

## Improving Innovative Work Behavior Through Creativity and Proactive Personality: A Meta-Analysis

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### Abstract

*This study is concerned with uncovering the influence of creativity and proactive personality on innovative work behavior (IWB). Empirically, several previous studies suggest that both creativity and proactive personality significantly impact IWB. However, a comprehensive synthesis of empirical findings is needed to clarify the strength and consistency of these relationships. This study employed a quantitative meta-analysis to examine the effects of creativity and proactive personality on IWB. All research's data published between 2019 and 2025 were regularly selected from Scopus, SINTA, and Google Scholar databases. Using JASP version 0.8.4.0, effect sizes were calculated, and heterogeneity was assessed through a random-effects model. The analysis revealed that creativity and proactive personality significantly impact IWB. Moderate heterogeneity was observed across the studies, and no evidence of publication bias was found. These findings align with existing literature, emphasizing the critical role of creativity and proactive personality in improving IWB. The moderate heterogeneity suggests variability in study contexts, yet the overall effect remains robust. The results highlight the value of creativity and proactive personality in driving teachers' IWB in schools. Practical recommendations include the development of creativity and a proactive personality to improve teachers' IWB.*

**Keywords:** *creativity; innovative work behavior; proactive personality; meta-analysis.*

### Abstrak

Penelitian ini mengungkap pengaruh kreativitas dan kepribadian proaktif terhadap perilaku kerja inovatif. Secara empiris, beberapa penelitian sebelumnya menunjukkan bahwa kreativitas dan kepribadian proaktif berdampak signifikan terhadap perilaku kerja inovatif. Namun, sintesis komprehensif dari temuan empiris diperlukan untuk mengklarifikasi kekuatan dan konsistensi hubungan tersebut. Penelitian ini menggunakan meta-analisis kuantitatif untuk mengestimasi pengaruh kreativitas dan kepribadian proaktif terhadap perilaku kerja inovatif. Semua data penelitian diterbitkan antara tahun 2019 dan 2025 dan dipilih secara teratur dari basis data Scopus, SINTA, dan Google Scholar. Dengan menggunakan JASP versi 0.8.4.0, ukuran efek dihitung, dan heterogenitas dinilai melalui model efek acak. Analisis tersebut mengungkapkan bahwa kreativitas dan kepribadian proaktif berdampak signifikan terhadap perilaku kerja inovatif. Heterogenitas sedang diamati di seluruh penelitian, dan tidak ditemukan bukti bias publikasi. Temuan ini selaras dengan literatur yang ada, yang menekankan peran penting kreativitas dan kepribadian proaktif dalam meningkatkan perilaku kerja inovatif. Heterogenitas sedang menunjukkan variabilitas dalam konteks studi, namun efek keseluruhannya tetap kuat. Hasilnya menunjukkan peran kreativitas dan kepribadian proaktif dalam mendorong perilaku kerja inovatif guru di sekolah. Saran praktis yang direkomendasikan adalah pengembangan kreativitas dan kepribadian proaktif untuk meningkatkan perilaku kerja inovatif guru.

**Kata kunci:** prokrastinasi akademik; jenis sekolah; siswa SMA; ANOVA

## INTRODUCTION

In the face of accelerating technological advancements and increasingly volatile global markets, organizations are under great pressure to foster innovative work behavior (IWB) to remain competitive and resilient. IWB, characterized by employees' purposeful actions to generate, promote, and implement new ideas, is an important driver of organizational adaptability and sustainable innovation (Knezović & Drkić, 2021; Zhang, 2025). ICB encompasses the dimensions of idea generation, idea promotion, and idea implementation. IWB enables firms to address complex challenges, capitalize on emerging opportunities, and sustain competitive advantage (Haftu, 2019). However, organizations often struggle to foster IWB, as its emergence is highly dependent on individual attributes such as creativity and proactive personality. These traits are widely recognized as catalysts for innovation, whose effects on IWB across empirical studies have been inconsistent and require clarification.

The challenge of fostering IWB is evident in many organizations where employees fail to consistently demonstrate innovative behavior, leading to missed opportunities for growth and adaptation. For example, in the technology and manufacturing sectors, where innovation is

paramount, the absence of a strong IWB often results in stagnant product development and reduced market response. This problem is compounded by the complex interplay between creativity and proactive personality, an important but poorly understood driver of IWB. As the ability to generate novel and practical ideas, creativity equips employees to design innovative solutions, which drives IWB (Zhang, 2025). Zaidi et al.'s (2024) study showed that creativity significantly enhances IWB among technology sector employees, as highly creative individuals can generate and implement original ideas. Similarly, a proactive personality, with the tendency to initiate change and pursue opportunities, empowers employees to drive innovative behavior through persistent and anticipatory action (Baidun et al., 2024) and also has the potential to stimulate IWB. Baidun et al.'s study (2024) confirmed that proactive personality greatly determines IWB among students in Islamic boarding schools. However, there are some inconsistent research results. For example, Lailla et al. (2024) reported that creativity did not significantly impact IWB among millennial employees in the food and beverage sector. Later, Roudhotun and Kusumaningtias (2025) identified an inverse relationship, whereby increased IWB unexpectedly reduced proactive

behavior, which may be due to resource depletion or organizational constraints that inhibit continued initiative-taking. These contradictory results suggest that the relationships between creativity, proactive personality, and IWB are not always clear-cut and thus require deeper exploration. This study aims to bridge these gaps by investigating the effects of creativity and proactive personality on IWB in a contemporary organizational context. In addition, this study seeks to explain the mechanisms through which these individual attributes shape innovative behavior while offering theoretical clarity and practical guidance for organizations seeking to enhance innovation.

## **Literature Review and Hypothesis Development**

### ***Creativity and IWB***

Creativity is a key driver of innovation, encompassing the generation of new and valuable ideas or solutions in an organizational context (Kaufman & Sternberg, 2019). Creativity is the cognitive and behavioral capacity to generate original concepts, reorganize existing knowledge, or synthesize disparate information into innovative outcomes (Corazza & Lubart, 2021; Carter, 2014). Creativity is manifested as the ability to devise new methods, exploit emerging technologies, or adapt existing

procedures to achieve organizational goals (Miao & Cao, 2019). Furthermore, creativity serves as an important antecedent to IWB, enabling employees to initiate, promote, and implement new ideas that improve workplace performance (Widodo & Gustari, 2020; Damanik & Widodo, 2025). In collaborative environments, creativity fosters interdisciplinary synergy, where diverse perspectives foster the emergence of innovative solutions (Bessant & Tidd, 2018). Empirical evidence underscores the role of creativity in enhancing IWB, as evidenced by studies showing that creative employees exhibit a higher propensity to solve problems and innovate (Asbari et al., 2021; Volery & Tarabashkina, 2021; Zaidi et al., 2024). Dimensions of creativity, as described by Zhang (2025), include ideational fluency, originality, problem-solving flexibility, and practical relevance. Ideational fluency refers to the ability to generate multiple ideas quickly, while originality indicates the production of unique and unconventional concepts. Problem-solving flexibility involves approaching challenges from multiple perspectives, and practical relevance ensures that creative outputs are applicable to organizational needs. These dimensions collectively support the creative process, enabling employees to navigate ambiguity, face risks, and integrate new information

into actionable outcomes (Suendarti et al., 2020; Widodo, 2021).

On the other hand, IWB encompasses deliberate employee behaviors aimed at generating, promoting, and implementing new ideas to improve individual and organizational performance (Knezović & Drkić, 2021; Farrukh et al., 2023). It is a multifaceted construct consisting of three core dimensions: idea generation, idea promotion, and idea implementation (Zhang, 2025). Idea generation involves conceptualizing creative solutions to workplace challenges, idea promotion entails advocating for these ideas to gain stakeholder support, and idea implementation focuses on translating ideas into practical applications. IWB is critical to organizational adaptability and competitive advantage, as it enables organizations to respond quickly to dynamic market conditions and innovate sustainably (Haftu, 2019; Danzer & Dietz, 2018). A collaborative environment further strengthens IWB by facilitating cross-functional knowledge and idea sharing (Myovella et al., 2020).

Empirical research consistently highlights a positive relationship between creativity and IWB. Studies by Chughtai and Khalid (2022), Ijaz and Nawaz (2022), and Alobeidli et al. (2024) suggest that employees with high creative abilities are more likely to engage in IWB, as creativity

equips them with the cognitive tools to generate and implement innovative solutions. Additionally, workplace interventions, such as exercise programs, have enhanced creativity and, in turn, IWB by increasing vitality and divergent thinking (Zhang, 2025). Collaborative creativity, where employees engage in associative and divergent thinking, further strengthens IWB by encouraging novel connections between seemingly unrelated concepts (Bessant & Tidd, 2018; Sari & Wahyuni, 2023). These findings suggest that creativity predicts IWB, driving organizational innovation through individual and collective efforts. Given the strong relationship between creativity and IWB, fostering creative capacity within organizations is critical to sustaining innovative outcomes. The interaction of creativity dimensions – fluency, originality, flexibility, and relevance – directly influences employees' ability to engage in idea generation, promotion, and implementation. As a result, the following hypothesis is proposed:

H<sub>1</sub>: Creativity positively influences innovative work behavior.

### ***Proactive Personality and IWB***

Proactive personality refers to an individual's tendency to take initiative, anticipate opportunities, and make constructive changes in their environment

to achieve organizational or personal goals (Aryani et al., 2025). Unlike passive employees who rely solely on organizational resources, proactive individuals actively seek external knowledge, critically analyze it, and apply it to inform strategic decision-making (Arizqi, 2017). This trait is characterized by a consistent drive to change circumstances through anticipatory action and self-initiative, fostering innovation and adaptability in dynamic organizational environments (Aryani et al., 2025). In collaborative contexts, a proactive personality enhances team innovation by facilitating cross-functional knowledge-sharing and problem-solving, strengthening organizational responsiveness (Myovella et al., 2020). Empirical studies confirm that proactive personality significantly predicts IWB, as proactive employees are likelier to initiate and implement new solutions (Fan et al., 2022; Baidun et al., 2024). As outlined by Baidun et al. (2024), the dimensions of a proactive personality include personal initiative, opportunity-seeking, persistence, and change orientation. Personal initiative reflects the tendency to act independently without external prompting, while opportunity seeking involves identifying and exploiting potential avenues for improvement. Persistence indicates resilience in overcoming obstacles, and

change orientation signifies a positive attitude toward adaptation and fostering transformation. These dimensions collectively enable individuals to navigate complex challenges and contribute to organizational innovation.

Intentional employee behaviors intended to generate, promote, and execute new ideas to improve individual and organizational performance are called IWB (Knezović & Drkić, 2021; Farrukh et al., 2023). Idea generation, idea promotion, and idea implementation are the three main components of this complex architecture (Zhang, 2025).

Developing innovative solutions to workplace problems is known as idea generation; promoting these ideas to gain stakeholder support is known as idea promotion, and transforming thoughts into actionable applications is known as idea implementation. IWB is critical to competitive advantage and organizational flexibility, allowing businesses to sustain innovation and react quickly to changing market conditions (Haftu, 2019; Danzer & Dietz, 2018).

By encouraging interdisciplinary ideas and resource sharing, collaborative settings further enhance IWB (Myovella et al., 2020). Empirical research consistently shows a positive relationship between proactive personality and IWB. Studies by Li et al. (2022), Akhtar and Ali (2023),

and Ullah et al. (2024) showed that employees with proactive personalities exhibit higher engagement in IWB due to their ability to identify opportunities and persist in implementing innovative ideas. Baidun et al. (2024) also found that proactive students in Islamic boarding schools actively pursue innovative behaviors by leveraging personal initiative and change orientation. Similarly, a collaborative environment enhances the impact of a proactive personality on IWB, as proactive individuals often lead cross-functional teams in generating and executing new solutions (Auliya et al., 2022; Gultom et al., 2022). These findings underscore the important role of a proactive personality in driving organizational innovation through individual and collective efforts. Given the strong relationship between proactive personality and IWB, cultivating proactive traits among employees is critical to driving innovative outcomes. The proactive personality dimensions, including initiative, opportunity seeking, persistence, and change orientation, directly influence employees' capacity to generate, promote, and implement new ideas. Therefore, the following hypothesis is proposed:

H2: Proactive personality positively influences IWB.

## **METHODS**

### ***Research Design***

In this study, quantitative meta-analysis method was applied. According to Mueller et al. (2018), quantitative meta-analysis is a statistical method that produces a mixture of quantitative data by combining two or more related studies. Meta-analysis is basically a retrospective observational study in which researchers summarize data without modifying the experiment. The summarized data comes from research publications that discuss the relationship between proactive personality, creativity, and innovative work behavior. To focus on the findings of this comprehensive study, research articles were selected based on several factors. According to Tawfik et al. (2019), the purpose of meta-analysis is to determine which studies should be included. Thus, the hypothesis for a meta-analysis study is very useful in finding out the inclusion and exclusion criteria that must be applied immediately to find relevant studies (Higgins et al., 2019). The factors that are considered in selecting research articles studied are: (1) articles that can be searched through online international journal search databases such as Google Scholar, DOAJ, and others; (2) publications from various countries; (3) English-language publications; (4) publications indexed by Scopus, SINTA,

and Google Scholar; (5) publications from 2019 to 2025; (6) publications that have an  $r$  or  $t$  value that describes the relationship between proactive personality, creativity, and IWB; and (8) the number of samples studied  $\geq 160$ .

### Data Coding

According to Malički et al. (2021), coding is the most important requirement to facilitate data collection and analysis in

meta-analysis. Therefore, the coding category sheet serves as an instrument in this meta-analysis. Coding describes the properties of the articles used, including the year of publication, country of origin of the study, publication sample ( $n$ ), correlation value ( $r$ ),  $t$  value,  $Z$ , and SE notes that include journal information from different countries. Table 1 shows the distribution of publications.

Table 1: Comparison of 30 Studies Based on  $n$ ,  $r$ , and  $t$  Value, 2019–2025

No	Study	Country	$n$	$r$	$t$	$Z$	SE
Creativity on Innovative Work Behavior							
1	Asbari et al. (2021)	Indonesia	277	0.38	6.813	0.400	0.060
2	Volery & Tarabashkina (2021)	Australia	401	0.372	8.000	0.391	0.050
3	Zaidi et al (2024)	Pakistan	199	0.448	7.042	0.483	0.071
4	Zhang (2025)	Malaysia	443	0.576	14.78	0.656	0.048
5	Andri et al (2020)	Indonesia	265	0.242	4.048	0.247	0.062
6	Setiyawami et al (2023)	Indonesia	160	0.317	4.201	0.328	0.08
7	Chughtai & Khalid (2022)	Pakistan	487	0.262	5.98	0.268	0.045
8	Ijaz & Nawaz (2022)	Pakistan	267	0.53	10.178	0.59	0.062
9	Gunawan & Widodo (2021)	Indonesia	386	0.157	3.110	0.158	0.051
10	Jishnu & Hareendrakumar (2024).	India	404	0.495	11.435	0.543	0.050
11	Sari & Wahyuni (2023)	Indonesia	302	0.458	8.931	0.495	0.058
12	Afrin et al (2022)	Malaysia	348	0.348		0.363	0.054
13	Tri et al (2019)	Vietnam	319	0.576	12.530	0.656	0.056
14	Alobeidli et al (2024)	United Arab Emirates	304	0.622	13.820	0.729	0.058
15	Hussain & Wahab (2023)	Malaysia	230	0.249	3.890	0.255	0.066
Proactive Personality on Innovative Work Behavior							
1	Fan et al. (2022)	China	349	0.164	3.093	0.165	0.054
2	Li et al. (2022)	China	460	0.127	2.750	0.128	0.047
3	Akhtar & Ali (2023)	Pakistan	269	0.177	2.947	0.179	0.061
4	Tekeli & Özkoç (2022)	Turkey	384	0.402	8.577	0.426	0.051
5	Tawar & Syahrizal (2025).	Indonesia	250	0.354	5.967	0.370	0.064
6	Satrya & Kamal. (2024)	Indonesia	300	0.139	2.430	0.140	0.058
7	Yulianti & Arifien (2019).	Indonesia	172	0.283	3.840	0.290	0.077

8	Baidun et al (2024)	Indonesia	219	0.26	3.961	0.266	0.068
9	Dewi et al (2023)	Indonesia	194	0.245	3.506	0.250	0.072
10	Ullah et al (2024)	Pakistan	309	0.233	4.190	0.237	0.057
11	Bai et al (2022)	China	311	0.150	2.672	0.151	0.057
12	Andri et al (2020)	Indonesia	265	0.200	3.312	0.203	0.062
13	Auliya et al (2022)	Indonesia	200	0.319	4.738	0.331	0.071
14	Gultom et al (2022)	Indonesia	279	0.218	3.720	0.222	0.060
15	Afzal et al (2024)	Pakistan	413	0.244	5.096	0.249	0.049

### Data Analysis

The characteristics of the research sample were analyzed, the data were then coded, the t value was converted to the r correlation value, the heterogeneity test of the effect size, the calculation of the summary effect or average effect size, the creation of funnel and forest plots, hypothesis testing, and verification of publication bias. Correlation meta-analysis was conducted on data based on 30 articles indexed by Scopus, SINTA, and Google Scholar. According to Cohen's effect size criteria (Cohen et al., 2020), the effect size can be divided into values between 0 and 1. There are  $<0+/-0.1$  = weak effect;  $<0+/-$

$0.3$  = moderate effect;  $<0+/-0.5$  = moderate effect;  $<0+/-0.8$  = strong effect; and  $\geq+/-0.8$  = very strong effect. The research program used in this study is JASP 19.0, which contains many useful features for anyone interested in learning about statistical data analysis and interpretation, can be installed on different computer operating systems, has a selection of Cohen's criteria, and allows for assumption testing.

## Results

### Creativity on IWB

Table 2 presents the results of the heterogeneity test, and Table 3 presents residual heterogeneity estimates

Table 2: Heterogeneity Test

	Q	df	P
Omnibus test of Model Coefficients	94.890	1	< .001
Test of Residual Heterogeneity	139.487	14	< .001

Table 3: Residual Heterogeneity Estimates

	Estimate	95% Confidence Interval	
		Lower	Upper
$\tau^2$	0.027	0.013	0.071
T	0.164	0.113	0.266
$I^2$ (%)	89.448	80.160	95.716
$H^2$	9.477	5.040	23.340



Based on the results of the previous heterogeneity test,  $Q = 139.487$  with  $p < 0.001$ ;  $\tau^2$  or  $\tau > 0$ ;  $I^2$  (%) is approximately 100%, indicating that the 15 effect sizes of the examined studies are heterogeneous. In addition, the random effects approach was

used to conduct the publication bias test and the examination of the average effect size or summary effect estimates. Table 4 displays the findings of the studies on the average effect size or summary effect.

Table 4: Summary Effect or Mean Effect Size

	Estimate	Standard Error	z	p	95% Confidence Interval	
					Lower	Upper
intercept	0.438	0.045	9.741	< .001	0.350	0.526

Based on the results of the study conducted using a random effects model, there is a strong positive relationship between Creativity on Innovative Work Behavior ( $Z = 9.741$ ; 95%CI [0.350; 0.526]). This is evident from the p value of less than 0.001 that there is a substantial correlation between creativity and IWB. Based on the results of the study conducted using a random effects model, there is a strong positive relationship between creativity and IWB in this study. Therefore, H1 is accepted.

The moderate category ( $rRE = 0.438$ ) includes the relationship between creativity and IWB. Based on the results of the study conducted using a random effects model, there is a moderate positive relationship between creativity and IWB. In addition, a visually appealing graphical technique known as a forest plot illustrates the results of the analysis.

By using a forest plot, we can more easily compare studies by understanding

the estimated combined effects shown by the plot (dots) at certain intervals. Figure 1 displays a forest plot chart for the 15 Funnel Plot studies examined. The effect sizes of the examined studies ranged from 0.12 to 0.84, according to the forest plot diagram.

Next, a funnel diagram was created. Begg's funnel diagram is a scatterplot diagram in meta-analysis to visually identify potential publication bias (symmetrical or asymmetrical study samples). Figure 2 shows the funnel plot diagram for the 15 analyzed studies. Further research using Egger's test is needed because the resulting models are symmetrical or asymmetrical, making it difficult to distinguish publication bias from the funnel plot diagram alone. Table 5 shows the results of Egger's test.

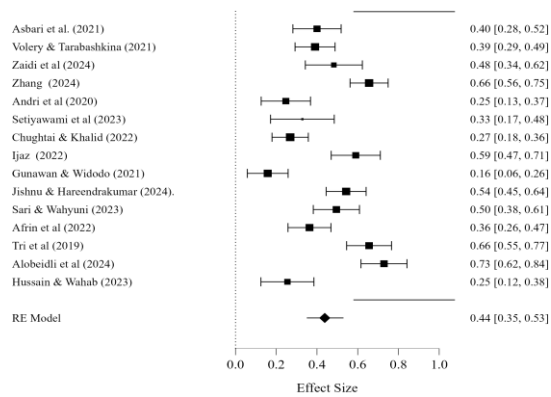


Figure 1: Meta-analysis Forest Plot

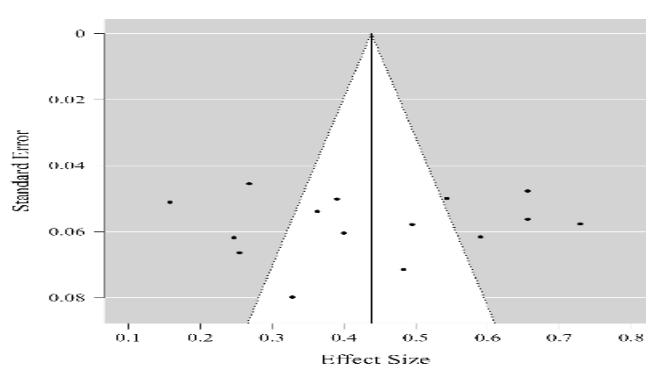


Figure 2: Funnel Plot After Trim-Fill

Table 5: Regression Test for Funnel Plot Asymmetry (Egger's Test)

	Z	P
Sei	-0.352	0.725

Table 5 indicates  $p > 0.05$  and  $z = -0.352$ . It demonstrates the symmetry of the funnel plot. Thus, this meta-analysis study does not have a publication bias issue.

### Proactive Personality on IWB

Different  $r$  and  $t$  values were derived for each investigation based on the examination of 15 publications using

specific criteria. The researchers converted all research publications without  $r$  values from  $t$  values to  $r$  values before conducting heterogeneity tests. Table 6 presents the results of the heterogeneity tests, while Table 7 presents the residual heterogeneity estimates.

Table 6: Heterogeneity Test

	Q	df	P
Omnibus test of Model Coefficients	101.148	1	< .001
Test of Residual Heterogeneity	33.908	14	0.002

Table 7: Residual Heterogeneity Estimates

	Estimate	95% Confidence Interval	
		Lower	Upper
$\tau^2$	0.005	$8.692 \times 10^{-4}$	0.015
T	0.069	0.029	0.124
$I^2$ (%)	57.699	19.967	81.470
$H^2$	2.364	1.249	5.397

The results of the heterogeneity test above show that  $Q = 33.908$  with  $p <$

0.001;  $\tau^2$  or  $\tau > 0$ ;  $I^2$  (%) is around 100%, indicating heterogeneity among the 15 effect sizes of the analyzed studies. In addition, a publication bias test was conducted using a random effects

approach, and a summary effect analysis or average effect size was analyzed. Table 8 displays the findings of the summary effect analysis or average effect size.

Table 8: Summary Effect or Mean Effect Size

	Estimate	Standard Error	Z	p	95% Confidence Interval	
					Lower	Upper
intercept	0.238	0.024	10.057	< .001	0.191	0.284

A strong positive relationship ( $Z = 10.057$ ; 95% CI [0.191; 0.284]) was found in the study using a random effects model between proactive personality and IWB. This study proves that the p-value is less than 0.001 supports a significant relationship between proactive personality on IWB, H2 is accepted. The low category contains the relationship ( $rRE = 0.238$ ) between proactive personality and IWB. In addition, a visually appealing graphical technique known as a forest plot illustrates the results of the analysis. By using a forest plot, we can more easily compare studies by understanding the estimated pooled effects shown by the plot (dots) at certain intervals. Figure 3 displays a forest plot chart for the 15 studies examined. The effect sizes of the studies examined ranged from 0.03 to 0.53, according to the forest plot chart. A funnel plot was created next. In meta-analysis, Begg's funnel diagram is a type of scatterplot diagram used to visually identify potential publication bias (symmetric or asymmetric study samples).

Figure 4 shows the funnel diagram for the 15 studies analyzed. Further research using Egger's test is needed because the resulting models are either symmetric or asymmetric, making it difficult to distinguish publication bias from the funnel diagram alone. Table 9 shows the results of Egger's test

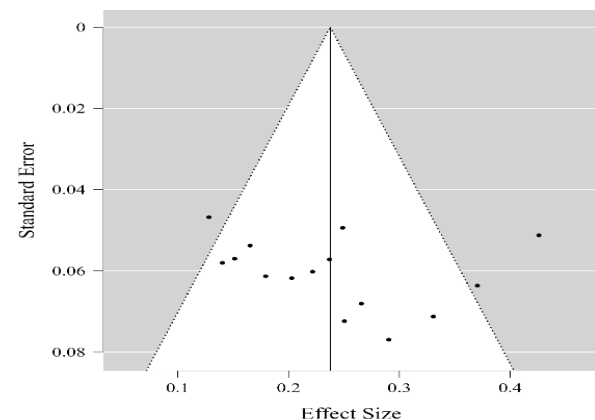
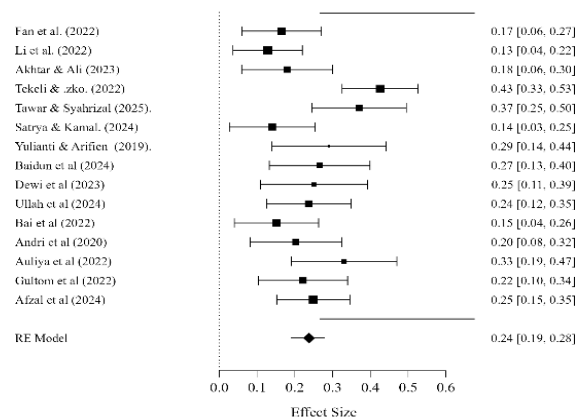


Figure 3: Meta-analysis Forest Plot

Diagnosis

Figure 4: Funnel Plot After Trim-Fill

Table 9: Regression Test for Funnel Plot Asymmetry (Egger’s Test)

	Z	P
Sei	1.003	0.316

With  $p > 0.05$ , Table 5 displays  $Z = 1.003$ . It verifies that the funnel plot has symmetry. Therefore, there is no issue with publication bias in this meta-analysis study.

DISCUSSION

Based on 30 research results analyzed using meta-analysis, it is proven that creativity and proactive personality significantly affect IWB. This means that high creativity and a proactive personality can increase IWB. The results of the effect size analysis show that the influence of creativity is greater than that of proactive personality. Thus, creativity needs to be given more attention in influencing IWB than proactive personality. This finding confirms the results of previous studies stating that creativity affects IWB (e.g., (Alobeidli et al., 2024; Zaidi, 2024; Zhang, 2025), and proactive personality has a significant relationship with IWB (e.g., Fzal et al., 2024; Baidun et al., 2024; Tawar & Syahrial, 2025). In addition, the symmetrical shape of the funnel diagram and Egger's test did not reveal any publication bias in this study. A publication bias analysis is needed to

ensure the significance of the sources used, the quality of the relevant research methods, the accuracy of the research conclusions, and the impact of various sample sizes on conclusions with minimal bias. Therefore, studies not included in this study have similar results to those included as samples in this meta-analysis. Under these conditions, there is no doubt that creativity and proactive personality are important determinants of IWB. It means that when creativity and proactive personality increase, it will have implications for increasing IWB. For example, when creativity teachers are improved, for example, through training, workshops, sharing sessions, or counseling, then it can improve their IWB.

CONCLUSION

Creativity and a proactive personality have a significant effect on IWB. The power of creativity is stronger than a proactive personality. Therefore, creativity needs to be given more attention in influencing IWB than proactive personality. Furthermore, this study did not show publication bias, so the publications reviewed accurately reflect

the current situation. It implies that the publications show the same sample, although they come from different disciplines. This evidence confirms and strengthens previous relevant research that is the basis for the meta-analysis and offers new things related to the influence of creativity and proactive personality on IWB based on various previous relevant studies. These findings provide theoretical contributions for further researchers, who can use the results of this meta-analysis with samples from different research publications and larger numbers to find more theories related to the relationship between creativity and proactive personality with IWB. The findings of this meta-analysis also provide practical implications for organizational and management practitioners as a reference in developing employee IWB (including teachers) through the perspective of creativity and proactive personality

## REFERENCES

- Afrin, S., Raihan, T., Uddin, A. I., & Uddin, M. A. (2022). Predicting innovative work behaviour in an interactive mechanism. *Behavioral Sciences*, 12(2), 29
- Afzal, M. F., Hussain, S., & Nawab, S. (2024). Uncovering the effect of wellbeing HRM on innovative work behavior through proactive motivation. *Global Management Sciences Review*, 9(4), 54-65. [https://doi.org/10.31703/gmsr.2024\(IX-IV\).05](https://doi.org/10.31703/gmsr.2024(IX-IV).05).
- Akhtar, M. S., & Ali, H. (2023). Innovative work behavior: an association of leadership styles, job autonomy, and employee proactive behavior. *Journal of Social Sciences Review*, 3(1), 190-211
- Alobeidli, S. Y., Ahmad, S. Z., & Jabeen, F. (2024). Mediating effects of knowledge sharing and employee creativity on the relationship between visionary leadership and innovative work behavior. *Management Research Review*, (ahead-of-print).
- Andri, G., Adawiyah, W. R., Purnomo, R., & Sholikhah, Z. (2020). The minang-nomads businesses' performance: The role of proactive personality, creativity and innovative work behavior. *Jurnal Pengurusan*, 58, 91-104.
- Arizqi. (2017). Performance enhancement model of human resources through knowledge sharing model peningkatan kinerja sumber daya manusia melalui berbagi pengetahuan. *Jurnal Dinamika Manajemen*, 8(36), 134-142.
- Aryani, R., Bastian, A., Widodo, W., & Saragih, A. C. U. R. P. (2025). How proactive personality affects lecturer innovative behavior: A mediation perspective. *Problems and Perspectives in Management*, 23(2), 342-356. [https://doi.org/10.21511/ppm.23\(2\).2025.24](https://doi.org/10.21511/ppm.23(2).2025.24).
- Asbari, M., Novitasari, D., & Goestjahjanti, F. S. (2021). The role of creativity and organizational innovation in enhancing innovative work behavior: Empirical evidence from Indonesia. *International Journal of Advanced Science and Technology*, 29(3), 5168-5179. <http://sersc.org/journals/index.php/IJAST/article/view/6324>
- Auliya, V., Parimita, W., & Wolor, C. W. (2022). Effect of empowering leadership and proactive

- personality on innovative behavior in E-Commerce through thriving at work. *International Journal of Business and Applied Social Science*, 8(12), 13–28.  
<https://doi.org/10.33642/ijbass.v8n12p3>
- Bai, Y., Wang, Z., Alam, M., Gul, F., & Wang, Y. (2022). The impact of authentic leadership on innovative work behavior: Mediating roles of proactive personality and employee engagement. *Frontiers in Psychology*, 13.  
<https://doi.org/10.3389/fpsyg.2022.879176>
- Baidun, A., Murniasih, F., Lubis, R. H., Ghina, A., Latifa, R., & Irvan, M. (2024). Innovative work behavior of santri: The influence of proactive personality and boarding school climate. *TAZKIYA Journal of Psychology*, 12(1), 17-26.  
<https://doi.org/10.15408/tazkiya.v12i1.37945>.
- Baidun, A., Murniasih, F., Lubis, R. H., Ghina, A., Latifa, R., & Irvan, M. (2024). Innovative work behavior of santri: The influence of proactive personality and boarding school climate. *TAZKIYA Journal of Psychology*, 12(1), 17–26.  
<https://doi.org/10.15408/tazkiya.v12i1.37945>.
- Bessant, J. R., & Tidd, J. (2018). *Innovation and entrepreneurship*. Chichester: Wiley.
- Carter, R. (2014). *The Human Brain Book*. DK.
- Chughtai, M. S., & Khalid, Y. (2022). Learning organizations and innovative work behaviors: A moderated mediation model of creative self-efficacy and self-leadership from the perspective of social cognitive theory and social schema theory. *Journal of Innovative Research in Management Sciences*, 3(1) 22-41.
- Corazza, G. E., & Lubart, T. (2021). Intelligence and creativity: Mapping constructs on the space-time continuum. *Journal of Intelligence*, 9(1), 1.  
<https://doi.org/10.3390/jintelligenc9010001>.
- Damanik, J., & Widodo, W. (2025). The effect of psychological capital, digital literacy, and knowledge management on teacher instructional quality through teaching creativity. *TEM Journal*, 14(1), 887-899.  
<https://doi.org/10.18421/TEM141-78>.
- Danzer, A. M., & Dietz, B. (2018). The economic and social determinants of migrants' well-being during the global financial crisis. Available at SSRN 3111145.
- Dewi, R. T., Suhardi, E., & Hardhienata, S. (2023). Knowledge Sharing as Media of Proactive Personality to Influence Teachers' Innovative Work Behavior. *Journal of Innovation in Educational and Cultural Research*, 4(2), 288-293.
- Fan, J., Fan, Y., Yu, L., & Man, S. (2022). How hindrance stress, proactive personality, and the employment relationship atmosphere affect employees' innovative behavior. *Frontiers in psychology*, 13, 969013. doi: 10.3389/fpsyg.2022.969013.
- Farrukh, M., Meng, F., Raza, A., & Wu, Y. (2023). Innovative work behaviour: The what, where, who, how and when. *Personnel Review*, 52(1), 74–98.  
<https://doi.org/10.1108/PR-11-2020-0854>.
- Gultom, L., Suroso, G., & Gasjirin, J. (2022). The influence of proactive behavior and psychological empowerment on innovative work behavior: Moderating role of job characteristic. *Journal of World*

- Science*, 1(9), 674–682.  
<https://doi.org/10.36418/jws.v1i9.92>
- Gunawan, R. M. B., & Widodo, W. (2021). Analyzing the effect of knowledge management and teaching creativity on innovative work behavior: The organizational empowerment perspective. *Management Science Letters*, 11(2), 619–626.  
<https://doi.org/10.5267/J.MSL.2020.9.005>
- Haftu, G. G. (2019). Information communications technology and economic growth in Sub-Saharan Africa: A panel data approach. *Telecommunications Policy*, 43(1), 88–99.  
<https://doi.org/10.1016/j.telpol.2018.03.010>.
- Haftu, G. G. (2019). Information communications technology and economic growth in Sub-Saharan Africa: A panel data approach. *Telecommunications Policy*, 43(1), 88–99.  
<https://doi.org/10.1016/j.telpol.2018.03.010>.
- Hansen, J. A., & Pihl-Thingvad, S. (2019). Managing employee innovative behaviour through transformational and transactional leadership styles. *Public Management Review*, 21(6), 918–944.  
<https://doi.org/10.1080/14719037.2018.1544272>.
- Higgins, J. P. T., Lopez-Lopez, J. A., Becker, B. J., Davies, S. R., Dawson, S., Grimshaw, J. M., McGuinness, L. A., Moore, T. H. M., Rehfuss, E. A., Thomas, J., Caldwell, D. M. (2019). Synthesizing quantitative evidence in systematic reviews of complex health interventions. *BMJ Global Health*, 4, 1–15.  
<http://dx.doi.org/10.1136/bmjgh-2018-000858>
- Hussain, K., & Wahab, E. (2023). Innovative behaviour mediates in the relationship between employee creativity and organisational innovation. In *Innovation-Research and Development for Human, Economic and Institutional Growth*. IntechOpen. DOI: 10.5772/intechopen.111861
- Ijaz, S., & Nawaz, S. (2022). Impact of organizational support on employee creativity and innovative work behavior: Mediation of employee creativity. *Pakistan Social Sciences Review*, 6(4), 41–51.  
[https://doi.org/10.35484/pssr.2022\(6-iv\)05](https://doi.org/10.35484/pssr.2022(6-iv)05)
- Jishnu, A., & Hareendrakumar, V. R. (2024). Impact of HR practices on innovative work behaviour: The mediating role of organizational support, knowledge-sharing and employee creativity. *Paradigm*, 28(1), 101–118.  
<https://doi.org/10.1177/09718907241251410>
- Kaufman, C., & Sternberg, R.J. (eds.). (2019). *Cambridge handbook of creativity*. (2nd ed.). Cambridge University Press.
- Knezović, E., & Drkić, A. (2021). Innovative work behavior in SMEs: The role of transformational leadership. *Employee Relations*, 43(2), 398–415.  
<https://doi.org/10.1108/ER-03-2020-0124>.
- Knezović, E., & Drkić, A. (2021). Innovative work behavior in SMEs: The role of transformational leadership. *Employee Relations*, 43(2), 398–415.  
<https://doi.org/10.1108/ER-03-2020-0124>.
- Lailla, N., Tarmizi, M. I., Hananto, D., & Gunawan, A. (2024). Determinan work engagement dan proactive personality terhadap innovation

- work behaviour pada karyawan generasi milenial di Jakarta. *Ekonomis: Journal of Economics and Business*, 8(1), 527–534. <http://dx.doi.org/10.33087/ekonomis.v8i1.1554>.
- Li, W., Gill, S. A., Wang, Y., Safdar, M. A., & Sheikh, M. R. (2022). Proactive personality and innovative work behavior: Through the juxtapose of Schumpeter's theory of innovation and broaden-and-build theory. *Frontiers in Psychology*, 13, 927458. <https://doi.org/10.3389/fpsyg.2022.927458>.
- Malički, M., Jerončić, A., Aalbersberg, I. J., Bouter, L., & Riet, G. (2021). Systematic review and meta-analyses of studies analysing instructions to authors from 1987 to 2017. *Nature Communications*, 12(1), 5840. <https://doi.org/10.1038/s41467-021-26027-y>
- Miao, R., & Cao, Y. (2019). High-performance work system, work well-being, and employee creativity: Crosslevel moderating role of transformational leadership. *International Journal of Environmental Research and Public Health*, 16(9), 1640. <https://doi.org/10.3390/ijerph16091640>.
- Mueller, M., D'Addario, M., Egger, M., Cevallos, M., Dekkers, O., Mugglin, C., & Scott, P. (2018). Methods to systematically review and meta-analysis observational studies: A systematic scoping review of recommendations. *BMC Medical Research Methodology*, 18(44), 1–18. <https://doi.org/10.1186/s12874-018-0495-9>
- Myovella, G., Karacuka, M., & Haucap, J. (2020). Digitalization and economic growth: A comparative analysis of Sub-Saharan Africa and OECD economies. *Telecommunications Policy*, 44(2), 101856. <https://doi.org/10.1016/j.telpol.2020.101944>.
- Roudhotun, N., & Kusumaningtias, R. (2025). Pengaruh good corporate governance dan environmental, social, governance terhadap nilai perusahaan (Studi empiris pada perusahaan manufaktur yang terdaftar di BEI periode tahun 2020–2023). *Jurnal Mutiara Ilmu Akuntansi*, 3(1), 341–357. <https://doi.org/10.55606/jumia.v3i1.3614>.
- Saether, E. A. (2019). Motivational antecedents to high-tech R&D employees' innovative work behavior: Self-determined motivation, person-organization fit, organization support of creativity, and pay justice. *The Journal of High Technology Management Research*, 30(2), 100350. <https://doi.org/10.1016/j.hitech.2019.100350>.
- Sari, N. F. P., & Wahyuni, S. (2023). The role of mediation and moderation in the sharing of knowledge and work centrality effects of employee creativity on innovative work behavior. *International Journal of Economics, Business and Management Research*, 7(6), 44–56
- Satrya, A., & Kamal, I. (2024). Improving employee innovation behavior for better future in electrical industry. *Eduvest-Journal of Universal Studies*, 4(9), 8069–8084.
- Setiyawami, S., Setyawati, A., Lestari, D. S., Wakhuni, E., & Syamsuddin, S. (2023). Innovative work behavior analysis of msme employees: the role of creative self-efficacy, organizational culture and psychological empowerment as predictors. *Sultanist : Jurnal Manajemen Dan Keuangan*, 11(1), 45–57.



- <https://doi.org/10.37403/sultanist.v11i1.480>
- Stoffers, J. M. M., Van der Heijden, B. I. J. M., & Jacobs, E. A. G. M. (2020). Employability and innovative work behaviour in small and medium-sized enterprises. *International Journal of Human Resource Management*, 31(11), 1439–1466.  
<https://doi.org/10.1080/09585192.2017.1407953>.
- Suendarti, M., Widodo, W., & Hasbullah, H. (2020). Demonstrating the effect of grit and creativity on innovative behavior of teacher's natural science: Mediating by self-efficacy. *Journal of Xi'an University of Architecture & Technology*, 12(6), 470-478.
- Tan, A. B. C., Van Dun, D. H., & Wilderom, C. P. M. (2021). Innovative work behavior in Singapore evoked by transformational leaders through innovation support and readiness. *Creativity and Innovation Management*, 30(4), 697–712.  
<https://doi.org/10.1111/caim.12462>.
- Tawar, M. S., & Syahrizal, S. (2025). The effect of proactive personality and entrepreneurial leadership on innovative work behavior mediated by work engagement in state civil apparatus at the Cooperative Service in West Sumatera. *Journal of Economics, Finance and Management Studies*, 08(01).  
<https://doi.org/10.47191/jefms/v8-i1-21>
- Tawfik, G. M. Dila, K. A. S., Mohamed, M. Y. F., Tam, D. N. H. T., Kien, N. D., Ahmed, A. M., and Huy, N. T. (2019). A step by step guide for conducting a systematic review and metaanalysis with simulation data. *Tropical Medicine and Health*, 47(1), 46.  
<https://doi.org/10.1186/s41182-019-0165-6>
- Tekeli, M., & Özkoç, A. G. (2022). The effect of proactive personality and locus of control on innovative work behavior: The mediating role of work engagement. *Anais Brasileiros de Estudos Turísticos: ABET*, 12(1), 8.
- Tri, H. T., Nga, V. T., & Sipko, J. (2019). Predicting overall staffs' creativity and innovative work behavior in banking. *Management Şi Marketing*, 14(2), 188–202.  
<https://doi.org/10.2478/MMCKS-2019-0013>
- Ullah, I., Hameed, R. M., & Mahmood, A. (2024). The impact of proactive personality and psychological capital on innovative work behavior: evidence from software houses of Pakistan. *European Journal of Innovation Management*, 27(6), 1967-1985
- Volery, T., & Tarabashkina, L. (2021). The impact of organisational support, employee creativity and work centrality on innovative work behaviour. *Journal of Business Research*, 129, 295-303.  
<https://doi.org/10.1016/j.jbusres.2021.02.049>
- Widodo, W. (2021). Enhancing teachers' professional competence through grit, personality, and creativity. *Management Science Letters*, 11, 129-138.  
<https://doi.org/10.5267/j.msl.2020.8.022>.
- Widodo, W., & Gustari, I. (2020). Teacher's innovative behavior in Indonesian school: The role of knowledge management, creativity and OCB. *Universal Journal of Educational Research*, 8(10), 4784-4791.  
<https://doi.org/10.13189/ujer.2020.081050>.
- Yulianti, P., & Arifien, F. P. (2019). Innovative behavior on millennials:

- Antecedent proactive personality and task conflict with moderating job autonomy. *Jurnal Manajemen dan Pemasaran Jasa*, 12(2), 177-190
- Zaidi, A., Malik, F., & Iqbal, S. (2024). Effect of creative leadership on innovative work behavior mediated by employee creativity and innovative culture in advertising and media industry. *Human Nature Journal of Social Sciences*, 5(4), 190-206
- Zaidi, S. M. A., Haider, S., & Pathan, S. K. (2024). Linking paradoxical leadership and individual innovative behavior: The mediating role of psychological safety and work autonomy. *European Journal of Innovation Management*, 27(6), 1919–1939.  
<https://doi.org/10.1108/EJIM-05-2023-0395>.
- Zhang, Y. (2025). The impact of workplace exercise on employee innovative behavior: The mediating roles of vitality and creativity. *International Journal of Science and Business*, 43(1), 83–93.  
<https://doi.org/10.58970/ijsb.2518>
- Zhang, Y. (2025). The impact of workplace exercise on employee innovative behavior: The mediating roles of vitality and creativity. *International Journal of Science and Business*, 43(1), 83–93.  
<https://doi.org/10.58970/ijsb.2518..>