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Influence of Personality Traits on Creativity and Innovative Work Behavior of Employees

Abstract

In recent times, creativity and innovation have emerged as a captivating theme for many researchers. However, the influence of personality traits on creativity and innovative work behavior remains insufficiently explored. The aim of this study is to examine how personality traits influence the creativity and innovative work behavior of employees in private companies in Vietnam. Data were collected through a survey of 261 employees. The research hypotheses were tested using structural equation modeling (SEM) with SPSS and AMOS 20 software. The results show that openness to experience, extraversion, and conscientiousness have a direct positive impact on creativity and an indirect effect on innovative work behavior through the mediating role of individual creativity. Among these, openness to experience is the most influential factor affecting creativity ($\beta_{\text{standardized}} = 0.418$), followed by extraversion ($\beta_{\text{standardized}} = 0.229$), and finally conscientiousness ($\beta_{\text{standardized}} = 0.169$). Creativity positively affects innovative work behavior ($\beta_{\text{standardized}} = 0.563$). The relationship between neuroticism, agreeableness, and creativity is not supported. This study has made a significant theoretical contribution by supplementing evidence on the relationship between personality traits, creative potential, and innovative work behavior. Additionally, it offers practical implications for fostering creative activities and innovative work behavior in private companies in Vietnam.

INTRODUCTION

Increasing the competitiveness of an organization is closely tied to employee creativity and innovation. Therefore, creativity and innovation play a crucial role in helping businesses generate and sustain competitive advantages (Anderson et al., 2014; Liu et al., 2016; Hughes et al., 2018). Organizational innovation originates from the innovative capabilities of individuals. Yesil and Sozbilir (2013) posit that the innovation potential of employees is a crucial avenue for fostering organizational innovation. Promoting employee creativity and innovative work behavior is a topic of interest for both managers and researchers, who have focused on exploring factors related to the work environment, individual characteristics, and job-related factors.

The category of individual factors is crucial for fostering creativity and innovative work behavior among employees. Within this category, the personality traits of individuals are considered important. The Big Five personality trait model, as delineated by Goldberg (1990), has been widely employed in previous research to enhance one’s comprehension of the personality structure. The impact of personality traits on creativity and innovation still yields many conflicting results (Jirásek & Sudzina, 2020).
The inconsistency in research results necessitates additional studies in diverse contexts to provide a more comprehensive understanding of these relationships. Yao and Li (2021) emphasize the need for further in-depth exploration of the relationship between personality and employees’ creative behavior in the workplace. Additionally, creativity and innovation are distinct concepts with some degree of overlap and are sometimes used interchangeably (Sarooghi et al., 2015). Therefore, from an academic perspective, it is essential to separate creativity and innovation for examination within the same research framework.

In Vietnam, the relationship between personality traits, creativity, and work innovation behavior has been addressed, but not comprehensively. Therefore, simultaneously considering the relationship between Big Five personality traits, creativity, and employees’ job innovation behavior within the same research framework is necessary.

1. LITERATURE REVIEW AND HYPOTHESES

There are several approaches to explaining creativity and innovation, particularly at the individual level. Some researchers argue that the creativity and innovative work behavior of employees depend on their personality traits. The five-factor model of personality, commonly known as the Big Five (Goldberg, 1990), is a model frequently employed to comprehend the mechanisms underlying personality structure. Zare and Flinchbaugh (2019) emphasize that an increasing number of studies utilize the Big Five model to predict behaviors across various cultural contexts. These five personality traits include openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. They affect individual creativity, although the degree and outcomes of this influence may vary. Yesil and Sozbilir (2013), Chen (2011), Chang et al. (2011), Bakker et al. (2006), Judge et al. (2002), Kumar and Bakhshi (2010), and Matzler et al. (2011) have delved into the personality traits of individuals. Employee personality is a potent factor that significantly influences attitudes, behaviors, job performance, creativity, and innovative work behavior (Matzler et al., 2011; Sawyerr et al., 2009; Patterson et al., 2009; Yesil & Sozbilir, 2013; Puryear et al., 2017; Zare & Flinchbaugh, 2019; Jirásek & Sudzina, 2020).

The relationship between creativity and innovation is considered quite complex (Anderson et al., 2014; Jirásek & Sudzina, 2020). Sarooghi et al. (2015) argue that there are diverse perspectives on the relationship between innovation and creativity. To explain this relationship, Sarooghi et al. (2015) employed the “ambidexterity” theoretical perspective by O’Reilly and Tushman (2004). Ambidexterity refers to concurrently pursuing both exploration and exploitation activities through loosely coupled and distinct units or individuals, each specializing in exploration or exploitation (Gupta et al., 2006; Frogeri et al., 2022). Creativity is seen as the initial phase of innovation, where creativity involves proposing ideas, and innovation involves putting those ideas into practice (Zhou & Shalley, 2003; Anderson et al., 2014). Building on the dual-process theoretical perspective, Bledow et al. (2009) argued that idea generation and implementation are distinct domains. Following this approach, Sarooghi et al. (2015) identified a robust positive correlation between creativity and innovation, especially when examined at the individual level.

The relationship between Big Five personality traits and employees’ creative ability has been examined by Zare and Flinchbaugh (2019) and Yesil and Sozbilir (2013). Individuals with extroverted personality traits are often characterized by sociability, enthusiasm, energy, liveliness, and eagerness. They tend to be talkative, bold, comfortable expressing their opinions, proactive, socially confident, actively seek social interaction opportunities, exhibit self-confidence, and strive for achievement (Avery, 2003; Taggar, 2002; Raja & Johns, 2010; Sung & Choi, 2009; Zare & Flinchbaugh, 2019). Extroversion has been identified as a positive predictor of creative abilities (Patterson, 2002; Batey & Furnham, 2006; Yesil & Sozbilir, 2013). The consistent findings of numerous prior studies strongly support this positive relationship.
Individuals with conscientious personality traits are responsible, organized, persistent, reliable, and achievement-oriented (Zare & Flinchbaugh, 2019). Kumar and Bakhshi (2010) also suggest that conscientiousness is indicative of a robust sense of purpose, self-discipline, responsibility, obligation, and perseverance, resulting in diligent work. Employees with these characteristics are more likely to seek control (Avery, 2003). Rothmann and Coetzer (2003), Karwowski et al. (2013), and Silvia et al. (2014) consistently demonstrate that conscientiousness positively influences individual creativity.

People with a high level of openness to experience tend to seek new experiences and explore novel ideas (Zhao & Seibert, 2006). Bakker et al. (2006) assert that openness to experience is associated with intelligence and curiosity. Such individuals reflect a more flexible approach, richer imagination, and greater intellectual curiosity in situations characterized by complexity (Bakker et al., 2006; Yesil & Sozbilir, 2013). Jirásek and Sudzina (2020) indicate that the majority of studies support a positive relationship between individuals with openness to experience and personal creativity.

Agreeableness is manifested in certain types of behavior, such as empathy, cooperation, altruism, and concern (Zare & Flinchbaugh, 2019). Individuals with agreeable personality traits tend to avoid conflict, making them more willing to comply with the opinions of others. Individuals with this personality type often speak less, prioritize the concerns of others over expressing their own views, and avoid personal conflicts (Sung & Choi, 2009; Zare & Flinchbaugh, 2019). They tend to focus on the quality of relationships with others based on principles of trust and mutual assistance (Asif et al., 2015). Individuals with high agreeableness may face difficulties in expressing innovative and creative ideas, as doing so might lead to conflict or run counter to the existing reality (Sung & Choi, 2009; Zare & Flinchbaugh, 2019).

Anxiety, irritability, impulsivity, and moodiness are characteristics associated with individuals experiencing neuroticism (Goldberg, 1990). Neuroticism reflects the variability in individuals’ ability to regulate and stabilize emotions (Zhao & Seibert, 2006). People with a high level of neuroticism often exhibit lower self-esteem, diminished confidence, and vulnerability to stress-inducing situations (Bontempo & Napier, 2011). Such individuals tend to be anxious due to their limited emotional regulation capabilities, experiencing distress, showing avoidance tendencies, and speaking less frequently (Zare & Flinchbaugh, 2019). Some researchers use the concept of emotional instability as a substitute for the neuroticism trait, as evidenced by Sung and Choi (2009). This personality trait shows fewer associations with creativity. Karwowski et al. (2013) found a negative relationship between this personality trait and individual creativity.

Creativity involves generating novel and valuable ideas related to products, services, policies, and management (Amabile, 1988; Woodman et al., 1993; Zhou & George, 2001). Innovation is the successful implementation of creative ideas into practice (Amabile, 1996). Sarooghi et al. (2015) argue that creativity involves generating new and useful ideas, while innovation requires applying these ideas to new products and processes. Therefore, creativity is seen as the initial stage of innovation.

Innovative work behavior is intentional creativity, introducing and applying new ideas in work tasks (Janssen, 2000). De Jong and den Hartog (2007) state that innovative work behavior involves exploring opportunities, generating new ideas, and including behaviors aimed at implementing changes, applying new knowledge, or enhancing processes to improve individual capabilities or organizational performance. The comprehensive findings of Sarooghi et al. (2015) demonstrate a strong positive relationship between creativity and innovative work behavior, which is more pronounced at the individual level.

In summary, the overall results indicate that the relationship between personality traits and creativity remains inconsistent. Most studies have found a positive relationship between personality traits and individual creativity. Additionally, the relationship between creativity and innovative work behavior is positively supported across many studies.

Therefore, the aim of this study is to examine how the personality traits influence creativity and innovative work behavior of employees in private companies in Vietnam. Based on this rationale, the study proposes the following hypotheses:
H1: Extroversion positively affects employee creativity.

H2: Conscientiousness positively affects employee creativity.

H3: Openness to experience positively affects employee creativity.

H4: Agreeableness negatively affects employee creativity.

H5: Neuroticism negatively affects employee creativity.

H6: Creativity positively affects innovative work behavior.

Figure 1 shows a proposed research model.

2. METHODOLOGY

The scales used in this study were inherited from Goldberg (1992), Sung and Choi (2009), Ma Prieto and Pilar Pérez-Santana (2014), and Soda et al. (2019). The study utilized questions from the existing scales, which were then adjusted based on the specific context of the study through qualitative research. Specifically, the Big Five scale consisting of five personality traits (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism) comprises 22 observed variables inherited and adjusted from Goldberg (1992) and Sung and Choi (2009).

The extraversion scale is measured by four items: (EN1) talkative, (EN2) assertive, (EN3) energetic, and (EN4) active. The agreeableness scale includes five items: (AG1) agreeable, (AG2) kind, (AG3) cooperative, (AG4) sympathetic, and (AG5) warm. The conscientiousness scale is measured through four items: (CN1) organized, (CN2) efficient, (CN3) careful, and (CN4) conscientious. The neuroticism scale is assessed through four items: (NE1) anxious, (NE2) emotional, (NE3) irritable, and (NE4) nervous. The openness to experience scale comprises five items: (OE1) intellectual, (OE2) creative, (OE3) imaginative, (OE4) bright, and (OE5) innovative.

The creativity scale includes four observed variables inherited from Soda et al. (2019): (CR1) new ideas to improve the department’s performance, (CR2) new ways of optimizing processes and routines, (CR3) new ways to increase quality, and (CR4) creative solutions to emerging problems. The scale for innovative work behavior follows Ma Prieto and Pilar Pérez-Santana (2014): (IWB1) try to solve problems in different ways, (IWB2) search for new working methods, (IWB3) innovative and creative behaviors, (IWB4) take the risk of being innovative and creative, and (IWB5) anticipate problems and opportunities. The questions were rated on a 5-point Likert scale from 1, Strongly Disagree, to 5, Strongly Agree.
This study sampled 261 employees of private companies in Vietnam through a convenience sampling method. To achieve this sample size, the study distributed 300 survey forms, then collected and screened them, eliminating those that did not meet the requirements. The survey participants were selected from employees working in private organizations as innovative and creative activities are more distinct in private organizations compared to those in the public sector.

SPSS and AMOS 20 software were employed for data analysis. Analytical techniques included testing the reliability of the scales using Cronbach’s alpha reliability coefficient, exploratory factor analysis, confirmatory factor analysis, and hypotheses testing through structural equation modeling (SEM).

3. RESULTS

The sample consisted of 46.4% males and 53.6% females. The majority of the participants were aged between 26 and 35, accounting for 65.2% (Table 1).

Table 1. Description of the research sample

<table>
<thead>
<tr>
<th>Classification</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>46.4%</td>
</tr>
<tr>
<td>Female</td>
<td>53.6%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>20-25 years</td>
<td>9.6%</td>
</tr>
<tr>
<td>26-30 years</td>
<td>26.1%</td>
</tr>
<tr>
<td>31-35 years</td>
<td>39.1%</td>
</tr>
<tr>
<td>36-40 years</td>
<td>17.6%</td>
</tr>
<tr>
<td>Over 40 years</td>
<td>7.7%</td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
</tr>
<tr>
<td>Below Undergraduate</td>
<td>7.3%</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>75.1%</td>
</tr>
<tr>
<td>Above Undergraduate</td>
<td>17.6%</td>
</tr>
</tbody>
</table>

Cronbach’s alpha coefficient was employed to assess the reliability of the measurement scales. The results (Table 2) indicated that all measurement scales achieved satisfactory reliability according to the standards set by Hair et al. (2014).

Table 2. Reliability of measurement scales

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraversion</td>
<td>0.889</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>0.812</td>
</tr>
<tr>
<td>Openness to Experience</td>
<td>0.929</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>0.865</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>0.843</td>
</tr>
<tr>
<td>Creativity</td>
<td>0.865</td>
</tr>
<tr>
<td>Innovative Work Behavior</td>
<td>0.851</td>
</tr>
</tbody>
</table>

After achieving satisfactory reliability for all measurement scales, an exploratory factor analysis was conducted. The results revealed that extraction with seven factors showed a KMO coefficient of 0.901 and explained the variance with 71.83%. In the reliability testing and exploratory factor analysis step, variable IWB5 was eliminated due to its lack of discriminant validity. After removing variable IWB5, the criteria (convergence value and discriminant value), according to Hair et al. (2014), for the test were met.

To assess the measurement model, the study performed a confirmatory factor analysis. The results indicated a high level of fit for the measurement model, with indices meeting the requirements according to the standards proposed by Hair et al. (2014). Specifically, the values were (Figure 2): CMIN/df = 1.551; P-value = 0.000; CFI = 0.953; TLI = 0.947; RMSEA = 0.046.

To evaluate the fit of the structural model and test the research hypotheses, a linear structural equation model was utilized. The results of the structural model analysis showed the indices: CMIN/df = 2.253; P-value = 0.000; CFI = 0.89; TLI = 0.88; RMSEA = 0.069. Although these indices are slightly lower than the recommended 0.9, they are still within an acceptable range. Additionally, all composite reliability (CR) indices were greater than 0.8, and the average variance extracted (AVE) coefficients were all above 0.5.

Therefore, comparing with the standards proposed by Hair et al. (2014) indicates that the structural model is appropriate. Next, the hypotheses testing results reveal that out of the five personality traits, three traits significantly influence employee creativity. Specifically, H1 (the influence of extraversion on creativity (β = 0.170; Sig. = 0.000)), H2 (the influence of conscientiousness on creativity (β = 0.139; Sig. = 0.013)), and H3 (the influence of openness to experience on creativity (β = 0.259; Sig. = 0.000)) are accepted. At the same time, H4 (the influence of agreeableness on creativity (β = 0.084; Sig. = 0.146)) and H5 (the influence of neuroticism on creativity (β = 0.054; Sig. = 0.327)) are rejected.

Additionally, H6 (the influence of creativity on job innovation behavior (β = 0.878; Sig. = 0.000) is supported. Extraversion (βstandardized = 0.129;
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Sig. = 0.017), conscientiousness (β<sub>standardized</sub> = 0.095; Sig. = 0.037), and openness to experience (β<sub>standardized</sub> = 0.235; Sig. = 0.002) indirectly influence innovation through the mediating role of creativity. The testing results are presented in Table 3.

Table 3. Hypotheses testing results

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Coefficient</th>
<th>P-value</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN → CR</td>
<td>0.170</td>
<td>0.000</td>
<td>Accept</td>
</tr>
<tr>
<td>CN → CR</td>
<td>0.139</td>
<td>0.013</td>
<td>Accept</td>
</tr>
<tr>
<td>OE → CR</td>
<td>0.299</td>
<td>0.000</td>
<td>Accept</td>
</tr>
<tr>
<td>NE → CR</td>
<td>0.054</td>
<td>0.327</td>
<td>Reject</td>
</tr>
<tr>
<td>AG → CR</td>
<td>0.084</td>
<td>0.146</td>
<td>Reject</td>
</tr>
<tr>
<td>CR → IWB</td>
<td>0.878</td>
<td>0.000</td>
<td>Accept</td>
</tr>
</tbody>
</table>

Note: EN = Extraversion; CN = Conscientiousness; OE = Openness to Experience; AG = Agreeableness; NE = Neuroticism; CR = Creativity; IWB = Innovative Work Behavior. ** Significance level 1%; * Significance level 5%.

Figure 2. Structural model results

Note: EN = Extraversion; CN = Conscientiousness; OE = Openness to Experience; AG = Agreeableness; NE = Neuroticism; CR = Creativity; IWB = Innovative Work Behavior.

4. DISCUSSION

The results of this study indicate that three personality traits influence creativity, namely extraversion, openness to experience, and conscientiousness. Among these, openness to experience has the most positive and strong impact on creativity (β<sub>standardized</sub> = 0.418, Sig. = 0.000). This finding aligns with Silvia et al. (2014), Furnham et al. (2013), and Karwowski et al. (2013). Zaremohzzabieh and Mohd Rasdi (2023) also found a positive relationship between openness and creativity. They suggest that the influence of openness on creativity is the strongest among personality traits. Jirásek and Sudzina (2020) emphasize that among the five personality traits, openness to experience is confirmed to have the strongest impact on employee creativity.

Personality traits, especially openness to experience, play a significant role in influencing creativity (β<sub>standardized</sub> = 0.418, Sig. = 0.000). Jirásek and Sudzina (2020) reported a positive relationship between extroversion and creativity, although the effect was statistically significant but relatively weaker compared to openness to experience. Zare and Flinchbaugh (2019) also concluded that extroversion positively influences creativity, following the influence of openness to experience. This result is consistent with Sung and Choi (2009), Batey et al. (2010), Furnham et al. (2013), and Karwowski et al. (2013).

Conscientiousness positively influences creativity but to a lesser extent (β<sub>standardized</sub> = 0.169, Sig. = 0.013). Previous studies have shown mixed results regarding the relationship between conscientiousness and creativity. Some studies support a positive relationship, such as Silvia et al. (2014) and Karwowski et al. (2013), while Zare and Flinchbaugh (2019) found a weaker positive relationship compared to openness and extroversion.

Among the five personality traits, two types of traits, agreeableness (β<sub>standardized</sub> = 0.084, Sig. = 0.146) and neuroticism (β<sub>standardized</sub> = 0.054, Sig. = 0.327), do not significantly influence creativity. Previous studies have also yielded inconsistent
results regarding the relationship between these traits and creativity. Specifically, Kaufman and Beghetto (2013) reported that agreeableness positively influences creativity, while Sung and Choi (2009), Silvia et al. (2014), Stock et al. (2016), Kaspi-Baruch (2019), Zare and Flinchbaugh (2019), and Jirásek and Sudzina (2020) concluded that this influence is not statistically significant. Similarly, the positive impact of neuroticism on creativity, reported by Sung and Choi (2009), was found not statistically significant by Zare and Flinchbaugh (2019) and Jirásek and Sudzina (2020). Thus, the findings of this study align with Zare and Flinchbaugh (2019) and Jirásek and Sudzina (2020) that the impact of agreeableness and neuroticism on creativity is not statistically significant.

This study extends the positive relationship between creativity and innovative work behavior. The results strongly support this relationship ($\beta_{standardized} = 0.878, \text{Sig.} = 0.000$). At the individual level, Sarooghi et al. (2015) identified a strong positive correlation between creativity and innovation, and this finding reaffirms that relationship. Furthermore, three personality traits, namely extraversion, conscientiousness, and openness to experience, directly influence creativity and indirectly influence innovative work behavior through the mediating role of creativity.

This study has several inherent limitations. The convenience sampling method was employed, potentially affecting the overall reliability of the study. Future research could utilize different sampling methods, such as probability sampling, to enhance the reliability of findings. Next, the study exclusively focused on employees in private companies, limiting the generalizability of the results to other types of organizations. To achieve a more comprehensive understanding, future research could extend its scope to various company structures for thorough comparison and analysis. Finally, the relationship between personality traits, such as agreeableness, neuroticism, and individual creativity, remains complex. Therefore, this relationship needs to be further explored in various contexts to gain a deeper understanding. The study concentrated solely on personality factors to examine their influence on creativity and innovation. Given that creativity and innovation are influenced by multifaceted factors, further research should explore additional dimensions to gain a comprehensive insight into the creativity and innovative work behavior of employees.

**CONCLUSION**

The objective of this study was to examine the influence of five personality traits on creativity and innovative work behavior among employees in private organizations. The analysis indicates that three personality traits positively affect creativity: extraversion, openness to experience, and conscientiousness. Subsequently, creativity positively influences innovative work behavior. The tests of the mediating effects reveal that creativity plays an intermediary role between extraversion, openness to experience, conscientiousness, and the innovative work behavior of employees.

This paper makes several significant theoretical contributions. Extraversion and openness to experience positively influence employee creativity in private organizations. The findings supplement theoretical evidence on the relationship between extraversion and openness to experience with creativity at the individual level. Additionally, conscientiousness was found to have a positive relationship with creativity. Although this trait yielded inconsistent results in previous studies, this paper demonstrates a positive trend in line with the conscientious nature attributed to Vietnamese employees. Vietnamese individuals are believed to possess traits of diligence, perseverance, and dedication to their work. When they work with dedication, the likelihood of receiving support from colleagues and managers increases, thereby enhancing their creative capabilities.

Based on the analysis of the influence of personality traits on creativity and innovative work behavior of employees, the study proposes several practical implications. Personality traits have a clear positive influence on creativity. Therefore, organizations aiming to enhance employees’ creativity should focus on
these personality traits during recruitment or create an environment that allows employees to have optimal experiences in their work. The study emphasizes that conscientiousness remains a significant personality trait in promoting creativity and subsequently leading to innovative work behavior. Creativity is considered the initial stage of innovation, and individual creativity plays a crucial role in promoting organizational innovation. Individual creativity can lead to employees’ innovative work behavior, thereby contributing to organizational innovation. Hence, attracting and encouraging individuals in the organization to generate creative ideas and transform them into innovative activities is deemed essential. Personality traits not only directly affect creativity but also indirectly influence innovative work behavior. Therefore, to promote both creativity and innovation, openness, extraversion, and conscientiousness should be considered in workforce planning and selection processes.

**AUTHOR CONTRIBUTIONS**

Conceptualization: Nguyen Kim Nam.
Data curation: Nguyen Kim Nam.
Formal analysis: Nguyen Kim Nam.
Investigation: Nguyen Kim Nam, Nguyen Thi Hang Nga.
Methodology: Nguyen Kim Nam.
Resources: Nguyen Kim Nam, Nguyen Thi Hang Nga.
Software: Nguyen Thi Hang Nga.
Supervision: Nguyen Thi Hang Nga.
Visualization: Nguyen Kim Nam, Nguyen Thi Hang Nga.
Writing – original draft: Nguyen Kim Nam.
Writing – review & editing: Nguyen Thi Hang Nga.

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