

The Role of Employees' Personality Characteristics in Job Performance and Satisfaction during Digitization Years

Ioanna Giannoukou¹

¹Department of Management Science and Technology, University of Patras, Greece

*Corresponding author: E-mail: igian@upatras.gr

Abstract

This paper summarizes the association between employees' personality traits and their job performance and satisfaction levels. Comprehending this correlation is crucial for organizations aiming to maximize employee well-being and productivity. The impact of personality traits on workplace dynamics has been widely acknowledged for a considerable period. Extensive research has been conducted on the Five-Factor Model (FFM) of personality, which comprises conscientiousness, extraversion, agreeableness, openness to experience, and emotional stability (neuroticism) concerning job performance and satisfaction. The primary objective of this systematic review was to examine the correlation between personality traits and job performance and satisfaction. Most existing literature predominantly revolves around the Big Five personality theory, which encompasses five key dimensions: agreeableness, extraversion, neuroticism, conscientiousness, and openness to experience. A total of twenty-two articles were subjected to analysis, out of which fifteen articles met the inclusion criteria. These criteria encompassed the requirement for articles to be written in English, to be directly relevant to the topic under investigation, to utilize workers as the study sample, and to have been published in reputable scientific journals. The findings indicated a robust correlation between personality traits and job performance and job satisfaction, with the former exerting a substantial influence on work outcomes. More specifically, according to the Big 5 factor model, neuroticism has been found to impact job performance and satisfaction significantly negatively. Conversely, it is noteworthy that traits such as extroversion and conscientiousness exclusively positively influence work-related factors. In summary, employees' personality traits have a notable impact on their job performance and level of satisfaction. Organizations can derive advantages by acknowledging these dynamics when engaging in recruitment, role design, and provision of developmental opportunities. The significance of personality should be taken into account in conjunction with other contextual and individual factors in order to achieve a comprehensive comprehension of employee well-being and performance.

Keywords: *Personality Characteristics, Job Performance, Satisfaction, Organizations, Employees, Digital years*

1. Introduction

The economic sector holds a pivotal position in shaping and operating the social framework in modern society. The need for substantial financial support arises due to globalization, cultural development, and rapid and profound technological advancements. Therefore, competitive economies are established among nations. In the current highly competitive environment, each economic powerhouse endeavors to enhance the capabilities of for-profit enterprises and organizations—subsequently, employers and administrative personnel endeavor to synchronize their work environment and potential to achieve optimal outcomes (Halkiopoulou et al., 2021b). In order to optimize employee performance, individuals must be motivated by their work and supervisors while fostering a positive and inclusive organizational climate. The significance of psychology concerning productive work cannot be overstated.

The psychological state of an individual is intrinsically connected to their personality. The concept of personality is multifaceted, serving as a distinguishing factor among individuals due to the diverse components within each person. Numerous theories within the realm of psychology have endeavored to delineate its constituent elements, with the fundamental framework being the Big Five traits. The model is predicated upon five distinct characteristics: friendliness, extroversion, neuroticism, conscientiousness, and receptiveness to experiences. Psychologists contend that the five-factor personality theory provides a comprehensive framework for elucidating the majority of variations in individuals' personality traits and substantially impacts job performance (Bui, 2017). Personnel evaluation and selection have been extensively utilized in various contexts (Giannoulis et al., 2022a; Giannoulis et al., 2022b). However, it should be noted that the framework of this theory does not suggest that the variations in personalities can be confined solely to five traits. Instead, these traits encompass personality at its most comprehensive and abstract level (Chandrasekara, 2019). Each dimension encompasses many specific elements, as evidenced by the comprehensive analysis provided below.

Gaining insight into the relationship between employees' personality traits, job performance, and job satisfaction is essential for organizations aiming to cultivate a favorable work atmosphere and improve overall productivity (Antonopoulou et al., 2021a; Antonopoulou et al., 2021b). Organizations can enhance job performance and satisfaction by incorporating employees' personality traits into the hiring process and offering suitable training and development initiatives (Antonopoulou et al., 2020; Khan & Kahn, 2016). In summary, employee personality traits substantially impact job performance and satisfaction (Gridwichai et al., 2020). Several personality traits, including agreeableness and extraversion, have positively influenced both job performance and job satisfaction (Antonopoulou et al., 2019; Salgado, 1997). Organizations can foster employee well-being and productivity by comprehending the impact of personality traits on employees' job performance and satisfaction (Tisu, 2020).

2. Literature Review

The examination of employees' personality traits and their impact on job performance and satisfaction is a multifaceted and intricate subject that has received significant attention within the domains of psychology and organizational behavior. Drawing definitive conclusions in this context is challenging due to the presence of individual differences and contextual factors. However, it is possible to identify several key insights. The significance of personality traits in relation to job performance and satisfaction has been consistently supported by research findings (Shiwen & Ahn, 2023). The Five-Factor Model (FFM) of personality, encompassing traits such as conscientiousness, extraversion, agreeableness, openness to experience, and emotional stability (neuroticism), has exerted significant influence (Udin et al., 2020).

The trait of conscientiousness has been found to have a positive relationship with job performance. Individuals who possess conscientiousness are characterized by their tendency to exhibit traits such as organization, responsibility, and dependability (Judge et al., 2002). The aforementioned characteristics exhibit a positive correlation with job performance, as they facilitate the accomplishment of tasks,

adherence to deadlines, and the overall quality of work (Lan et al., 2021; Wei et al., 2021). Employees who possess a high level of conscientiousness are more inclined to accomplish their objectives and demonstrate exceptional performance in their respective positions (Halkiopoulou et al., 2021a; Tisu et al., 2020). Extraversion and Satisfaction: Individuals who exhibit extraversion tend to display characteristics such as being outgoing, sociable, and assertive. Individuals with a propensity for interpersonal interactions and team collaboration may experience enhanced job satisfaction when engaged in roles that require these skills (Antonopoulou et al., 2022a; Gkintoni et al., 2017). Nevertheless, individuals with introverted tendencies may perceive these roles as less fulfilling and may instead gravitate towards tasks that necessitate autonomous effort or limited social engagement.

The topic of discussion pertains to the correlation between emotional stability and overall well-being. Emotional stability, alternatively referred to as low neuroticism, is correlated with emotional resilience and the capacity to effectively manage stress (Gkintoni et al., 2022a). There is a positive correlation between high emotional stability among employees and reduced levels of job-related stress, as well as increased job satisfaction (Sortwell et al., 2023). On the other hand, individuals characterized by low emotional stability may encounter difficulties in managing job-related anxiety and experiencing dissatisfaction in their work. Person-Environment Fit (PE Fit) is a critical factor that determines the compatibility between an individual's personality traits and the specific requirements of their job and work environment (Gkintoni et al., 2016; Gkintoni et al., 2023d). When there exists a strong alignment between employees and their job roles, it is more probable for employees to experience a higher level of job satisfaction and exhibit enhanced performance. As an illustration, an individual with a pronounced extraverted disposition may demonstrate exceptional performance in a position that involves direct interaction with customers, whereas an introverted individual may experience significant success in a role that emphasizes research or data analysis (Gkintoni et al., 2023c). The Influence of Personality on Job Performance and Satisfaction: A Consideration of Limitations and Moderating Factors. In addition to the aforementioned factors, job design, leadership, organizational culture, and personal motivation are also influential contributors. Furthermore, it is important to consider the impact of situational factors and life events on the association between personality traits and job outcomes. Organizations can derive advantages from comprehending the influence of personality on job performance and satisfaction, thereby utilizing this knowledge to inform their hiring, training, and development initiatives (Gkintoni et al., 2021b). Customizing job roles and responsibilities to correspond with employees' individual personality traits has the potential to augment both their job satisfaction and performance levels (Gkintoni et al., 2022b; Gkintoni et al., 2022).

Exploring employees' personality traits and their impact on job performance and satisfaction has garnered significant attention within organizational psychology. Numerous scholarly investigations have explored the correlation between personality traits, job performance, and job satisfaction (Halkiopoulou et al., 2022). Sageer et al. (2012) conducted a study to identify the variables influencing employee satisfaction and assess their implications for the organization. The research revealed a positive correlation between employee satisfaction and various factors: motivation, job involvement, organizational citizenship behavior, organizational commitment, life satisfaction, mental health, and job performance (Gkintoni et al., 2023a; Gkintoni et al., 2023d). Furthermore, a negative correlation exists between it and absenteeism, turnover, and perceived stress. The study analyzed three distinct components that contribute to employee satisfaction: organizational characteristics, job task factors, and personal characteristics. In a study conducted by Yang Hwang (2014), the focus was on examining the interplay between job performance and job satisfaction and the impact of personality traits on these constructs. The study revealed a reciprocal and mutually influential relationship between job performance and satisfaction. The impact of the Big Five personality traits on job performance is substantial, with agreeableness demonstrating the most pronounced effect, followed by extraversion. The personality trait of extraversion has been found to impact job satisfaction significantly. In their 2014 study, Yang and Hwang constructed a causal model to propose the potential influence of personality traits on both job performance and satisfaction and the reciprocal relationship between job

performance and satisfaction. The research revealed a noteworthy correlation between personality traits, job performance, and job satisfaction. The study revealed that agreeableness emerged as the primary personality trait with the most significant impact on job performance, closely followed by extraversion. Extensive empirical research has consistently demonstrated the significant impact of personality traits on job performance and satisfaction. In their study, Yang and Hwang (2014) discovered a significant relationship between job performance and the five personality traits: agreeableness, extraversion, openness, conscientiousness, and neuroticism. Their findings indicated that agreeableness significantly influenced job performance, followed by extraversion. This study contributes to the existing body of literature by clarifying the inconsistent findings regarding the causal relationship between job performance and job satisfaction, as reported in prior research.

Additionally, this study examines the impact of personality traits on job performance and satisfaction within a simultaneous reciprocal model. Yang and Hwang (2014) propose an integrated theoretical framework that combines elements of expectancy theory and equity theory to elucidate their study's findings. In summary, employees' personality traits substantially impact their job performance and level of satisfaction. Research has indicated that certain personality traits, namely agreeableness and extraversion, significantly impact job performance. However, it is noteworthy that extraversion is the sole factor that significantly influences job satisfaction among these traits. As mentioned above, the findings enhance our comprehension of the intricate interplay between personality traits, job performance, and job satisfaction within the organizational context.

In a recent investigation conducted by Topino et al. (2021), an examination was undertaken to explore the correlation between personality traits, workers' age, and job satisfaction levels. The research revealed that conscientiousness, a personality trait, exhibited a moderated impact on levels of job satisfaction. The correlation between conscientiousness and job satisfaction exhibited statistical significance among younger and middle-aged workers while displaying a comparatively lower significance level among older workers. The research conducted by Topino et al. (2021) revealed a noteworthy and positive association between extraversion, a distinct personality trait, and job satisfaction. Moreover, empirical studies have demonstrated that personality traits exhibit significant associations not only with job performance but also with job satisfaction (Zeigler et al., 2015). According to researchers findings, numerous meta-analytic studies have demonstrated a significant association between personality traits and job performance and satisfaction (Shaw & Choi, 2023; Yang & Hwang, 2014). Research has demonstrated a significant correlation between personality traits and job performance and satisfaction (Mahlamaki et al., 2019). In a study conducted by Eason et al. (2015), a noteworthy correlation was observed between conscientiousness, a personality trait, and job satisfaction within the population of collegiate athletic trainers. In a study conducted by Peral and Geldenhuys (2020), it was discovered that personality traits have the potential to influence job performance indirectly through the mechanism of job crafting behavior (Peral & Geldenhuys, 2020; Simonet & Castille, 2020).

Furthermore, empirical studies have demonstrated a significant correlation between personality traits, such as agreeableness and conscientiousness, and levels of job satisfaction. An empirical investigation conducted by researchers revealed a significant inverse association between personality traits, specifically agreeableness and conscientiousness, and the level of job satisfaction experienced by individuals. Arabshahi and Arabshahi (2014) conducted a study that revealed that the five personality traits, namely nervousness, extraversion, empiricism, responsibility, and compatibility with others, can serve as predictors for job satisfaction and communication satisfaction (Arabshahi & Arabshahi, 2014; Halkiopoulos et al., 2023a; Halkiopoulos et al., 2023b). Numerous variables, including industrial experience, have the potential to impact the correlation between personality traits and job satisfaction. An empirical investigation conducted by Purani and Sahadev (2008) revealed that industrial experience can mediate the association between job satisfaction and various other variables, including organizational human resource policies and supervisor satisfaction (Sahadev & Purani, 2008; Templer, 2018). In a recent investigation conducted by Ahmed and Almutairi (2022), it was discovered that gender differences could potentially impact the association between the Big Five Personality traits and

job satisfaction in the context of virtual teaching for educators working with students who have learning difficulties (Ahmed & Almutairi, 2022; Antonopoulou et al., 2021c; Antonopoulou et al., 2022b; Antonopoulou et al., 2023; Gkintoni et al., 2021a).

3. Methodology

Scope

This systematic review investigates the relationship between personality and job performance and satisfaction. The study sample includes research articles published in authoritative scientific journals, which refer to the degree and the ways in which employees' personality affects their work performance and satisfaction. Some of the scales and theories used in the studies were as follows:

- Leader-Member Exchange: measures the positive or negative effect of personality perspective on employees' psychological strain.
- 50-Item International Personality Item Pool Inventory: measures all Big-5 dimensions
- SAPT (socio-analytic personality theory): Personality is a determining factor in the modern workplace.
- SCCT socio-cognitive career theory argues that human personality, social situations, and professional background shape the mind and determine the way individuals perceive and react to the environment.

A systematic review of the literature was conducted in the period 27-03-2023 to 20-06-2023, searching for articles using keywords: "personality traits", "job performance and personality", "Big 5", "character traits", "job performance and personality traits", in international bibliographic databases (Pub Med, Science Direct, Scopus). The articles were included in the study based on specific criteria:

1. They must be written in English.
2. They must be relevant to the subject of the study.
3. Their sample must concern working people.
4. They must be published from 2017 to 2023.
5. To be published in valid scientific journals.

The primary focus of the evaluation was on the "BIG 5 personality traits" theory, which aimed to assess individuals' personality traits and establish correlations with their work outcomes. In most scholarly articles, researchers have focused on investigating the association between the Big Five personality traits, namely extroversion, agreeableness, conscientiousness, neuroticism, and openness to experience, and employees' performance within their respective professional contexts. After conducting a comprehensive search of various databases and employing the selection mentioned above criteria, 22 articles were identified. After careful evaluation, a total of 15 articles were identified.

Process

Collecting the bibliography was followed by evaluating the articles, which was conducted according to specific criteria. The first step involved an assessment of the article titles, whereby those that did not align with the criteria for a systematic review were excluded. Subsequently, the abstracts of the remaining studies were carefully examined, and those that failed to satisfy the predetermined criteria for the systematic review were excluded. All studies derived from the process mentioned above were examined in their entirety. Among these, only those aligned with the chosen topic and objectives of the review were included.

4. Results

The findings derived from the chosen articles in this study illustrate the significant influence exerted by personality type within the context of the professional environment. The present study investigates the association between personality traits and job performance among franchise restaurant employees, focusing on achievement orientation and learning new skills. The findings of this research affirm the significance of personality in this context. The study's findings indicate that individuals with elevated extroversion, conscientiousness, and agreeableness notably correlate with enhanced work performance. Simultaneously, the attributes of an agreeable and receptive disposition and a sense of accountability are more closely associated with the capacity to acquire novel knowledge within the professional setting. Additionally, research has demonstrated that the influence of personality traits on employee performance is less pronounced in self-service businesses when compared to traditional restaurants.

The study demonstrated a positive association between commitment to work and employees' work performance and mental well-being, specifically concerning the personality trait of insightfulness. A visionary personality is defined by its ability to identify and seize opportunities, display initiative, take decisive action, and positively transform the work environment (Gousteris et al., 2023). The presence of an insightful personality is positively correlated with elevated levels of work engagement. In contrast to the initial research hypotheses, it has been observed that there exists a direct relationship between positive self-evaluations and both employees' professional commitment and mental well-being.

The study also investigated the relationship between an employee's personality, the tips they receive, and their evaluations. The findings indicate a positive correlation between customer ratings of employee performance and the amount of tips the employee receives. The influence of extroversion as a trait is less significant than previously believed, as it demonstrates a limited correlation with employee evaluations and the gratuities they receive. Perceived emotionally stable servers are more likely to receive positive feedback. Similar findings were observed regarding agreeable personality, conscientiousness, and openness. On the contrary, there was no observed correlation between the servers' self-rated characteristics and the magnitude of the tip they received. The present study investigates the psychological characteristics of hotel employees and their impact on professional performance. Specifically, the study explores the relationship between extroversion, conscientiousness, and emotional stability and their association with improved outcomes in the hotel industry. Simultaneously, there exists a correlation between emotional stability and job satisfaction.

The investigation encompassed examining the work behavior and evaluating individuals exhibiting toxic characteristics. Regarding elucidation, the phrase 'toxic employee' typically pertains to individuals who exhibit strong drive and aspirations for financial prosperity and personal progression, often at the expense of undermining their colleagues. According to research findings, there is evidence to suggest that self-reported toxic work behavior is positively associated with increased motivation for work performance. Consequently, employees tend to be rewarded with higher wages and receive favorable evaluations.

A study conducted in Thailand aimed to examine the influence of personality traits on the performance of pharmaceutical workers. The findings of this study revealed a significant association between practical work performance and the personality traits of cooperativeness, conscientiousness, and receptivity to new experiences. Simultaneously, individuals can exhibit neuroticism and extroversion—the presence of adverse components. The study additionally incorporated a meta-analysis that investigates the influence of personality on job satisfaction, finding evidence to suggest that individuals who exhibit conscientiousness and cooperativeness tend to experience higher levels of satisfaction. Simultaneously, it can be argued that neuroticism and receptivity to new experiences are irrelevant.

Research has also demonstrated the correlation between the theory of the five personality traits and their influence on career choices across various professional groups, including professionals, police officers, managers, salespeople, and skilled workers. These studies have confirmed that personality traits are reliable predictors of occupational preferences in all fields.

Another study investigated the correlation between personality types and job performance among public school teachers in Sri Lanka. To be more precise, the characteristics that received the most significant emphasis were cooperativeness and extroversion. Cooperativeness holds greater significance in teamwork, while extroversion is another essential factor. The current study incorporates research investigating the impact of proactive personalities on psychological pressure and performance within the work environment, utilizing questionnaires administered to employees and their managers. A proactive personality can be defined as a behavioral inclination towards anticipating and initiating change. Hence, the discovery of the paradox of traits has unveiled that individuals who possess conscientiousness and social motivation experience psychological strain, necessitating continuous activation to sustain these attributes, which may ultimately result in burnout. Psychological pressure has been found to have a significant association with work performance. In contrast, the level of proactiveness exhibited by individuals can either invigorate or deplete the energy of others. The present study investigated the association between personality type and the attribution of meaning to one's work, revealing a lack of significant positive correlation between these variables (Gkintoni & Ortiz, 2023b). The relationship between organizational behavior, effectiveness, and good performance is not contingent upon the perception of work necessity, as individual variations influence it in character.

A separate study analyzed the correlation between the Big Five personality traits and job satisfaction, focusing on individual variances such as age, gender, and occupational status. Research has indicated a positive correlation between job satisfaction and the personality traits of conscientiousness and extroversion. In particular, the limited capacity of men to adapt positively (as indicated by neuroticism) and their reduced openness to novel experiences contribute to their comparatively lower levels of job satisfaction, frequently prompting them to seek alternative employment opportunities. In contrast, these characteristics mentioned above have a lesser impact on women, as their satisfaction is primarily influenced by conscientiousness and cooperation. Workers who are young and exhibit high levels of extroversion tend to engage in frequent job changes. However, individuals in middle age do not experience any advantages from possessing this characteristic. Furthermore, elderly individuals, regardless of gender, do not display any distinct defining characteristics.

Research examining the relationship between personality traits and creative performance and supervisors' perceptions has revealed that individuals who exhibit greater openness to new experiences and extroversion are more likely to be recognized as creative employees by their superiors. As per the findings, it was observed that employees who exhibited higher levels of agreeableness and extraversion tended to receive more favorable supervisory ratings regarding job performance. However, it was found that conscientiousness did not significantly impact the ratings. Notably, non-cooperation, or discordance, constitutes a fundamental component of creativity (Tzachrista et al., 2023). Non-conformists are often perceived as individuals with a propensity for creativity and achievement.

The study examined the impact of personality traits and motivational factors on the performance of crucial managers within marketing companies. The study's findings indicated that individuals with a learning and performance orientation tend to exhibit enhanced problem-solving abilities (Halkiopoulou et al., 2023c). Extroversion, cooperativeness, conscientiousness, and emotional stability strongly correlate with motivation. Additionally, extroversion and conscientiousness positively correlate with the acquisition of new skills and a high level of commitment towards work performance.

5. Discussion and Conclusion

Employees' personality traits play a crucial role in determining their job performance and overall job satisfaction. Specific characteristics have been found to positively impact performance, such as extroversion, conscientiousness, openness to experience, and friendliness (Tzachrista et al., 2023). On the other hand, certain traits have been found to have a negative effect on performance, such as toxicity and neuroticism. In a broader context, extroversion and conscientiousness emerged as the personality

traits that exhibited the most tremendous significance concerning job performance. The study is subject to certain limitations, primarily from the relatively small sample size employed in the surveys. Consequently, the generalizability of the findings to the broader population needs to be improved. Overall, it is essential to acknowledge that the impact of employees' personality traits on their job performance and satisfaction is contingent upon individual variations and contextual elements. By considering the interaction between personality traits and job-related outcomes, organizations can enhance their decision-making processes regarding hiring, team composition, and role design. Nevertheless, it is essential to recognize that personality is merely a single component in the larger framework, and a comprehensive examination of employee well-being and performance requires a holistic perspective that encompasses various other factors.

References

- [1] Antonopoulou, H., Giannoulis, A., Theodorakopoulos, L., & Halkiopoulos, C. (2022a). Socio-Cognitive Awareness of Inmates through an Encrypted Innovative Educational Platform. *International Journal of Learning, Teaching and Educational Research*, 21(9), 52–75. <https://doi.org/10.26803/ijlter.21.9.4>
- [2] Antonopoulou, H., Halkiopoulos, C., Gkintoni, E. (2023). Educational Neuroscience and its Contribution to Math Learning. *Technium Education and Humanities Journal* <https://doi.org/10.47577/teh.v4i.8237>
- [3] Antonopoulou, H., Halkiopoulos, C., Barlou, O., & Beligiannis, G. N. (2021a). Transformational Leadership and Digital Skills in Higher Education Institutes: During the COVID-19 Pandemic. *Emerging Science Journal*, 5(1), pp.1–15. DOI:10.28991/esj-2021-01252.
- [4] Antonopoulou, H., Halkiopoulos, C., Barlou, O., & Beligiannis, G. N. (2021b). Associations between Traditional and Digital Leadership in Academic Environment: During the COVID-19 Pandemic. *Emerging Science Journal*, 5(4), pp.405–428. DOI:10.28991/esj-2021-01286.
- [5] Antonopoulou, H., Halkiopoulos, C., Barlou, O., Beligiannis, G. (2020). Leadership Types and Digital Leadership in Higher Education: Behavioural Data Analysis from University of Patras in Greece. *International Journal of Learning, Teaching and Educational Research*, 19 (4), pp.110-129. DOI:10.26803/ijlter.19.4.8.
- [6] Antonopoulou, H., Halkiopoulos, C., Barlou, O., Beligiannis, G. (2019). Transition from Educational Leadership to e-Leadership: A Data Analysis Report from TEI of Western Greece. *International Journal of Learning, Teaching and Educational Research*, 18 (9), pp.238-255. DOI:10.26803/ijlter.18.9.13.
- [7] Antonopoulou, H., Halkiopoulos, C., Gkintoni, E., Katsibelis, A. (2022b). Application of Gamification Tools for Identification of Neurocognitive and Social Function in Distance Learning Education. *International Journal of Learning, Teaching and Educational Research*, 21(5), 367–400. doi:10.26803/ijlter.21.5.19
- [8] Antonopoulou, H., Katsibelis, A., Halkiopoulos, C. (2021). Cognitive Parameters Detection via Gamification in Online Primary Education During Covid-19. 15th Annual International Technology, Education and Development Conference (INTED2021), 8-10 March, Valencia, Spain. INTED2021 Proceedings, pp. 9625-9632. DOI:10.21125/inted.2021.2007
- [9] Bui, H. T. (2017). Big Five personality traits and job satisfaction: Evidence from a national sample. *Journal of General Management*, 42(3), 21-30.
- [10] Chandrasekara, W. (2019). Relationship among big five Personality traits, job performance & job satisfaction: A case of school teachers in Sri Lanka. *International Journal of Information, Business and Management*, 11(2), 219-232.
- [11] Giannoulis, A., Theodorakopoulos, L., & Antonopoulou, H. (2022a). Learning in second-chance schools during covid-19 case study: legal framework and distance learning platforms in greek prison. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4132811>
- [12] Giannoulis, H. Antonopoulou, C. Halkiopoulos (2022b) EDUCATIONAL LEARNING METHODS WITH GAMIFICATION ASPECTS FOR INMATES DURING PANDEMIC, *EDULEARN22 Proceedings*, pp. 5746-5751.
- [13] Gkintoni, E., & Ortiz, P. S. (2023b). Neuropsychology of Generalized Anxiety Disorder in Clinical Setting: A Systematic Evaluation. *Healthcare*, 11(17), 2446. <https://doi.org/10.3390/healthcare11172446>
- [14] Gkintoni, E., Antonopoulou, H., Halkiopoulos, C. (2023d). Emotional Neuroscience and Learning. An Overview. *Technium Social Sciences Journal*, 39, 421–429. <https://doi.org/10.47577/tssj.v39i1.8076>

- [15] Gkintoni, E., Boutsinas, B., Kourkoutas, E. (2022a). Developmental Trauma and Neurocognition in Young Adults. 14th Annual International Conference on Education and New Learning Technologies, 4th – 6th July, Mallorca, Spain. DOI:10.21125/edulearn.2022.1332
- [16] Gkintoni, E., Dimakos, I. (2022). An Overview of Cognitive Neuroscience in Education. 14th Annual International Conference on Education and New Learning Technologies, 4th – 6th July, Mallorca, Spain. DOI:10.21125/edulearn.2022.1343
- [17] Gkintoni, E., Dimakos, I., Halkiopoulou, C., Antonopoulou, H. (2023c). Contribution of Neuroscience to Educational Praxis: A Systematic Review. *Emerging Science Journal*. *Emerging Science Journal*. Special Issue ""Current Issues, Trends, and New Ideas in Education" DOI: 10.28991/ESJ-2023-SIED2-012
- [18] Gkintoni, E., Halkiopoulou, C., Antonopoulou, H. (2022b). Neuroleadership an Asset in Educational Settings: An Overview. *Emerging Science Journal*. *Emerging Science Journal*, 6(4), 893–904. DOI:10.28991/esj-2022-06-04-016.
- [19] Gkintoni, E., Halkiopoulou, C., Antonopoulou, H. (2023a). Educational Neuroscience in Academic Environment. A Conceptual Review. *Technium Social Sciences Journal*, 39, 411–420. <https://doi.org/10.47577/tssj.v39i1.8208>
- [20] Gkintoni, E., Halkiopoulou, C., Antonopoulou, H., & Togiass, P. (2016). Emotional intelligence in social network consumers. *SSRN Journal*. <https://doi.org/10.2139/ssrn.4312266>
- [21] Gkintoni, E., Halkiopoulou, C., Antonopoulou, H., Petropoulos, N. (2021a). Gamification of Neuropsychological Tools as a Multi-sensory Approach of Cognition in Learning and Educational Process. Stroop's Paradigm. *Technium Applied Sciences and Technology*. DOI: 10.47577/technium.v3i8.4798
- [22] Gkintoni, E., Koutsopoulou, I., Antonopoulou, H., Christopoulos, P. (2021b). Consequences of the COVID-19 Pandemic on Greek Students' Mental Health: Quality of Life and Trauma Stressful Events Correlation. 14th Annual International Conference of Education, Research and Innovation, 8th-10th November, Seville Spain. DOI:10.21125/iceri.2021.0663
- [23] Gkintoni, E., Meintani, P.M., Dimakos, I. (2021c). Neurocognitive and Emotional Parameters in Learning and Education Process. 14th Annual International Conference of Education, Research and Innovation, 8th- 10th November, Seville, Spain. DOI:10.21125/iceri.2021.0659
- [24] Gkintoni, E., Papavasileiou, N., Antonopoulou, H., Halkiopoulou, C., & Stamoulis, G. (2017). Decision making with machine learning techniques in consumer performance: empathy, personality, emotional intelligence as mediators. *SSRN Journal*. <https://doi.org/10.2139/ssrn.4314614>
- [25] Gousteris, S., Stamatiou, Y. C., Halkiopoulou, C., Antonopoulou, H., & Kostopoulos, N. (2023). Secure Distributed Cloud Storage based on the Blockchain Technology and Smart Contracts. *Emerging Science Journal*, 7(2), 469–479. <https://doi.org/10.28991/esj-2023-07-02-012>
- [26] Gridwichai, P., Kulwanich, A., Piromkam, B., & Kwanmuangvanich, P. (2020). Role of personality traits on employees job performance in pharmaceutical industry in Thailand. *Systematic Reviews in Pharmacy*, 11(3), 185-194.
- [27] Halkiopoulou C., Antonopoulou, H., Gkintoni E., Giannoukou I. (2021b). An Expert System for Recommendation Tourist Destinations: An Innovative Approach of Digital Marketing and Decision-Making Process. *International Journal of Innovative Science and Research Technology*, 6(4), pp.398-404. ISSN: 2456-2165.
- [28] Halkiopoulou, C., Antonopoulou, H., & Kostopoulos, N. (2023c). Utilizing blockchain technology in various applications to secure data flows. a comprehensive analysis. *Technium: Romanian Journal of Applied Sciences and Technology*, 11, 44-55. <https://doi.org/10.47577/technium.v11i.9132>
- [29] Halkiopoulou, C., Antonopoulou, H., Gkintoni, E., & Aroutzidis, A. S. (2022). Neuromarketing as an indicator of cognitive consumer behavior in decision-making process of tourism destination—an overview. *Transcending Borders in Tourism Through Innovation and Cultural Heritage*, 679-697. https://doi.org/10.1007/978-3-030-92491-1_41
- [30] Halkiopoulou, C., Antonopoulou, H., Kostopoulos, N. (2023a). Integration of Blockchain Technology in Tourism Industry: Opportunities and Challenges. In: Katsoni, V. (eds) *Tourism, Travel, and Hospitality in a Smart and Sustainable World*. IACuDiT 2022. Springer Proceedings in Business and Economics. Springer, Cham. https://doi.org/10.1007/978-3-031-26829-8_22
- [31] Halkiopoulou, C., Gkintoni, E., & Antonopoulou, H. (2023b). Neuroeducation and Artistic Expression. An Overview from the Biopsychology Viewpoint. *Technium Education and Humanities*, 3(1), 38–49. <https://doi.org/10.47577/teh.v3i1.8235>

- [32] Halkiopoulos, C., Gkintoni, E., Antonopoulou, H., Skouroliakos, L. (2021a). Behavioral Analysis of Personality, Branding and Emotional State in e-Sports. *Technium Social Sciences Journal*, 24(1), 434–447. DOI: 10.47577/tssj.v24i1.4723
- [33] Judge, T. A., Heller, D., & Mount, M. K. (2002). Five-factor model of personality and job satisfaction: a meta-analysis. *Journal of applied psychology*, 87(3), 530.
- [34] Lan, J., Wong, C. S., & Zeng, G. (2021). Personality profiles for hospitality employees: Impact on job performance and satisfaction. *International Journal of Hospitality Management*, 98, 103018.
- [35] Mahlamäki, T., Rintamäki, T., & Rajah, E. (2019). The role of personality and motivation on key account manager job performance. *Industrial Marketing Management*, 83, 174-184.
- [36] Sageer, A., Rafat, S., & Agarwal, P. (2012). Identification of variables affecting employee satisfaction and their impact on the organization. *IOSR Journal of Business and Management*, 5(1), 32-39. <https://doi.org/10.9790/487x-0513239>
- [37] Salgado, J. F. (1997). The Five Factor Model of personality and job performance in the European Community. *Journal of Applied psychology*, 82(1), 30.
- [38] Shaw, A., & Choi, J. (2023). Get creative to get ahead? How personality contributes to creative performance and perceptions by supervisors at work. *Acta Psychologica*, 233, 103835.
- [39] Shiwen, L., & Ahn, J. (2023). Role of employee personality traits in job performance in the restaurant food franchise context. *International Journal of Hospitality Management*, 113, 103512.
- [40] Simonet, D. V., & Castille, C. M. (2020). The search for meaningful work: A network analysis of personality and the job characteristics model. *Personality and Individual Differences*, 152, 109569
- [41] Sortwell, A., Gkintoni, E., Zagarelli, S., Jemni, M., Granacher, U., Forte, P., Ferraz, R., Ramirez-Campillo, R., Carter, B., Konukman, F., Nhouri, A., Bentley, B., Marandi, P. (2023). Making Neuroscience a Key Priority in Initial Teacher Education Curricular: A Call for Bridging the Gap Between Research and Future Practices in Classroom. *Neuroscience Research Notes*. (In press)
- [42] Templer, K. J. (2018). Dark personality, job performance ratings, and the role of political skill: An indication of why toxic people may get ahead at work. *Personality and Individual Differences*, 124, 209-214.
- [43] Tisu, L., Lupşa, D., Vîrgă, D., & Rusu, A. (2020). Personality characteristics, job performance and mental health: the mediating role of work engagement. *Personality and Individual Differences*, 153, 109644.
- [44] Tzachrista, M., Gkintoni, E., Halkiopoulos, C. Neurocognitive Profile of Creativity in Improving Academic Performance. A Scoping Review. *Preprints 2023*, 2023071906. <https://doi.org/10.20944/preprints202307.1906.v1>
- [45] Udin, U. D. I. N., & YUNIAWAN, A. (2020). Psychological capital, personality traits of big-five, organizational citizenship behavior, and task performance: Testing their relationships. *The Journal of Asian Finance, Economics and Business (JAFEB)*, 7(9), 781-790.
- [46] Wei, Z., Li, C. J., Li, F., & Chen, T. (2021). How proactive personality affects psychological strain and job performance: the moderating role of leader–member exchange. *Personality and Individual Differences*, 179, 110910.
- [47] Yang, C. and Hwang, M. I. (2014). Personality traits and simultaneous reciprocal influences between job performance and job satisfaction. *Chinese Management Studies*, 8(1), 6-26. <https://doi.org/10.1108/cms-09-2011-0079>
- [48] Zeigler-Hill, V., Besser, A., Vrabel, J., & Noser, A. E. (2015). Would you like fries with that? The roles of servers' personality traits and job performance in the tipping behavior of customers. *Journal of Research in Personality*, 57, 110-118.