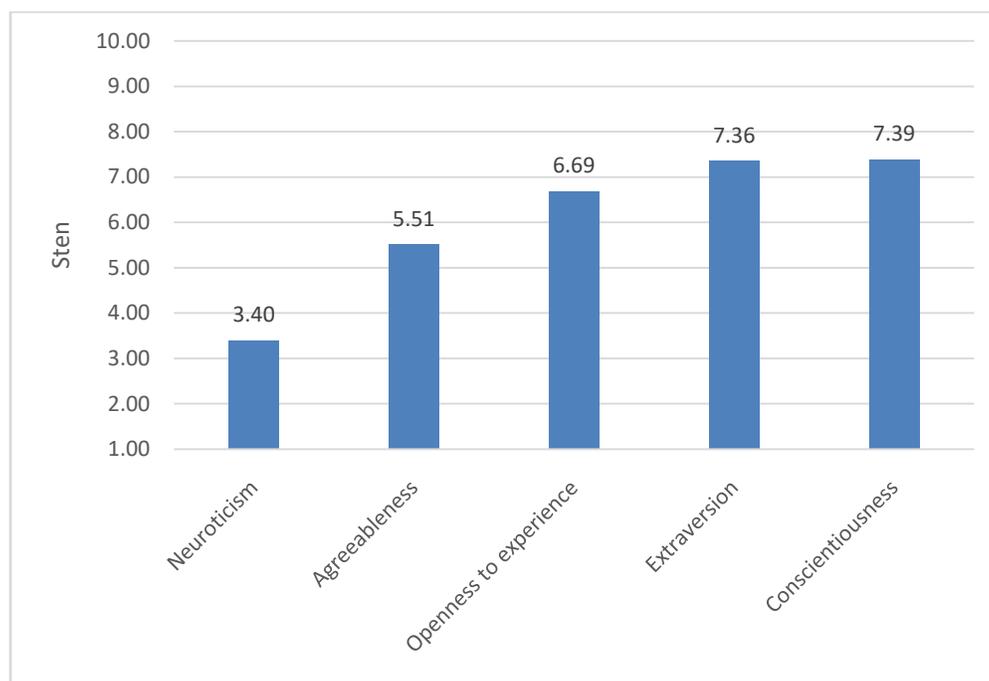
ANALYSIS AND RESULTS

The NEO-FFI test consists of 5 personality scales build based on the Five-Factor Model by P. Costa and R.M. McCrae. The scales of the test refer to the personality factors described by the authors i.e. the so-called Big Five and provide descriptions of human behaviours expressed on the behaviours' continuum within the particular personality area. The results obtained for the NEO-FFI personality scales for the analysed group of managers are presented consolidated in table 3 and in a graphic way in chart 1.

Table 3. Results of NEO-FFI test of five personality factors: means (M), standard deviations (S).

NEO-FFI scale	M	S
NEU	3.40	1.93
EXT	7.36	1.93
OPN	6.69	1.73
AGR	5.51	2.14
CON	7.39	1.94

Chart 1. Graphic presentation of results of research covering a group of managers and performed by means of the NEO-FFI Personality Questionnaire: NEO-FFI SCALES



The conducted research shows that the analysed managers demonstrate high results in the Conscientiousness (C) and Extraversion (E) scales and elevated results in Openness to experience (O), moderate intensity of Agreeableness (A) and low intensity of Neuroticism (N).

Scales of C (*Conscientiousness*) and E (*Extraversion*) reach the highest values in the managerial personality profile measured by the Big Five scales.

The substantial intensity of *Extraversion* (E) implies that managers reveal a high level of sociability and activeness in people relations. They are friendly, kind, and communicative. In everyday life they have a positive and cheerful attitude full of enthusiasm and happy mood. They like to be in a company of people and their large network of relations helps them achieve desirable stimulation. Though focused on others, they do appreciate simultaneous domination in interpersonal relations and they can be assertive and firm.

The high score in *Conscientiousness*(C) requires perceiving managers as persons with a high level of organisation, persistence and motivation to take action. Such an approach means responsible, ambitious, systematic and disciplined functioning focused on reaching the set goals.

As regards the O scale analysing *Openness to experience*, managers also obtain an elevated score. It means that they show a tendency to look for new experiences and solutions. They are likely to have lively imagination and cognitive curiosity. They are capable of unconventional actions and come up with new ideas.

On the *Agreeableness* scale (A) managers remain at a moderate level which suggests average sympathy, kindness and trust in interpersonal relations. It goes to say that they are kind and friendly but at the same time focused on competition with others and somewhat sceptical about intentions of other people.

Managers scored low on the *Neuroticism* scale (N), which confirms high emotional stability, which in turn means resilience to hardships of life and ability to cope in tough situations. In everyday life they will be calmer and more relaxed and their attitude will be free of concerns, strains or annoyance. The low level of neuroticism will also facilitate their control over emotions and adoption of a more optimistic approach.

Referring to the presented structure of the scale scores within the Five-Factor Model, which define construction of the five basic personality factors, the following analysis and interpretation of the obtained data can be made:

The analysed managers show a clear tendency to adopt an active and friendly approach in interpersonal relations, marked with good mood and an optimistic attitude (E). At the same time they reveal moderate consideration in their relations as they do tend to compete and maintain distance in their contacts (A). Moreover, managers display remarkable resilience in coping with psychological burdens of everyday life and adopt a calm and balanced approach (N). They also demonstrate an increased level of cognitive curiosity and eagerness to indulge in

new experiences (O). Besides, they are highly task-oriented and strive to achieve the set goals through persistent and disciplined actions (C).

Composition of the scores obtained by the managers suggests they will be independent in actions and will easily win favour and sympathy of the environment (E). The demonstrated self-confidence and self-satisfaction combined with good stress-resistance will additionally enhance building stable relations and contribute to effectiveness of the undertaken actions (N). Thus, managers will be capable of influencing others (E) while simultaneously maintaining individuality and distance in contacts (A). As a result, their developed interpersonal relations will be rather superficial and marked with caution and even a dose of mistrust (E, A). Special attention is deserved by their elevated openness to the new and unknown (O). However, the diligence and reliability (C) that they show might largely affect search for creative and innovative solutions (O) and give way to adoption of off-the-shelf schemes ensuring prompt and effective realisation of professional intentions (C).

As regards interpretation of the research findings presented above, it can be concluded that the primary goal of managers will be to aim at reaching work success. Achievement of the managers' goals will be facilitated by their well-developed social features i.e. a positive and friendly approach although the main point of the developed relations will be influencing others rather than creating warm and cordial contacts. Also, their good emotional stability will contribute to effective functioning and will support efficient achievement of the defined goals. At the same time, the huge need for safe and quick realisation of tasks will hinder reaching out to novelty solutions burdened with too much risk and unknown. Consequently, the managers' actions might be overcautious and deprived of a creative momentum in spite of their mental capability of opening to new experiences.

CONCLUSIONS

Based on the conducted research, it can be concluded that the group of professionally active managers who were covered by the research did not reach an ideal composition of scales in the Five-Factor Model, the so-called Big Five, in terms of the desired personality traits recommended by the subject literature for persons holding managerial positions. What is recommended for managerial efficiency in such a layout based on the Five-Factor Model in fact is intensity of the *Extraversion* feature, high level of emotional stability (low level of *Neuroticism*), intensity of *Openness to experience* and moderate doses of *Conscientiousness* and *Agreeableness*.

The analysed managers came close with their profile to the recommended one. Lack of full compliance with the literature's advisable personality profile of an efficient manager occurs

for two personality traits - *Conscientiousness* (C) and *Openness to experience* (O). On the C scale the managers achieved a high score, actually the highest score in the profile. However, for the O scale it was a moderate score. That is why the received structure of scores – despite its variance with only two of the personality scales of the recommended profile – provides a psychologically different description of behaviour.

Recommendations of the subject literature might not be treated as an ultimate and unchangeable norm of organisational behaviours of managers but they can be definitely treated as an important point of reference for the behavioural indicators of managerial efficiency.

The analysed managers demonstrate high intensity of *Conscientiousness*(C) and moderate *Openness to experience* (O) and, despite managerial efficiency guaranteed by the remaining traits (high *Extroversion*, low *Neuroticism*, moderate *Agreeableness*), they might reveal poor efficiency in functioning in conditions of ambiguity and when facing sudden organisational changes. The too high level of *Conscientiousness* as a personal trait means a lower ability to adapt to changing circumstances, which is a result of the high level of organisation and orderliness (Barrick & Mount, 1993). In turn, insufficient intensity of *Openness to experience* means lesser flexibility in creative thinking and acting (DeYoung et al., 2005).

A desired complement and expansion of the managerial personality traits subject area would be further more in-depth studies thereof. It would be an interesting direction for the empirical search to focus on those variables which have not been covered by the conducted research i.e. organisation type or management level. Another valuable area for analysis could be comparison research of managers from an international perspective as it would create a chance to capture possible culture differences.

It is worth remembering that diagnostics of personality traits based on the Five-Factor Model can provide precious guidelines which prove useful when appointing managerial positions and predicting behaviours of persons operating in such a professional role. It might also enhance undertaking development actions for the already employed managers. However, it should be noted that, due to the high stability of personality features, the said development actions ought to be performed based on self-awareness of own personality limitations. Let the aim of these actions be an attempt to develop optimising forms of functioning rather than spectacular changes of personality.

REFERENCES

- Argyle, M. (1994). *The Psychology of Interpersonal Behaviour* (5th ed.). London: Penguin Books Ltd..
- Barrick, M.R & Mount, M.K. (2005). Yes, Personality Matters: Moving on to More Important Matters. *Human Performance*, 18 (4),159-172.

- Barrick, M.R. & Mount, M.K. (1993). Autonomy as a Moderator of the Relationships between the Big Five Personality Dimensions and Job Performance. *Journal of Applied Psychology*, 78, 111-118.
- Berndt, Ch. (2015). *Tajemnica odporności psychicznej*. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.
- Bogg, T. & Roberts, B.W. (2004). Conscientiousness and Health-Related Behaviors. A Meta-Analysis of the Leading Behavioral Contributors to Mortality. *Psychological Bulletin*, 130 (6), 887-919.
- Bouchard, T.J & McGue, M. (2003). Genetic and environmental influences on human psychological differences. *Journal of Neurobiology*, 54 (1), 4-45.
- Brzeziński J. (1996). *Metodologia badań psychologicznych*. Warszawa: Wydawnictwo Naukowe PWN.
- Cervone, D. & Pervin, L.A. (2011). *Osobowość: teoria i badania*. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.
- DeYoung, C. G., Peterson, J. B. & Higgins, D. M. (2005). Sources of openness/intellect: Cognitive and neuropsychological correlates of the fifth factor of personality. *Journal of Personality*, 73, 825-858.
- Hall, C.S. & Lindzey, G. (1990). *Teorie osobowości*. Warszawa: Wydawnictwo Naukowe PWN.
- Hogan, J., & Ones, D.S. (1997). Conscientiousness and Integrity at Work. In R. Hogan, J., Johnson & S. Briggs (Eds.), *Handbook of Personality Psychology* (pp.849-870). San Diego, CA: Academic Press.
- John, O.P., & Srivastava S. (1999). The Big Five: History, Measurement, and Development. In L.A. Pervin, & O.P. John (Eds.), *Handbook of Personality: Theory and Research* (102-138). New York: Guilford Press.
- McCrae, R.R. & Costa, P.T. (2005). *Osobowość dorosłego człowieka. Perspektywa teorii pięcioczynnikowej*. Kraków: Wydawnictwo WAM.
- McCrae, R.R. & John, O.P. (1992). An Introduction to The Five-Factor Model and its Applications. *Journal of Personality*, 60, 175-215.
- Oleś, P.K. (2003). *Wprowadzenie do psychologii osobowości*. Warszawa: Wydawnictwo Naukowe „Scholar”.
- Ostendorf, F., & Angleitner A. (1992). On the Generality and Comprehensiveness of the Five-Factor Model of Personality: Evidence for Five Robust Factors in Questionnaire Data. In G.V. Caprara, & G.L. Van Heck (Eds.), *Modern Personality Psychology: Critical Reviews and New Directions* (73-109). Wiley, Chichester.
- Pervin, L.A. (2002). *The Science of Personality* (2th ed.). New York: Oxford University Press.
- Robbins, S. P. & Judge, T.A. (2016). *The Organizational Behavior* (17th ed.). Australia: Pearson Group Pty Ltd.
- Robbins, S.P., Judge, T.A., Millett, B. & Boyle M. (2014). *Organisational Behaviour* (7th ed.). Australia: Pearson Group Pty Ltd.
- Spirling, L.I. & Persaud, R. (2003). Extraversion as a Risk Factor. *Journal of the American Academy of Child & Adolescent Psychiatry*, 42 (2), 130 -139.
- Watson, D. & Clark, L.A. (1992). On Traits and Temperament: General and Specific Factors of Emotional Experience and Their Relation to The Five-Factor Model. *Journal of Personality*, 60, 441-476.
- Widiger, T.A. (1993). The DSM-III-R Categorical Personality Disorder Diagnoses: A Critique and an Alternative. *Psychological Inquiry*, 4, 75-90.
- Zawadzki, B., Strelau, J., Szczepaniak, P. & Śliwińska M. (2010). *Inwentarz Osobowości Paula T. Costy Jr i Roberta R. McCrae. Adaptacja polska*. Warszawa: Pracownia Testów Psychologicznych Polskiego Towarzystwa Psychologicznego.
- Zimbardo P.G., Johnson R.L. & McCann V. (2012). *Psychology: Core Concepts* (7th ed.). Boston: Pearson.