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Research Article

Exploring the Moderating Role of Gender in the Relationship between Personality Traits and Entrepreneurial Competencies

Marinela B. Cabusao*

Department of Decision Sciences and Innovation, De La Salle University, Philippines

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*Corresponding author:

E-mail:

marinela.cabusao@dlsu.edu.ph

ABSTRACT

This study examines the interplay between personality traits, gender, and entrepreneurial tendencies. Drawing from the framework of the Big Five personality traits (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism), we investigate the moderating role of gender on the relationship between these personality traits and various entrepreneurial behaviors. The sample consists of 500 individuals from diverse professional backgrounds, who completed self-report measures assessing their personality traits and entrepreneurial tendencies.

The results reveal that gender plays a significant moderating role in the relationship between personality traits and entrepreneurial behaviors. Specifically, we find that gender moderates the effects of Agreeableness and Extraversion on Opportunity Seeking and Persistence. Additionally, gender moderates the effects of Openness and Conscientiousness on Commitment to Work Contract, and Openness and Extraversion on Risk Taking. However, no significant gender moderation is observed for the effects of personality traits on Demand for Quality and Efficiency.

These findings highlight the complex interaction between personality traits, gender, and entrepreneurial tendencies. Understanding these dynamics has important implications for practitioners and policymakers aiming to foster entrepreneurship and support diverse entrepreneurial ecosystems. By acknowledging the differential impact of personality traits on entrepreneurial behaviors based on gender, tailored interventions and training programs can be developed to empower individuals, irrespective of their gender, in their pursuit of entrepreneurial success.

Overall, this research contributes to the growing body of knowledge on the multidimensional nature of entrepreneurship, emphasizing the need to consider gender as an important factor influencing the relationship between personality traits and entrepreneurial behaviors.

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Introduction

Entrepreneurship plays a crucial role in driving economic growth, innovation, and job creation. Understanding the competencies that contribute to entrepreneurial success is essential for fostering an entrepreneurial culture and supporting aspiring entrepreneurs (Delim et al., 2022; Tittel and Terzidis, 2020). Personal entrepreneurial competencies (PECs) encompass a range of skills, attitudes, and behaviors that enable individuals to identify and pursue entrepreneurial opportunities effectively.

This research aims to explore and assess the PECs among individuals in the context of entrepreneurial behavior. By examining ten dimensions of PECs, namely Opportunity Seeking, Persistence, Risk-taking, Demand for Efficiency and Quality, Commitment to Work Contract, Information-seeking, Systematic Planning and Monitoring, Persuasion, and Goal Setting, this study aims to provide a comprehensive understanding of the competencies that underpin entrepreneurial endeavors.

To assess PECs, the widely recognized PEC Scale developed by the Small Enterprises Research and Development Foundation (SERDEF) in collaboration with the University of the Philippines Institute for Small-Scale Industries (UP-ISSI) is employed. This scale offers a robust framework for evaluating the various dimensions of PECs and provides a standardized measurement tool.

By employing the PEC Scale and examining each dimension, this research seeks to shed light on the strengths and weaknesses of individuals in relation to their entrepreneurial competencies. Identifying these competencies and understanding their significance can inform policy-making, educational initiatives, and entrepreneurial training programs aimed at developing and nurturing the skills necessary for entrepreneurial success.

The findings of this study are expected to contribute to the existing literature on entrepreneurship and personal competencies, providing valuable insights into the specific

areas where aspiring entrepreneurs can focus their efforts to enhance their entrepreneurial effectiveness. Additionally, the results can assist policymakers and educators in designing targeted interventions to support and empower individuals in their entrepreneurial pursuits.

The Big Five Personality Traits

To measure personality traits, the Big Five Inventory (John and Srivastava, 1999) will be employed. Participants will indicate their level of agreement with statements corresponding to each trait. For instance, agreeableness assesses an individual's ability to establish positive relationships with others, while extraversion measures assertiveness and comfort in social situations. Conscientiousness evaluates task thoroughness and impulse control, openness gauges openness to new ideas and creativity, and neuroticism examines negative emotions such as moodiness and anxiety. The reliability of the measures was assessed using Cronbach's alpha, which all returned values greater than 0.7 interpreted as acceptable (George and Mallery, 2016).

Personal Entrepreneurial Competencies

The personal entrepreneurial competencies were evaluated using the well-established PEC Scale (SERDEF; UP-ISSI, 1998), comprising ten distinct dimensions. To ensure the reliability of the scale, Cronbach's alpha was computed, yielding a commendable mean score of 0.88. Respondents were requested to indicate their level of agreement with statements corresponding to each dimension of the PEC.

The first dimension, Opportunity Seeking, gauges the proficiency in identifying novel business prospects within a given context. Persistence, the second dimension, captures the determination to persevere in endeavors despite encountering setbacks or failures. Risk-taking, the third dimension, assesses the ability to effectively manage and balance potential risks and rewards. The fourth dimension,

Demand for Efficiency and Quality, measures the inclination to seek out ways to enhance task performance through improved efficiency and superior quality. The fifth dimension, Commitment to Work Contract, reflects the willingness and capability to undertake tasks, regardless of their scale or complexity. Information-seeking, the sixth dimension, examines the proficiency in gathering and interpreting data from diverse sources to enhance overall business performance. The seventh dimension, Systematic Planning and Monitoring, evaluates the aptitude for maximizing available resources through meticulous planning and continuous monitoring. The eighth dimension, Persuasion, assesses the ability to convincingly sway investors and the market to place trust in a product or embrace a particular idea. Finally, the ninth dimension, Goal Setting, measures the skill in setting clear objectives and envisioning desired outcomes.

By utilizing the comprehensive PEC Scale and assessing these ten dimensions, this research provides a nuanced understanding of the personal entrepreneurial competencies exhibited by individuals in relation to various entrepreneurial behaviors. The insights gained from this study can contribute to the development of targeted interventions and training programs aimed at nurturing and enhancing these critical competencies, ultimately fostering entrepreneurial success.

Based on these, the following hypotheses are proposed:

Hypothesis 1: High levels of agreeableness are expected to be associated with high levels of personal entrepreneurial competence in one or more of its dimensions.

Hypothesis 2: The level of extraversion is positively associated with a person's level of personal entrepreneurial competence in one or more of its dimensions.

Hypothesis 3: Conscientiousness and personal entrepreneurial competence or at least some of its dimensions are significantly and positively correlated.

Hypothesis 4: High levels of neuroticism are expected to be associated with low levels of personal entrepreneurial competence in some of its dimensions.

Hypothesis 5: There is a positive and significant relationship between openness and personal entrepreneurial competence through some of its dimensions.

Hypothesis 6: Demographic variables (age, gender, enterprise education, and entrepreneurial experience) will moderate the relationship between one of the personality traits and the dimensions of personal entrepreneurial competence.

Methods

This study employed a correlational-causal research design. The study recruited a diverse sample of individuals from various backgrounds and industries. A total of [number of participants] participants were included in the study. Participants were selected based on their involvement or interest in entrepreneurship, either as entrepreneurs or aspiring entrepreneurs. Efforts were made to ensure representation from different age groups, genders, educational backgrounds, and levels of entrepreneurial experience.

The Personal Entrepreneurial Competencies (PEC) Scale, developed by the Small Enterprises Research and Development Foundation (SERDEF) in collaboration with the University of the Philippines Institute for Small-Scale Industries (UP-ISSI) in 1998, was utilized to assess the personal entrepreneurial competencies of the participants. The PEC Scale consists of ten dimensions, namely Opportunity Seeking, Persistence, Risk-taking, Demand for Efficiency and Quality, Commitment to Work Contract, Information-seeking, Systematic Planning and Monitoring, Persuasion, and Goal Setting. Each dimension is measured using a set of statements to which participants indicate their level of agreement on a Likert-type scale.

To assess the internal consistency and reliability of the Personal Entrepreneurial Competencies (PEC) Scale, Cronbach's alpha coefficient was calculated for each dimension. Cronbach's alpha provides a measure of the extent to which the items within a dimension are interrelated and consistently measure the same construct. Higher values of Cronbach's alpha indicate greater internal consistency within the scale. The threshold for an

acceptable Cronbach's alpha coefficient typically falls above 0.70.

To examine the relationships between the PEC dimensions and other variables, Spearman's rank correlation coefficient (Spearman's rho) was computed. Spearman's rho is a nonparametric measure of the strength and direction of monotonic relationships between variables. This analysis helps to identify potential associations between personal entrepreneurial competencies and the big five personality traits.

To explore the moderating role of gender on the relationships between the PEC dimensions and personality traits, moderated regression analyses were performed. The interaction terms between gender and each personality trait were created by taking the product of the mean-centered values of the variables. This analysis allows us to assess whether gender has a significant impact on the strength and direction of the relationships between personal entrepreneurial competencies and outcome variables.

The significance of the interaction terms was evaluated using an alpha level of .05. A significant interaction indicates that gender moderates the relationship between a personality trait and a PEC dimension. Post-hoc probing of significant interactions was conducted to understand the nature of the moderation effect.

These statistical analyses provide valuable insights into the reliability of the PEC Scale, the associations between personal entrepreneurial competencies and personality traits, and the moderating role of gender. By examining these relationships, this study aims to enhance our understanding of the factors that influence entrepreneurial success and the differential effects based on gender.

Results and Findings

The results of the study were analyzed using the Holm correction to account for multiple comparisons with an alpha value of .05. The following significant positive correlations were observed:

Opportunity Seeking and Personality Traits:

- A moderate positive correlation was observed between Opportunity Seeking and

Extraversion ($r = .35$, $p < .001$, 95.00% CI = [.26, .43]), suggesting a significant association. This implies that as individuals exhibit higher levels of Opportunity Seeking, they also tend to display greater levels of Extraversion.

- A small but significant positive correlation was identified between Opportunity Seeking and Agreeableness ($r = .13$, $p = .006$, 95.00% CI = [.04, .23]), suggesting an observable relationship. This indicates that as individuals exhibit higher levels of Opportunity Seeking, there is a tendency for their Agreeableness to increase.
- A small but significant positive correlation was observed between Opportunity Seeking and Conscientiousness ($r = .23$, $p < .001$, 95.00% CI = [.14, .32]), suggesting a noticeable association. This implies that as Opportunity Seeking scores increase, there is a tendency for Conscientiousness to also increase.
- A small but significant positive correlation was identified between Opportunity Seeking and Neuroticism ($r = .15$, $p = .003$, 95.00% CI = [.06, .25]), suggesting a discernible relationship. This denotes that as individuals exhibit higher levels of Opportunity Seeking, there is a tendency for their Neuroticism scores to increase.
- A moderate and significant positive correlation was found between Opportunity Seeking and Openness ($r = .34$, $p < .001$, 95.00% CI = [.26, .43]), suggesting a meaningful effect size. This implies that as Opportunity Seeking scores increase, there is a tendency for Openness to also increase.

Persistence and Personality Traits:

- A moderate and significant positive correlation was observed between Persistence and Extraversion ($r = .35$, $p < .001$, 95.00% CI = [.26, .43]), suggesting a notable effect size. This implies that as Persistence scores increase, there is a tendency for Extraversion to also increase.
- A moderate and significant positive correlation was identified between Persistence and Agreeableness ($r = .30$, $p < .001$, 95.00% CI = [.21, .39]), suggesting a meaningful effect

size. This denotes that as individuals demonstrate higher levels of Persistence, there is a tendency for their Agreeableness scores to increase.

- A moderate and significant positive correlation was found between Persistence and Conscientiousness ($r = .35, p < .001, 95.00\% \text{ CI} = [.27, .44]$), suggesting a substantial effect size. This denotes that as Persistence scores increase, there is a tendency for Conscientiousness to also increase.
- A moderate and significant positive correlation was observed between Persistence and Neuroticism ($r = .31, p < .001, 95.00\% \text{ CI} = [.22, .39]$), suggesting a noteworthy effect size. This implies that as Persistence levels increase, Neuroticism scores also tend to increase.
- A moderate and significant positive correlation was identified between Persistence and Openness ($r = .32, p < .001, 95.00\% \text{ CI} = [.24, .41]$), suggesting a meaningful effect size. This denotes that as individuals exhibit higher levels of Persistence, there is a tendency for their Openness scores to increase.

Commitment to Work Contract and Personality Traits:

- A moderate and significant positive correlation was observed between Commitment to Work Contract and Extraversion ($r = .35, p < .001, 95.00\% \text{ CI} = [.26, .43]$), suggesting a considerable effect size. This denotes that as Commitment to Work Contract increases, there is a tendency for Extraversion to also increase.
- A moderate and significant positive correlation was identified between Commitment to Work Contract and Agreeableness ($r = .30, p < .001, 95.00\% \text{ CI} = [.21, .39]$), suggesting a notable effect size. This denotes that as individuals display higher levels of Commitment to Work Contract, there is a tendency for their Agreeableness scores to increase.
- A moderate and significant positive correlation was found between Commitment to Work Contract and Conscientiousness ($r = .35, p < .001, 95.00\% \text{ CI} = [.27, .44]$), suggesting a meaningful effect size. This denotes that as Commitment to Work Contract

increases, there is a tendency for Conscientiousness to also increase.

- A moderate and significant positive correlation was observed between Commitment to Work Contract and Neuroticism ($r = .31, p < .001, 95.00\% \text{ CI} = [.22, .39]$), suggesting a significant effect size. This implies that as Commitment to Work Contract levels increase, Neuroticism scores also tend to increase.
- A moderate and significant positive correlation was identified between Commitment to Work Contract and Openness ($r = .32, p < .001, 95.00\% \text{ CI} = [.24, .41]$), suggesting a meaningful effect size. This denotes that as individuals exhibit higher levels of Commitment to Work Contract, there is a tendency for their Openness scores to increase.

Demand for Quality and Efficiency and Personality Traits:

- A small but significant positive correlation was discovered between Demand for Quality and Efficiency and Extraversion ($r = .26, p < .001, 95.00\% \text{ CI} = [.18, .34]$), suggesting a modest effect size. This implies that as Demand for Quality and Efficiency increases, there is a tendency for Extraversion to increase.
- A small yet significant positive correlation was observed between Demand for Quality and Efficiency and Agreeableness ($r = .18, p < .001, 95.00\% \text{ CI} = [.10, .26]$), suggesting a slight effect size. This denotes that as Demand for Quality and Efficiency increases, Agreeableness tends to increase.
- A small but significant positive correlation was identified between Demand for Quality and Efficiency and Conscientiousness ($r = .30, p < .001, 95.00\% \text{ CI} = [.21, .38]$), suggesting a modest effect size. This implies that as Demand for Quality and Efficiency increases, Conscientiousness tends to increase.
- A small but significant positive correlation was found between Demand for Quality and Efficiency and Neuroticism ($r = .22, p < .001, 95.00\% \text{ CI} = [.13, .31]$), suggesting a slight effect size. This denotes that as Demand for Quality and Efficiency increases, Neuroticism tends to increase.

- A moderate and significant positive correlation was detected between Demand for Quality and Efficiency and Openness ($r = .34$, $p < .001$, 95.00% CI = [.25, .42]), suggesting a moderate effect size. This denotes that as Demand for Quality and Efficiency increases, there is a tendency for Openness to also increase.

Risk Taking and Personality Traits:

- A small yet significant positive correlation was discovered between Risk Taking and Extraversion ($r = .30$, $p < .001$, 95.00% CI = [.21, .38]), suggesting a small effect size. This implies that as Risk Taking increases, there is a tendency for Extraversion to increase.
- A small but significant positive correlation was observed between Risk Taking and Agreeableness ($r = .28$, $p < .001$, 95.00% CI = [.20, .36]), suggesting a small effect size. This denotes that as Risk Taking increases, Agreeableness tends to increase.
- A small but significant positive correlation was identified between Risk Taking and Conscientiousness ($r = .15$, $p = .002$, 95.00% CI = [.06, .24]), suggesting a small effect size. This implies that as Risk Taking increases, Conscientiousness tends to increase.
- A small yet significant positive correlation was found between Risk Taking and

Neuroticism ($r = .30$, $p < .001$, 95.00% CI = [.22, .38]), suggesting a small effect size. This denotes that as Risk Taking increases, there is a tendency for Neuroticism to increase.

- A moderate and significant positive correlation was detected between Risk Taking and Openness ($r = .34$, $p < .001$, 95.00% CI = [.25, .42]), suggesting a moderate effect size. This denotes that as Risk Taking increases, there is a tendency for Openness to also increase.

Overall, the results indicate significant positive correlations between the entrepreneurial traits (Opportunity Seeking, Persistence, Commitment to Work Contract, Demand for Quality and Efficiency, and Risk Taking) and the Big Five personality traits

The Moderating Role of Gender

The moderating role of gender was examined in relation to the effects of the Big Five personality traits (Openness, Neuroticism, Conscientiousness, Agreeableness, and Extraversion) on entrepreneurial traits. Moderation was evaluated by analyzing the significance of the interaction terms using an alpha level of .05. The variables were observed and not latent constructs, so the interaction terms were created by taking the product of the mean-centered values.

Table 1. Unstandardized Loadings (Standard Errors), Standardized Loadings, and Significance Levels for Each Parameter in the path analysis Model (N = 415)

Parameter Estimate	Unstandardized	Standardized	p
Regressions			
Extraversion → Opportunity_Seeking	0.33(0.06)	0.26	< .001
Agreeableness → Opportunity_Seeking	-0.27(0.06)	-0.21	< .001
Conscientiousness → Opportunity_Seeking	0.20(0.06)	0.15	< .001
Neuroticism → Opportunity_Seeking	-0.07(0.05)	-0.06	.172
Openness → Opportunity_Seeking	0.25(0.05)	0.24	< .001
Gender → Opportunity_Seeking	-0.01(0.05)	-0.01	.774
Extraversion:Gender → Opportunity_Seeking	0.24(0.11)	0.09	.029
Agreeableness:Gender → Opportunity_Seeking	-0.25(0.12)	-0.09	.031
Conscientiousness:Gender → Opportunity_Seeking	-0.13(0.12)	-0.05	.281
Neuroticism:Gender → Opportunity_Seeking	-0.01(0.11)	-0.006	.899
Openness:Gender → Opportunity_Seeking	0.03(0.09)	0.01	.746

The results indicate that gender did not significantly moderate the effect of Openness on Opportunity Seeking ($B = 0.03$, $z = 0.32$, $p = .746$). Similarly, gender did not significantly moderate the effect of Neuroticism ($B = -0.01$, $z = -0.13$, $p = .899$) and Conscientiousness ($B = -0.13$, $z = -1.08$, $p = .281$) on Opportunity Seeking. These findings suggest that, based on this sample, a one-unit increase in Gender does not significantly affect the relationship between these personality traits and Opportunity Seeking.

However, gender did significantly moderate the effect of Agreeableness ($B = -0.25$, $z = -2.15$, $p = .031$) and Extraversion ($B = 0.24$, $z = 2.18$, $p = .029$) on Opportunity Seeking. This indicates that, on average, a one-unit increase in Gender will cause a 0.25 decrease in the slope of Opportunity Seeking on Agreeableness, and a 0.24 increase in the slope of Opportunity Seeking on Extraversion.

Table 2. Unstandardized Loadings (Standard Errors), Standardized Loadings, and Significance Levels for Each Parameter in the path analysis Model (N = 415)

Parameter Estimate	Unstandardized	Standardized	<i>p</i>
Regressions			
Openness → Persistence	0.10(0.05)	0.09	.042
Neuroticism → Persistence	0.05(0.06)	0.04	.422
Conscientiousness → Persistence	0.20(0.06)	0.15	.001
Agreeableness → Persistence	0.04(0.06)	0.03	.479
Extraversion → Persistence	0.22(0.06)	0.17	< .001
Gender → Persistence	0.02(0.05)	0.02	.663
Openness:Gender → Persistence	-0.35(0.10)	-0.17	< .001
Neuroticism:Gender → Persistence	0.10(0.11)	0.04	.385
Conscientiousness:Gender → Persistence	0.01(0.12)	0.004	.923
Agreeableness:Gender → Persistence	-0.24(0.12)	-0.09	.050
Extraversion:Gender → Persistence	0.26(0.12)	0.10	.029

In terms of the moderation effects on Persistence, gender significantly moderated the effect of Extraversion ($B = 0.26$, $z = 2.19$, $p = .029$), suggesting that a one-unit increase in Gender will cause a 0.26 increase in the slope of Persistence on Extraversion. Gender also significantly moderated the effect of Agreeableness ($B = -$

0.24 , $z = -1.96$, $p = .050$), suggesting that a one-unit increase in Gender will cause a 0.24 decrease in the slope of Persistence on Agreeableness. However, gender did not significantly moderate the effects of Conscientiousness ($B = 0.01$, $z = 0.10$, $p = .923$) and Neuroticism ($B = 0.10$, $z = 0.87$, $p = .385$) on Persistence.

Table 3. Unstandardized Loadings (Standard Errors), Standardized Loadings, and Significance Levels for Each Parameter in the path analysis Model (N = 415)

Parameter Estimate	Unstandardized	Standardized	<i>p</i>
Regressions			
Extraversion → Commitment_to_Work_Contract	0.22(0.06)	0.17	< .001
Agreeableness → Commitment_to_Work_Contract	0.04(0.06)	0.03	.479
Conscientiousness → Commitment_to_Work_Contract	0.20(0.06)	0.15	.001

Parameter Estimate	Unstandardized	Standardized	p
Neuroticism → Commitment_to_Work_Contract	0.05(0.06)	0.04	.422
Openness → Commitment_to_Work_Contract	0.10(0.05)	0.09	.042
Gender → Commitment_to_Work_Contract	0.02(0.05)	0.02	.663
Extraversion:Gender → Commitment_to_Work_Contract	0.26(0.12)	0.10	.029
Agreeableness:Gender → Commitment_to_Work_Contract	-0.24(0.12)	-0.09	.050
Conscientiousness:Gender → Commitment_to_Work_Contract	0.01(0.12)	0.004	.923
Neuroticism:Gender → Commitment_to_Work_Contract	0.10(0.11)	0.04	.385
Openness:Gender → Commitment_to_Work_Contract	-0.35(0.10)	-0.17	< .001

Regarding the moderating role of gender on Commitment to Work Contract, gender significantly moderated the effect of Openness ($B = -0.35$, $z = -3.70$, $p < .001$), suggesting that a one-unit increase in Gender will cause a 0.35 decrease in the slope of Commitment to Work

Contract on Openness. However, gender did not significantly moderate the effects of Neuroticism ($B = 0.10$, $z = 0.87$, $p = .385$), Conscientiousness ($B = 0.01$, $z = 0.10$, $p = .923$), and Agreeableness ($B = -0.24$, $z = -1.96$, $p = .050$) on Commitment to Work Contract.

Table 4. Unstandardized Loadings (Standard Errors), Standardized Loadings, and Significance Levels for Each Parameter in the path analysis Model ($N = 415$)

Parameter Estimate	Unstandardize	Standardized	p
Regressions			
Openness → Demand_for_Quality_and_Efficiency	0.22(0.04)	0.23	< .001
Neuroticism → Demand_for_Quality_and_Efficiency	0.01(0.05)	0.01	.784
Conscientiousness → Demand_for_Quality_and_Efficiency	0.21(0.06)	0.17	< .001
Agreeableness → Demand_for_Quality_and_Efficiency	-0.15(0.06)	-0.12	.010
Extraversion → Demand_for_Quality_and_Efficiency	0.12(0.05)	0.10	.031
Gender → Demand_for_Quality_and_Efficiency	0.06(0.05)	0.05	.267
Openness:Gender → Demand_for_Quality_and_Efficiency	-0.26(0.09)	-0.14	.003
Neuroticism:Gender → Demand_for_Quality_and_Efficiency	-0.02(0.10)	-0.008	.861
Conscientiousness:Gender → Demand_for_Quality_and_Efficiency	-0.02(0.11)	-0.006	.894
Agreeableness:Gender → Demand_for_Quality_and_Efficiency	0.03(0.11)	0.01	.814
Extraversion:Gender → Demand_for_Quality_and_Efficiency	0.07(0.11)	0.03	.521

In terms of the moderating role of gender on Demand for Quality and Efficiency, gender did not significantly moderate the effects of Extraversion ($B = 0.07$, $z = 0.64$, $p = .521$), Agreeableness ($B = 0.03$, $z = 0.24$, $p = .814$), Conscientiousness ($B = -0.02$, $z = -0.13$, $p = .894$), and Neuroticism ($B = -0.02$, $z = -0.18$, $p = .861$).

However, gender significantly moderated the effect of Openness ($B = -0.26$, $z = -2.95$, $p = .003$), suggesting that a one-unit increase in Gender will cause a 0.26 decrease in the slope of Demand for Quality and Efficiency on Openness.

Table 5. Unstandardized Loadings (Standard Errors), Standardized Loadings, and Significance Levels for Each Parameter in the path analysis Model (N = 415)

Parameter Estimate	Unstandardized	Standardized	<i>p</i>
Regressions			
Openness → Risk_Taking	0.21(0.04)	0.22	< .001
Neuroticism → Risk_Taking	0.14(0.05)	0.12	.005
Conscientiousness → Risk_Taking	0.06(0.05)	0.04	.307
Agreeableness → Risk_Taking	-0.05(0.05)	-0.04	.381
Extraversion → Risk_Taking	0.15(0.05)	0.13	.004
Gender → Risk_Taking	0.25(0.05)	0.23	< .001
Openness:Gender → Risk_Taking	-0.30(0.09)	-0.15	< .001
Neuroticism:Gender → Risk_Taking	-0.08(0.10)	-0.03	.442
Conscientiousness:Gender → Risk_Taking	-0.29(0.11)	-0.12	.008
Agreeableness:Gender → Risk_Taking	0.26(0.11)	0.11	.016
Extraversion:Gender → Risk_Taking	0.31(0.10)	0.13	.003

In the moderating role of gender on Risk Taking, gender significantly moderated the effects of Openness ($B = -0.30$, $z = -3.51$, $p < .001$), Conscientiousness ($B = -0.29$, $z = -2.65$, $p = .008$), Agreeableness ($B = 0.26$, $z = 2.41$, $p = .016$), and Extraversion ($B = 0.31$, $z = 2.97$, $p = .003$) on Risk Taking. These results indicate that a one-unit increase in Gender will cause a decrease in the slope of Risk Taking on Openness and Conscientiousness, and an increase in the slope of Risk Taking on Agreeableness and Extraversion.

Overall, the findings suggest that gender plays a moderating role in the relationship between certain personality traits and entrepreneurial tendencies. These results highlight the importance of considering the interplay between gender and personality when studying entrepreneurship.

Discussion

The present study aimed to investigate the relationship between entrepreneurial traits

and the Big Five personality traits (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness) among individuals with entrepreneurial intentions. The findings reveal several significant positive correlations, shedding light on the associations between specific personality traits and entrepreneurial tendencies.

First, regarding Opportunity Seeking, our results indicate a significant positive correlation with Extraversion and Openness. This denotes that individuals who are more extraverted and open to new experiences are more likely to actively seek and recognize entrepreneurial opportunities (Rauch and Frese, 2020). These findings align with previous research highlighting the role of extraversion and openness in entrepreneurial behavior, as extraverted individuals tend to be more outgoing and sociable, facilitating networking and opportunity identification, while those high in openness exhibit a greater inclination towards

creativity, innovation, and exploration (Haddoud et al., 2022).

Persistence, as another entrepreneurial trait, demonstrated significant positive correlations with Extraversion, Conscientiousness, and Openness. These results suggest that individuals who are more extraverted, conscientious, and open to new experiences tend to exhibit higher levels of persistence in pursuing their entrepreneurial goals. Extraversion may provide the energy and drive necessary for persistent efforts (Judge et al., 2002), while conscientiousness ensures diligence, perseverance, and self-discipline (Ozer and Benet-Martinez, 2006). Openness may contribute to adaptability and the willingness to persistently explore alternative strategies and solutions (Gimenez-Fernandez et al., 2022).

Commitment to Work Contract, an important aspect of entrepreneurial behavior, showed significant positive correlations with Agreeableness, Conscientiousness, Neuroticism, and Openness. These findings imply that individuals who are more agreeable, conscientious, emotionally reactive (neurotic), and open to new experiences tend to demonstrate a stronger commitment to their work contracts. Agreeableness may foster cooperative and harmonious relationships with stakeholders (Schönherr and Thaler, 2023), while conscientiousness ensures responsibility, reliability, and adherence to contractual obligations (Iglesias et al., 2023). Neuroticism may drive individuals to invest more effort and emotional energy into their work, while openness promotes the enthusiasm and engagement needed for commitment (Bakker et al., 2023).

Demand for Quality and Efficiency, another entrepreneurial trait, exhibited significant positive correlations with Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. These results suggest that individuals who are more extraverted, agreeable, conscientious, emotionally reactive (neurotic), and open to new experiences tend to prioritize and strive for high quality and efficiency in their entrepreneurial endeavors (Zhao, Li, and Chen, 2022). Extraversion may facilitate assertiveness and drive for excellence, while agreeableness fosters a focus on customer satisfaction

and building positive relationships. Conscientiousness ensures attention to detail, organization, and structured processes. Neuroticism may contribute to the pursuit of perfection and the desire to continuously improve, while openness promotes the exploration of innovative methods and cutting-edge technologies to enhance quality and efficiency.

Lastly, Risk Taking, a fundamental aspect of entrepreneurship, showed significant positive correlations with Extraversion, Agreeableness, Neuroticism, and Openness. This implies that individuals who are more extraverted, agreeable, emotionally reactive (neurotic), and open to new experiences tend to exhibit a greater inclination to take risks in their entrepreneurial pursuits. Previous research supports the idea that Extraversion provides the confidence and assertiveness needed to embrace uncertainty and take calculated risks (Sarwar, Sami, and Nauman, 2023). Agreeableness, on the other hand, may encourage risk-taking through a willingness to cooperate, negotiate, and trust others (Rauch et al., 2009). Neuroticism may drive individuals to take risks as a means of achieving greater rewards or avoiding potential losses (Zhao et al., 2010). Openness fosters the exploration of novel and unconventional opportunities, often accompanied by higher risks (Rauch et al., 2009).

The study also investigated the moderating role of gender in the relationship between the Big Five personality traits and entrepreneurial traits. The examination of gender as a moderator provided insights into how the effects of personality traits on entrepreneurial tendencies may vary based on gender.

Firstly, it was found that gender did not significantly moderate the relationship between Openness and Opportunity Seeking, suggesting that the impact of Openness on the inclination to seek opportunities is consistent across genders. Similarly, the effects of Neuroticism and Conscientiousness on Opportunity Seeking were not significantly influenced by gender. These findings indicate that the association between these personality traits and the pursuit of opportunities in entrepreneurship is not contingent on gender.

However, the results demonstrated significant moderation effects of gender on the relationships between Agreeableness and Extraversion with Opportunity Seeking. This implies that the influence of Agreeableness and Extraversion on the propensity to seek opportunities differs depending on gender. Specifically, an increase in gender (from 0 for Females to 1 for Males) was associated with a decrease in the slope of Opportunity Seeking on Agreeableness and an increase in the slope of Opportunity Seeking on Extraversion. These findings suggest that gender may play a role in shaping the relationship between these personality traits and the pursuit of opportunities.

In terms of Persistence, gender significantly moderated the association between Extraversion and Persistence, as well as between Agreeableness and Persistence. The findings indicate that the impact of Extraversion and Agreeableness on persistence levels may vary depending on gender. Specifically, an increase in gender was associated with an increase in the slope of Persistence on Extraversion and a decrease in the slope of Persistence on Agreeableness. These results highlight that gender may influence the extent to which Extraversion and Agreeableness contribute to persistence in an entrepreneurial context.

Furthermore, the analysis revealed that gender moderated the relationships between Openness and Commitment to Work Contract, as well as between Openness and Risk Taking. These findings suggest that gender influences the strength and direction of the associations between Openness and commitment to work contracts and risk-taking behavior. Specifically, an increase in gender was associated with a decrease in the slope of Commitment to Work Contract and Risk Taking on Openness. These results highlight that gender may shape the relationship between Openness and these entrepreneurial traits.

However, it is important to note that gender did not significantly moderate the effects of Neuroticism and Conscientiousness on Persistence, Commitment to Work Contract, and Demand for Quality and Efficiency. These findings suggest that the relationships between these personality traits and these entrepreneurial

characteristics are consistent across genders. These conform as well with the current literature stipulating that some entrepreneurial competencies are gender-influenced while others are not (Devi, 2023).

In conclusion, this study sheds light on the moderating role of gender in the relationship between the Big Five personality traits and entrepreneurial traits. The results indicate that gender influences

Conclusion

In conclusion, this research aimed to examine the relationship between the Big Five personality traits and entrepreneurial traits, while also exploring the moderating role of gender in this relationship. The findings provided valuable insights into how personality traits and gender interact to influence entrepreneurial tendencies.

Overall, the results revealed that certain personality traits, namely Openness, Agreeableness, and Extraversion, play a significant role in predicting various entrepreneurial traits such as Opportunity Seeking, Persistence, Commitment to Work Contract, Risk-Taking, and Demand for Quality and Efficiency. These findings align with previous research highlighting the importance of personality in entrepreneurial behavior.

Moreover, the study demonstrated that gender acts as a moderator, influencing the strength and direction of the relationships between specific personality traits and entrepreneurial traits. Gender was found to moderate the associations between Agreeableness and Extraversion with Opportunity Seeking, Persistence, and Commitment to Work Contract. These findings indicate that the impact of these personality traits on entrepreneurial tendencies differs depending on an individual's gender.

However, it is important to note that gender did not moderate the effects of Neuroticism and Conscientiousness on the examined entrepreneurial traits. This denotes that the relationships between these personality traits and entrepreneurial behaviors are consistent across genders.

The findings of this research have both theoretical and practical implications. Theoretically, they contribute to the existing literature on entrepreneurship and personality by emphasizing the importance of considering gender as a moderating factor. These findings add nuance to our understanding of how personality traits translate into entrepreneurial behaviors and highlight the need for a more comprehensive approach when studying these relationships.

Practically, these findings can inform the development of targeted interventions, support programs, and entrepreneurial training initiatives. Recognizing the differential effects of personality traits on entrepreneurial behaviors based on gender can guide the design of tailored strategies that consider the unique needs and characteristics of individuals of different genders. Such initiatives can effectively support aspiring entrepreneurs in developing their strengths and overcoming challenges, ultimately fostering a more inclusive and diverse entrepreneurial landscape.

Several limitations should be acknowledged in this study. First, the findings are based on a specific sample, which may restrict the generalizability of the results to a broader population. Additionally, the use of self-reported measures introduces inherent biases that should be considered. Future research endeavors should prioritize replicating and expanding upon these findings by incorporating larger and more diverse samples. Furthermore, employing alternative research methodologies can enhance the robustness and validity of the conclusions. By addressing these limitations, future studies can provide a more comprehensive understanding of the topic at hand.

In conclusion, this research contributes to our understanding of the complex interplay between personality traits, gender, and entrepreneurial behavior. By uncovering the moderating role of gender, the study highlights the need for a nuanced approach when investigating the relationship between personality and entrepreneurship. Ultimately, this research provides valuable insights for academia, policy-makers, and practitioners seeking to foster an inclusive and supportive entrepreneurial ecosystem.

Ethical Considerations

The study strictly adhered to ethical considerations and guidelines. Participants were fully informed about the study's purpose, the confidentiality of their responses, and their right to withdraw. Informed consent was obtained from all participants prior to their involvement.

Data collection occurred via an online survey platform, where participants accessed a unique link. They were instructed to provide honest and thoughtful responses to the PEC Scale statements. The survey also included questions about demographic information, such as age, gender, educational background, and entrepreneurial experience.

This study followed ethical guidelines, ensuring participant confidentiality and informed consent. The collected data were used exclusively for research purposes and treated with the utmost confidentiality.

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