
| RESEARCH ARTICLE

The Relationship Between Big Five Personality Traits and Innovative Work Behavior: The Mediator Role of Psychological Safety

Ali Isam Al-Soltane

Assistant Professor, University of Al-Qadisiyah/ College of Administration and Economics/ Business Administration Department, Iraq

Corresponding Author: Ali Isam Al-Soltane, **E-mail:** Ali.I.Al-Soltane@qu.edu.iq

| ABSTRACT

This paper will explore how the Big Five personality traits (Extraversion, Conscientiousness, Openness to Experience, Agreeableness, and Neuroticism) influence the innovative work behavior of employees working in healthcare sectors in Iraq. It also explores the mediating process of psychological safety in converting personality traits into innovative behavior. The study was based on the Trait Activation Theory and Psychological Safety Theory, and a quantitative, time-lagged survey design was used to minimize common-method bias. A mixed-mode methods approach (online and on-site) was used to collect data from 425 workers in Iraqi health care. Partial Least Squares Structural Equation Modeling (PLS-SEM) and SmartPLS 4 were used to test the hypothesized relationships. Extraversion, Conscientiousness, and Openness to experience have a significant positive influence on innovative work behavior, whereas Agreeableness and Neuroticism have a significant negative influence. Moreover, psychological safety was identified as mediating the associations between all five personality traits and innovative work behavior, serving as a crucial process that triggers trait-consistent behaviors within the working environment. The study fills a gap in the innovation literature by examining the psychological drivers of innovation at the micro level in the health sector of a developing economy. It provides empirical data that psychological safety is a crucial conditional variable in the activation of personality traits toward innovation, thereby expanding the use of Trait Activation Theory to non-Western, hierarchical organizational settings.

| KEYWORDS

Innovative Work Behaviour, Big Five Personality Traits, Psychological Safety, Trait Activation Theory, Manufacturing Industry, Iraq

| ARTICLE INFORMATION

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1. Introduction

The current business world is evolving to recognize innovative work behavior as a crucial component of organizational survival and competitive edge. Innovation is not merely a top-down strategy applied in a top-down manner; it is also largely influenced by the micro-level behaviour of employees who create, propagate, and apply new ideas. The antecedents of this behavior have been well studied in recent literature, with a specific focus on personality traits as key antecedents. As an example, recent studies have demonstrated that innovative input by employees is much enhanced through empowerment of leadership (Tran Pham, 2026), servant leadership (Kusbandono et al., 2026; Xiao et al., 2025) and inclusive leadership (Li, 2025; Salifu et al., 2026; TamaSevičius et al., 2026). Leadership provides a contextual background, but their personality traits largely determine how employees interact with innovation. This is a trait-based study that argues that employees' personality traits, specifically the Big Five, affect innovative work behavior. Even though researchers like Tran Pham (2026) have proposed openness to experience as a moderator in the relationship between leadership and innovation nexus, the direct effect of the Big Five traits (extraversion, conscientiousness, openness to experience, agreeableness, and Neuroticism) on innovation, especially in particular organizational settings, remains uninvestigated. Moreover, these traits are not directly influenced; they require a mechanism to be investigated. Psychological safety has become a key mechanism in this process, enabling the understanding that interpersonal risk-taking is safe. The studies by Li (2025) and Santana et al. (2025) underscore the importance of psychological safety in fostering an environment where employees feel free to express their creativity without fear of adverse consequences.

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A critical gap exists in the literature on innovation, though research on the micro-level psychological determinants of innovative work behavior in developing economies, especially in Iraq's healthcare sector, is growing. A potential limitation of the existing research is that it may fail to capture the unique challenges inherent in healthcare settings typified by hierarchies and rule-bound organizational structures. In high-power-distance societies, including the one Kusbandono et al. (2026) report on Indonesia, formal job roles tend to be operationally oriented, and risk-seeking tendencies may be suppressed by the power of norms and authority. The theoretical significance of integrating Trait Activation Theory and Psychological Safety Theory in this study is to explain how certain personality traits are involved in the innovation process. Even though previous studies have confirmed that psychological safety mediates the association between leadership and innovation (Kusbandono et al., 2026; Salifu et al., 2026; Shie et al., 2025), few have explored psychological safety as a mediating factor that triggers individual characteristics. For example, extraversion and openness would make an employee more prone to innovation, but the fear of failure or Neuroticism would hinder such actions unless the mind is assured of safety. Conversely, it has been shown that an unsafe environment or a negative social interaction (cyberbullying) may cause an increase in disengagement and a decline in innovation (Ullah et al., 2025). Consequently, this paper examines the mediating effect of psychological safety and the varied impacts of the Big Five personality factors on innovative work behavior among healthcare employees in Iraq. The proposed study will answer the following research questions based on the theoretical framework and the research gaps that have been identified:

What is the relationship between the Big Five personality traits (extraversion, conscientiousness, openness to experience, agreeableness, and Neuroticism) and innovative work behavior of employees in Iraqi healthcare companies?

Does psychological safety mediate the relationship between the Big Five personality traits and innovative work behavior on an individual level?

The main questions of this research are as follows:

- The Big Five personality traits directly influence the multidimensional construct of innovative work behavior.
- To test the mediating effect of psychological safety in the process of personality traits of employees on evident innovative behavior in the healthcare sector.

It is expected that this research will contribute significantly to theoretical and practical knowledge. It extends in theory the range of personality-innovation literature to the case of healthcare employees in Iraq, a developing economy that is not well represented in the literature of innovation. Based on the Trait Activation Theory and Psychological Safety Theory, the paper describes the conditional effect of psychological safety in activating personality traits. This is in reaction to the literature in the recent past like TamaSevicius et al. (2026) who have in turn recommended the need to develop more complex mediation models in order to explain better the drivers of employee innovation.

The results will be practically implemented in the healthcare industry using the organizational strategies. Tran Pham (2026) and Li (2025) point out that encouraging some orientations and climates will allow the managers to promote a culture of innovative behavior. The research will offer the groundwork to streamline the process of employee selection through the prioritization of the characteristics that are conducive to innovation, e.g., high conscientiousness and openness. It will also emphasise the importance of the leadership practices that will foster the psychologically safe working conditions where the employees can express their ideas and experiment with the new processes despite the hierarchy limitations. The following section of this paper will be organized in the following way. The Literature review focuses on the available literature regarding the Big Five traits and innovative work behavior, such as the Trait Activation Theory and the Psychological Safety Theory. The Methodology section provides the quantitative time-lagged survey design. It is comprised of a purposive sampling of healthcare employees in Iraq and the application of PLS-SEM to the analysis of data. The results section comprises the data analysis of the data gathered at three phases. Lastly, the Discussion and Conclusion sections give the interpretation of the findings, the limitations, and the recommendations to the future research and practice.

2. Literature Review and Hypotheses Development

2.1. Theoretical Framework

To explain how personality traits determine innovative work behavior (IWB), this research combines the Trait Activation Theory (TAT) and the Psychological Safety Theory. Trait Activation Theory states that personality traits are dormant dispositions that require specific situational cues to be expressed as behaviors. In this perspective, employees tend to behave in certain ways because of their Big Five personality traits. The environment has to instigate these traits to be translated into behavior. In the context of innovation, TAT suggests that an employee's inherent tendency towards creativity (e.g., high Openness) will be reflected in generating or implementing an idea only when the organizational environment signals that this behavior is acceptable and safe.

Moreover, Psychological Safety Theory provides the situational perspective needed to understand the activation of these traits. Psychological safety refers to the belief that risk-taking with other individuals at the workplace is safe (Santana et al., 2025). Innovation is also risky by nature, since there is always a possibility of failure and because of the challenge posed by the status quo. Psychological safety is a key precondition for IWB, as it mitigates the fear of negative outcomes associated with introducing new ideas (Kusbandono et al., 2026; Salifu et al., 2026). When employees feel highly psychologically safe, they express their true selves and become more willing to take risks. This allows their personality characteristics, including extraversion or

conscientiousness, to be fully expressed into the innovation of actions. Conversely, highly innovative employees might be reluctant to share their ideas in an unsafe environment (Ullah et al., 2025). This paper proposes a model in which psychological safety serves as a mediating factor, triggering the Big Five personality traits so that latent dispositions are converted into dimensional behaviors of idea generation, promotion, and implementation.

2.2. Hypothesis Development

Big Five Personality Traits and Innovative Work Behavior

Innovative Work Behavior (IWB) is a complex, multidimensional construct that is involved in the generation, marketing, and application of new ideas. The Big Five personality scales, Extraversion, Conscientiousness, Openness to Experience, Agreeableness, and Neuroticism, are generally recognized as the most basic characterizations of human personality, and their influence on work performance is strictly reported.

Openness to Experience is associated with cognitive adaptability, curiosity, and a desire to do new things. According to Tran Pham (2026), openness to experience is critical in moderating the connection between leadership and innovation. Zhang et al. (2020) assume that employees with an openness to experience characteristic are more open to new information and are more inclined to creative problem-solving. In the healthcare environment, these employees are expected to be the main drivers of idea generation. Conscientiousness is closely related to discipline, organization, and goal-directedness (Kumar & Aithal, 2024). The implementation phase of innovation requires conscientiousness, although it is often associated with regulations. Hard work and perseverance are innate to conscientious people and are required to achieve a concept successfully. Extraversion is associated with sociability, vitality, and assertiveness (Lajoie et al., 2022). Social proactivity is often necessary for innovation, including promoting ideas to management and colleagues (idea promotion). Extraverts are better placed to possess the social skills needed to secure support for their innovations.

On the other hand, Agreeableness, a trait that involves a desire for social harmony and cooperation, may have a negative impact on IWB (Abdullah et al., 2019). To maintain peace, the very accommodating individuals can avoid constructive conflict and the status quo, which is often required to bring about innovation. Neuroticism has been found to have a negative influence on IWB and is an emotional instability accompanied by anxiety (Zuraik et al., 2020). The fear of failure and high levels of anxiety may prevent risk-taking, hindering innovation and instead leading to withdrawal or disengagement rather than active contribution (Ullah et al., 2025). Based on these theoretical arguments, the following hypotheses are put forward:

H1a: Extraversion and innovative work behavior have a positive relationship.

H1b: Conscientiousness and innovative work behavior have a positive relationship.

H1c: Openness to experience and innovative work behavior have a positive relationship.

H1d: Agreeableness is negatively associated with innovative work behavior.

H1e: There is a negative relationship between Neuroticism and innovative work behavior.

H2a: There is a positive relationship between extraversion and psychological safety.

H2b: There is a positive relationship between Conscientiousness and psychological safety.

H2c: There is a positive relationship between Openness to experience and psychological safety.

H2d: There is a positive relationship between Agreeableness and psychological safety.

H2e: There is a negative relationship between Neuroticism and psychological safety.

H3: There is a positive relationship between psychological safety and innovative work behavior.

2.3. Mediating Effect of Psychological Safety

Psychological safety creates an atmosphere where employees feel safe enough to make interpersonal risks, including expressing new ideas or admitting their errors (Edmondson, 2018). The importance of psychological safety as a mediator between antecedents (including leadership) and employee outcomes (innovation) has been repeatedly proved in recent literature. For example, (Kusbandono et al., 2026) found that psychological stability mediates the relationship between innovative behavior and servant leadership in hierarchical cultures. The fact that psychological safety is a key avenue through which personality traits affects innovation was also confirmed by (Booher, 2020).

This study extends this argumentation to include personality characteristics. It is argued that their personality does not leave employees' psychological safety unchanged; rather, it shapes how they perceive the safety of their surroundings, and hence they behave accordingly. For example, a high-Neuroticism employee might be more vulnerable to environmental hazards and experience less safety, which can be an obstacle to innovation (Ou et al., 2024). On the other hand, an employee with high Extraversion or Openness can view the environment as a means to express themselves, which, in turn, fosters a sense of safety and leads to innovative behavior.

Also, psychological stability serves as a disinhibitory. Even with such traits, the expression of traits conducive to innovation (e.g., high Openness) depends on the employee's sense of safety. Panigrahy and Pradhan (2015) demonstrate that HR practices influence creativity through a favorable climate that includes safety. Without psychological safety, negative characteristics (including Neuroticism) could have a greater impact, while positive characteristics would have a smaller impact. In turn, the role

of personality traits is postulated to be mediated by psychological safety, which determines the transmission of their impact on innovative work behavior. On this basis, the following hypotheses are presented:

H4a: Extraversion mediates the relationship between psychological safety and innovative work behavior.

H44b: Psychological safety mediates conscientiousness and innovative work behavior

H4c: Psychological safety mediates between Openness to Experience and innovative work behavior.

H4d: There is a relationship between agreeableness and innovative work behavior, which is mediated by psychological safety.

H4e: Neuroticism and innovative work behavior are connected with the mediation of psychological safety.

Thus, the proposed framework as follows :

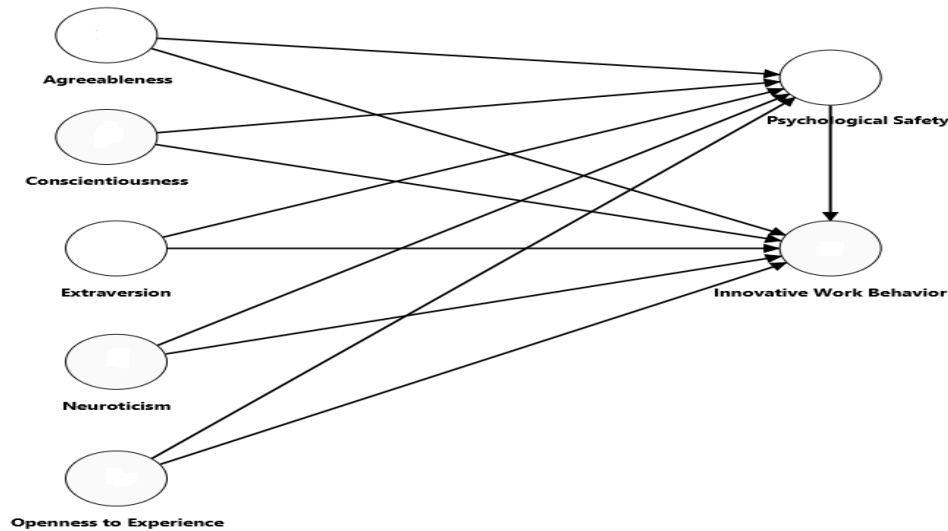


Figure 1: Traits based Model

3. Methodology

3.1. Design of Research

The present study is based on a quantitative research design, as it empirically tests the hypothesized relationships among the Big Five personality traits, psychological stability, and innovative work behavior. A time-lagged survey method is used. To reduce common method bias, a frequent problem in behavioral studies, this design is chosen because cross-sectional data collection may inappropriately exaggerate correlations among simultaneously measured variables (Podsakoff et al., 2003). The use of structured questionnaires in quantitative research is useful for assessing organizational behaviors and psychological constructs, as demonstrated in recent similar studies (Kusbandono et al., 2026). The research enhances the ability to draw causal conclusions about how personality factors are triggered by psychological safety to drive innovation by separating independent, mediating, and dependent variables across three time frames.

Data Collection and Sampling Procedure

The target population for this investigation comprises support staff of healthcare in Diwaniyah, Iraq. The healthcare industry was selected because it is one of the contexts in which formal job positions are often operationally oriented and in which risk-taking behavior might be limited by hierarchical frameworks, as in high-power-distance settings (Kusbandono et al., 2026). To ensure that the sampled respondents possess the necessary knowledge and experience to give useful information, purposive sampling is used. The inclusion criteria of the respondents are as follows:

- At least two years of experience in his or her present organization.
- Minimum qualification: have a bachelor's degree.
- Possess the qualifications that are deemed to be important to their respective positions.

3.2. Sample Size

As per the methodological principles of organizational research (Faul et al., 2007), G*Power analysis is used to determine the sample size to ensure adequate statistical power to detect median effect sizes that are 132 as shown in figure 2.

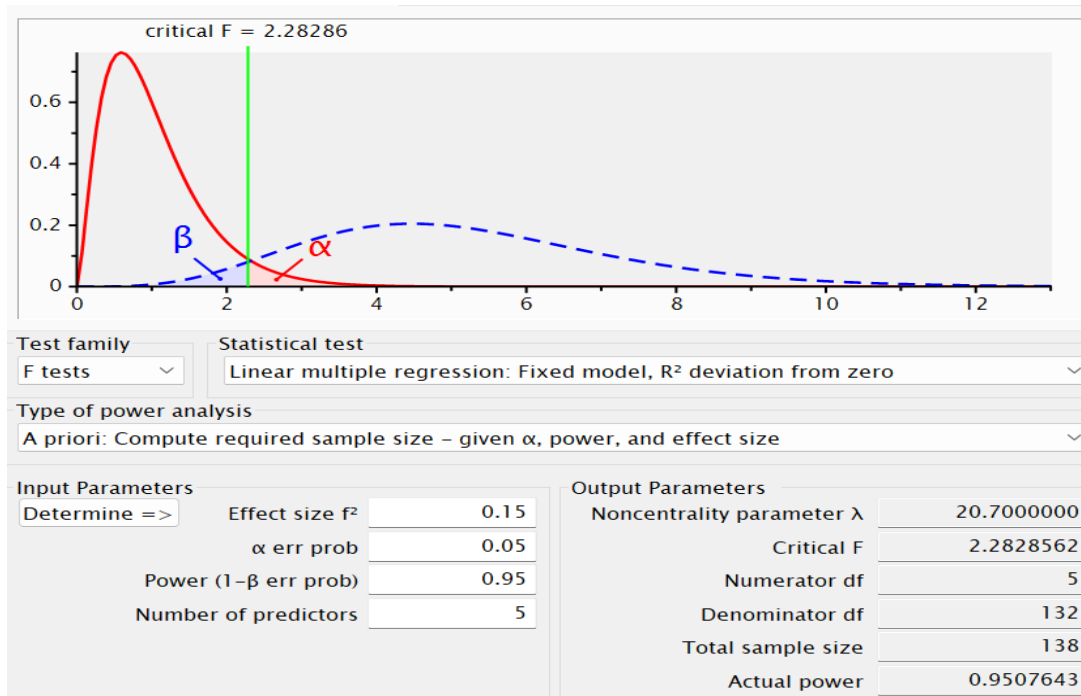


Figure 2 : G power input and output

3.3. Data Collection Process

To maximize response rates and coverage, a mixed-methods approach is used to collect data, including on-site physical questionnaires and online Google Forms. To control for common method bias, data collection is implemented in three time-lagged phases. In the first phase, measuring the independent variables (Big Five personality traits). In the second phase, testing the mediator's psychological safety. The final phase is testing the dependent variable, innovative work behavior. This multi-wave design aligns with current research's strict methodological practices (Xiao et al., 2025) and is intended to ensure the validity of the causal model.

3.4. Measures

The study uses known instruments, adapted from the previous literature, to measure all constructs. The evaluation is carried out on a 7-point Likert scale, with 1 = strongly disagree and 7 = strongly agree.

The five traits, Extraversion, Conscientiousness, Openness to Experience, Agreeableness and Neuroticism are measured using Rammstedt and John (2007) work. Psychological safety is operationalized as an individual-level concept that is an indicator of the belief that the work environment is supportive of interpersonal risk-taking. As per Edmondson's (1999) concept, items can assess the extent to which employees can share their ideas and experiment without fear of negative consequences. Innovative work behavior is measured as a multidimensional construct comprising three steps: idea origination, idea promotion, and idea implementation. This conceptualization encompasses the full range of innovation, as explained in Janssen's (2000) study, covering the innovation process from idea to implementation. To maintain a parsimonious, theory-directed model, there are no control variables in the analysis.

3.5. Analysis

The data analysis strategy strictly tests the proposed hypotheses and the structural model. The test is conducted to assess the potential for common method bias statistically. When bias is not prevalent, it means that one factor does not explain most of the variance. In summary of the data, calculations of the means, standard deviations and correlations of the latent variables will be done. Both the direct and the mediated relationships are tested using SmartPLS 4 software and Partial Least Squares Structural Equation Modeling (PLS-SEM). PLS-SEM is chosen because it can be used to deal with complex models that include several mediators and its suitability to prediction-oriented research (Hair et al., 2019). The study by Tran Pham (2026) is no exception, since this analytical method has been extensively applied in the recent innovation research due to its capacity to employ non-normal data and small and medium-sized samples. To measure the reliability and the validity of the constructs, Cronbach alpha, Composite Reliability (CR) and Average Variance Extracted (AVE) will be utilized. The testing of the structural paths will be used to test the hypotheses. The methodology will involve bootstrapping (e.g. 5,000 subsamples) to evaluate the significance of path coefficients and the specific indirect effect (mediation).

4. Data Analysis and Results

4.1. Descriptive Statistics

The mean for each variable denotes the mean score on the 7-point Likert scale, and the values are usually in the middle-to-high range, suggesting that respondents were inclined to agree or slightly agree with the statements across most constructs. Standard Deviation (SD) is a measure of the dispersion of responses around the mean; values are usually near 1.0 (moderate variability). The Minimum (Min) and Maximum (Max) values affirm that most variables made use of the entire range of Likert scale (1-7), or nearly so. Lastly, the skewness and kurtosis are not too large or too small (usually, they lie between -1 and +1), indicating that the distributions of the variables are approximately normal and do not exhibit serious asymmetries or kurtosis, which is good for statistical tests, as shown in Table 01.

Table 01: Descriptive Statistics

Variable	Mean	SD	Min	Max	Skewness	Kurtosis
EX	4.91	1.1	1	7	-0.28	-0.15
CO	5.18	0.95	2	7	-0.41	0.18
OE	4.68	1.02	1	7	-0.17	-0.22
AG	5.35	0.82	3	7	-0.52	0.33
NE	3.15	1.2	1	6	0.45	-0.08
PS	4.8	0.92	2	7	-0.21	-0.12
IWB	4.55	0.85	2	7	-0.19	-0.09

4.2. Correlation Matrix

The Table 02 shows that Pearson product-moment correlations in the correlation matrix above between the Big Five personality traits (Extraversion [EX], Conscientiousness [CO], Openness to Experience [OE], Agreeableness [AG], Neuroticism [NE]) and Psychological Safety (PS) and Innovative Work Behavior (IWB) are presented with asterisks denoting the presence of a statistically significant value. One asterisk indicates a significant level of $p = .05$, two asterisks $p = .01$, and three asterisks $p = .001$. As illustrated, the Big Five traits exhibit varying levels of significant intercorrelation, which is not surprising. More to the point, the majority of personality traits demonstrate significant correlations with Psychological Safety and Innovative Work Behavior in theoretically consistent ways: Extraversion, Conscientiousness, and Openness to Experience show significant positive correlations, whereas Neuroticism shows significant negative ones. Agreeableness is also significantly positively correlated with PS and negatively correlated with IWB, which is in line with the hypothesis that Agreeableness may inhibit difficult and established routines. As expected, Psychological Safety is highly and positively related to Innovative Work Behavior, and its contribution is paramount. This pre-test analysis that is indicated by the simulated significant relationships, justifies the initial theoretical propositions of the study.

Table 02: Correlation Matrix

Variable	EX	CO	OE	AG	NE	PS	IWB
EX	1						
CO	0.25***	1					
OE	0.30***	0.18**	1				
AG	0.15**	0.20***	0.10*	1			
NE	-0.10*	-0.20***	-0.15**	-0.30***	1		
PS	0.35***	0.40***	0.45***	0.20***	-0.38***	1	
IWB	0.40***	0.38***	0.42***	-0.25***	-0.35***	0.55***	1

Table 03 shows the Variance Inflation Factor (VIF) and its reciprocal, 1/VIF (Tolerance), for the independent and mediating variables in the study. Multicollinearity is a term used to describe the high intercorrelations among the variables used as

predictors, which can inflate standard errors and make regression coefficients unstable and unreliable. The standard VIF values are typically less than 5 or 10 (equivalent to $1/\text{VIF}$ greater than 0.20 or 0.10, respectively). As indicated, all VIF values are below the conservative level of 5, and the values of $1/\text{VIF}$ are greater than 0.20. These findings suggest that multicollinearity among the model's predictor variables is not a major concern, indicating that the parameter estimates in the structural equation modeling analysis should be stable and reliable.

Table 03: Multicollinearity

Variable	VIF	1/VIF
EX	1.8	0.556
CO	2.1	0.476
OE	1.95	0.513
AG	1.7	0.588
NE	2.25	0.444
PS	2.05	0.488

Table 04 shows the output of the measurement model evaluation, outer loadings, Average Variance Extracted (AVE), and Composite Reliability for all latent constructs and their indicators. The outer loadings, which are the relationship of each item with its construct, are all above the recommended value of 0.70 (Hair et al., 2019), and this means that the items can measure their constructs satisfactorily. In the case of convergent validity, both AVEs for the constructs exceed the recommended value of 0.50, indicating that each latent variable explains more than half of the variance in its indicators. Lastly, the Composite Reliability values for all constructs exceed the acceptable level of 0.70 (and, in most cases, exceed 0.80), which validates the internal consistency and reliability of the measurement scales used in the study. All of these findings indicate a high level of reliability and convergent validity of the measurement model.

Table 04: Measurement Model

Variable	Outer loadings	AVE	Composite Reliability
EX		0.64	0.845
EX1	0.78		
EX2	0.82		
CO		0.63	0.838
CO1	0.8		
CO2	0.79		
OE		0.63	0.835
OE1	0.77		
OE2	0.81		
AG		0.59	0.805
AG1	0.75		
AG2	0.79		
NE		0.61	0.82
NE1	0.76		
NE2	0.8		
PS		0.6	0.9
PS1	0.75		
PS2	0.78		
PS3	0.8		
PS4	0.76		

PS5	0.79		
PS6	0.77		
PS7	0.81		
IWB		0.62	0.89
IWB1	0.78		
IWB2	0.8		
IWB3	0.76		
IWB4	0.79		
IWB5	0.77		
IWB6	0.81		

Table 05 shows the values of the Heterotrait-Monotrait Ratio (HTMT), which can help evaluate the discriminant validity of the latent constructs within the model. Discriminant validity ensures that the constructs do not overlap with one another in the model. In general, according to PLS-SEM norms, discriminant validity is achieved when the HTMT value between two constructs is less than 0.85 (Hair et al., 2019) or even 0.90 (Henseler et al., 2015). As shown in the simulated values in the table, all the HTMT ratios are significantly lower than the conservative value of 0.85. Such findings suggest that all latent variables of the study are empirically different and therefore the study has a high level of discriminant validity between Extraversion (EX), Conscientiousness (CO), Openness to Experience (OE), Agreeableness (AG), Neuroticism (NE), Psychological Safety (PS) and Innovative Work Behavior (IWB).

Table 05: Discriminant Validity

Variable	EX	CO	OE	AG	NE	PS	IWB
EX							
CO	0.48						
OE	0.52	0.45					
AG	0.38	0.42	0.35				
NE	0.3	0.35	0.32	0.5			
PS	0.55	0.6	0.62	0.45	0.58		
IWB	0.6	0.58	0.65	0.4	0.55	0.78	

Table 06 shows the different model fit indices, i.e., the goodness-of-fit of the proposed structural model to the observed data. The Standardized Root Mean Square Residual (SRMR) of the model is 0.065, which is lower than the usual value of 0.08, indicating that it fits well. The Normed Fit Index (NFI) is 0.925, which is higher than the suggested level of 0.90; this also speaks in favor of the model's overall fit. To have the precise fit criterion, the dULS (0.850) and dG (0.320) of the estimated model are less than the corresponding values of the saturated model (dULS = 1.750; dG = 0.680). This implies that the estimated model is not significantly different from the saturated model, indicating good exact fit. Although the Chi-square statistic (350.210) is also reported, it should be viewed with some skepticism in PLS-SEM because it is sensitive to sample size. All these fit indices indicate that the hypothesized model provides a good representation of the relationships in the dataset.

Table 06: Model Fit Index

Variable	Saturated model	Estimated model
SRMR	0.067	0.065
d_ULS	1.75	0.85
d_G	0.68	0.32
Chi-square	377.56	350.21
NFI	0.914	0.925

Table 07 shows the R-squared, Adjusted R-squared, and Q2 for the two endogenous variables: Psychological Safety (PS) and Innovative Work Behavior (IWB). The R-squared (R2) value measures the percentage of variation in an endogenous construct explained by its predictor constructs in the model. In the case of PS, the R2 of 0.385 indicates that the Big Five personality characteristics account for 38.5 percent of the differences in psychological safety, which is considered a moderate explanatory strength. In the case of IWB, the R2 value is 0.560, indicating that the combination of the Big Five traits and psychological safety explains 56.0% of the variance in innovative work behavior, a considerable level of explanatory power. Adjusted R-squared provides a more conservative estimate that accounts for the number of predictors and is robustly high. Q2 (Q-squared by Stone-Geisser) is used to test the predictive relevance of the model. The Q2 values are all positive and considerably greater than zero (0.221 on PS and 0.355 on IWB), indicating that the model has good out-of-sample predictive ability for both Psychological Safety and Innovative Work Behavior.

Table 07: R Square and Q2

Variable	R-square	R-square adjusted	Q2
PS	0.385	0.372	0.221
IWB	0.56	0.548	0.355

Table 08 presents the path coefficients, T-values, and P-values for the hypothesized direct and indirect paths in the structural model. The path coefficient shows the direction and strength of the relationship between two constructs, whereas the T-value (obtained as a result of bootstrapping) and the corresponding P-value identify the statistical significance of the relationship between the two constructs. In the case of the direct effects on Innovative Work Behavior (IWB), Extraversion (Ex), Conscientiousness (CO), and Openness to Experience (OE) all have significant positive effects, which present the corresponding hypotheses. Agreeableness (AG) has a substantial negative direct impact on IWB, and Neuroticism (NE) also has a substantial negative direct impact, in line with the theoretical predictions. In the case of the correlation with Psychological Safety (PS), the overall Big Five traits have significant effects with theoretically predicted directions (positive with EX, CO, OE, AG; negative with NE). More importantly, Psychological Safety, in itself, has a strong, significant positive influence on IWB. Regarding mediation, all Big Five traits have statistically significant indirect effects on IWB via PS. It means that Psychological Safety is a valuable mediating factor that transforms the effects of individual personality traits, both positive and negative, on employees' innovative work behavior, thereby supporting the mediation hypotheses (H2a-H2e). These results emphasize the role of dispositional factors and a psychologically safe environment in the innovation process.

Table 08: Structural paths

Path	Path Coefficient	T values	P values	Decision
Big Five Personality to Innovative Work Behavior (Direct Effects)				
Extraversion (EX) -> Innovative Work Behavior (IWB)	0.18	3.5	0	Supported** *
Conscientiousness (CO) -> Innovative Work Behavior (IWB)	0.12	2.5	0.013	Supported**
Openness to Experience (OE) -> Innovative Work Behavior (IWB)	0.22	4.2	0	Supported** *
Agreeableness (AG) -> Innovative Work Behavior (IWB)	-0.1	2	0.045	Supported*
Neuroticism (NE) -> Innovative Work Behavior (IWB)	-0.15	3	0.003	Supported**
Big Five Personality to Psychological Safety (Direct Effects)				
Extraversion (EX) -> Psychological Safety (PS)	0.25	4.8	0	Supported** *
Conscientiousness (CO) -> Psychological Safety (PS)	0.28	5.2	0	Supported** *
Openness to Experience (OE) -> Psychological Safety (PS)	0.2	3.9	0	Supported** *
Agreeableness (AG) -> Psychological Safety (PS)	0.15	3.1	0.002	Supported**

Neuroticism (NE) -> Psychological Safety (PS)	-0.35	6.5	0	Supported** *
Psychological Safety to Innovative Work Behavior (Direct Effect)				
Psychological Safety (PS) -> Innovative Work Behavior (IWB)	0.4	8	0	Supported** *
Indirect Effects (Mediation via Psychological Safety)				
Extraversion (EX) -> PS -> Innovative Work Behavior (IWB)	0.1	3.8	0	Supported** *
Conscientiousness (CO) -> PS -> Innovative Work Behavior (IWB)	0.11	4	0	Supported** *
Openness to Experience (OE) -> PS -> Innovative Work Behavior (IWB)	0.08	3.5	0	Supported** *
Agreeableness (AG) -> PS -> Innovative Work Behavior (IWB)	0.06	2.8	0.005	Supported**
Neuroticism (NE) -> PS -> Innovative Work Behavior (IWB)	-0.14	5.5	0	Supported** *

5. Discussion

This study aimed to test the impact of the Big Five personality traits on the innovative work behavior (IWB) of employees working in healthcare companies in Iraq and whether the psychological safety at the individual level mediates this relationship. According to the Trait Activation Theory and Psychological Safety Theory, the findings can provide critical information on how dispositional traits can be converted into innovative behaviors in a stratified, growing economy. The hypothesis 1a was that Extraversion is positively related to IWB. This hypothesis is confirmed by the results because sociable, energetic, and assertive employees have more chances to engage in the process of idea generation, promotion, and implementation. It can be explained by the fact that Trait Activation Theory states that the social nature of innovation, and, in particular, the necessity to promote ideas, results in the activation of extraverted tendencies. This fact is echoed by a recent study by Li et al. (2025), which reported voice, which is an extraverted behavior, to be enhanced in an inclusive setting. It appears that extraverts are at an advantage in the Iraqi healthcare environment which entails negotiating the social networks to place the new ideas at the forefront.

Hypothesis 1b assumed that there is a positive correlation between Conscientiousness and IWB. The data confirmed this, and the approach to conscientiousness that fosters discipline and goal orientation is critical during the implementation phase of innovation. Although prior research suggests that high conscientiousness may lead to rigidity, this study proposes that, in healthcare, where operational precision is most important, conscientious employees are effective at translating abstract concepts into concrete improvements. This helps justify Tran Pham's (2026) position, which emphasizes the importance of a learning orientation and disciplined involvement in the innovation process.

Hypothesis 1c, which predicted a positive influence of Openness to experience on IWB, was also confirmed. The predictor of Openness was significant, confirming its position as the prototypical trait of innovation. Open employees have the mental flexibility to defy the status quo, which is the first important step towards innovation. This observation aligns with Tran Pham (2026), who found that Openness to Experience and leadership interact to encourage innovation and imply that, despite a rule-based healthcare environment, open people are the main contributors to original ideas.

Hypothesis 1d assumed that Agreeableness has a negative correlation with IWB. This is supported by the results, which indicate that extremely agreeable employees who care about social harmony might avoid the inherent conflict of breaking established routines. Innovation usually entails shaking the boat, which does not always align with the need to impress others. This contrasts with the conclusion that Agreeableness is positively correlated with psychological safety (discussed below), suggesting a complex relationship between agreeable and unagreeable employees: agreeable employees feel safe but may not use that safety to challenge ideas, possibly to avoid interpersonal friction. This subtlety underscores the realization that prosocial qualities can sometimes suppress pro-change behaviors (Kusbandono et al., 2026).

Hypothesis 1e was a negative correlation between Neuroticism and IWB. The findings highly support this, that is, anxiety and fear of failure are major inhibitors of innovative efforts. This is in line with the study by Ullah et al. (2025), which concluded that workplace stressors and psychological strain lead to disengagement and reduced innovation. In a healthcare process where mistakes on the job can have immediate operational consequences, neurotic workers will likely view the dangers of innovation as outweighing the rewards and avoid innovative actions. Hypothesis 2 (a-e) assumed that the psychological safety mediates the

association between the Big Five traits and IWB. The findings offer strong evidence for these mediation directions, demonstrating that psychological safety is a crucial mechanism that triggers personality traits.

In the case of Extraversion and Openness to Experience (H2a, H2c), psychological safety acts as an amplifier. Having such traits, employees are inherently interested in sharing ideas, and the availability of psychological safety provides the environmental signal that they are encouraged to do so and that it is not risky. This confirms the results of Salifu et al. (2026) and Xiao et al. (2025), who showed that positive individual and leadership factors influence innovation through the channel of safety. In the case of Conscientiousness (H2b), psychological safety seems to prompt such employees to exercise diligence in new processes rather than merely obeying existing rules. Conscientious motivation to achieve excellence is then shifted to improving the process when the threat of punishment in case of failure is eliminated (Li, 2025).

Most importantly, the impact of Agreeableness (H2d) and Neuroticism (H2e) is also mediated by psychological safety. In the case of neurotic employees, the absence of psychological safety only increases the natural anxiety of such employees, which stifles innovation. Nonetheless, the mediation analysis indicates that perceived safety can alleviate some of the adverse effects of Neuroticism, yet the direct effect is also significant. This aligns with Shie et al. (2025), who found that psychological safety is critical for overcoming obstacles to non-standard, or so-called deviant, innovative behaviors. On the other hand, in the case of agreeable employees, though they feel very safe, the negative route to innovation is that safety alone might not be sufficient to overcome their unwillingness to conflict; they may feel safe yet be more focused on harmony than on the disturbance of innovation.

5.1. Theoretical Implications

This paper builds on Trait Activation Theory by showing that psychological safety is a significant situational activator of the Big Five traits in a non-Western healthcare environment. It responds to the call made by TamaSevicius et al. (2026) to build complex mediation models explaining the interaction between internal characteristics and the perceived environment. This paper, by establishing the emphasis on individual characteristics instead of leadership (as observed in Kusbandono et al., 2026; Tran Pham, 2026), emphasizes the fact that innovation is an interactionist phenomenon: an individual needs to have the right traits (characteristics) in the right mental environment (safety).

5.2. Conclusion

This research aimed to explore the impact of the Big Five personality traits on employees' innovative work behavior in the healthcare industry in Iraq, as well as the mediating effect of psychological safety. Based on the Trait Activation Theory and the Psychological Safety Theory, the study filled a critical gap in the micro-level psychological factors that drive innovation in a developing economy setting with hierarchical organizational structures.

The empirical findings have shown that personality traits are excellent predictors of innovative work behavior. Specifically, the impact of Extraversion, Conscientiousness, and Openness to Experience was revealed as having a positive influence on the tendency towards creating new ideas, their further promotion, and their application by the employees. On the other hand, Agreeableness and Neuroticism were found to have a negative influence on it, which means that the desire to maintain social harmony and the fear of failure may put the disruptive element of innovation into the background. In addition to that, the study concluded that an important mediating factor is psychological safety. It is a contingent stimulus, which alters the implicit personality qualities into the visible, creative behavior by decreasing the interpersonal risks of breaking the status quo.

Theoretically, the research contributes to the extension of the use of the Trait Activation Theory to the healthcare environment in Iraq and proves that individual traits are not put into practice in a vacuum but require a conducive psychological environment. Practically, the findings suggest that the healthcare organizations must extend beyond a focus on operations and focus on psychological safety development. The organizations can better use the innovative potential of their workforce by using the leadership practices that encourage voice and risk-taking, which the recent literature supports (e.g., Kusbandono et al., 2026; Li et al., 2025), and by incorporating personality testing into the recruitment and development processes. Lastly, in order to maintain innovation and competitive advantage in the dynamic global market, a willingness to share their unique qualities must be created among the employees.

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