

# WHY ARE PROACTIVE EMPLOYEES ALWAYS CREATIVE? A PERSPECTIVE FROM THE DELAY OF GRATIFICATION

**ABSTRACT:** Scholars have long been interested in the relationship between proactive personality and employee creativity. However, the mechanism by which proactive personality contributes to creativity remains unclear. This study aims to investigate how employees with proactive personality are intrinsically motivated to enhance their level of creativity. The research is primarily grounded in self-determination theory. We hypothesised that the delay in gratification would serve as a mediator in the link between proactive personality and employee creativity. We also examine the moderating impact of psychological empowerment on the link between proactive personality and delay of gratification, as well as between proactive personality and creativity. It is evident that over the years, technological evolution has also generated significant impacts on the social and professional level of human beings (Rodrigues, L., Pereira, J., da Silva, A. F., & Ribeiro, H., 2023). A two-wave survey was conducted with a sample of companies located in separate cities and differing in ownership. The survey focused on new technology and innovation. The constructs' reliability and validity were tested using SPSS and Amos software. The best factor model was determined, and regression analysis was conducted. Here are the results. There is a positive correlation between proactive personalities and employee creativity. There is a positive correlation between having a proactive personality and the ability to delay gratification. Delaying gratification and employee creativity both show a positive correlation. The positive relationship between proactive personality and employee creativity is mediated by a delay in gratification. Higher levels of psychological empowerment strengthen the positive correlation between proactive personality and delay of gratification about moderation effects. Conversely, lower levels of psychological empowerment weaken this correlation. The level of psychological empowerment has a significant impact on the relationship between proactive personality and employee creativity. When psychological empowerment is higher, the correlation between proactive personality and employee creativity becomes stronger, and vice versa.

**Keywords:** Proactive Personality, Employee Creativity, Delay of Gratification.

## 1. Introduction

The role of employee creativity (EC) in contributing to a company's core competency is increasingly crucial, particularly in today's highly competitive global environment. Understanding the importance of employee creativity is crucial in the current business landscape of China. In today's dynamic business landscape, companies are under mounting pressure to constantly innovate and set themselves apart from their rivals. The ever-changing market demands, and fierce competition are what are driving this. Therefore, the importance of employee creativity in maintaining a competitive advantage for companies cannot be overstated. Hence, companies must foster and endorse employee creativity and proactivity to remain competitive and flourish in the Chinese market. By adopting this approach, organisations can cultivate an environment that encourages innovation and effectively attracts and retains high-calibre professionals in the field.

Extensive research has been conducted on the factors that influence employee creativity. This body of literature primarily focuses on two main perspectives: the individual

employee and the organisational environment. Employees' personalities, emotions, access to information, motivation, accumulation of knowledge, and social networks are just a few of the variables that influence their creativity. Additionally, the external environment, such as the creative climate and leadership style within the team and company, also play a role in fostering creativity.

It has been observed that employees with proactive personalities tend to have higher performance levels in the workplace. These individuals demonstrate a proactive work ethic, taking initiative, and displaying self-motivation. These qualities increase their likelihood of generating new and innovative ideas. In the present business landscape of China, where creativity and innovation are highly sought after, employees who take initiative are especially prized. When considering various factors, it appears that the impact of an employee's personality on creativity is relatively consistent and enduring. Numerous studies have established a clear correlation between proactive personalities and creativity. Why are employees with proactive personalities more likely to exhibit creativity?

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How do these individuals achieve high levels of creative output? Insufficient attention has been given to this question. The objective of this study is to reveal the inner workings of this enigmatic phenomenon.

Our research centres on the motivation of proactive employees who are driven by intrinsic factors to postpone immediate gratification to pursue greater levels of innovation. In addition, our attention is directed towards the boundary conditions, specifically the moderating variables, of the creativity-generating mechanism mentioned earlier. Our study examines the role of employees' psychological empowerment (PE) in moderating the relationships between proactive personality and delay of gratification (DG), as well as proactive personality and creativity.

This study makes several theoretical contributions. This study provides a systematic analysis of the mechanisms through which PP influences EC. Specifically, it highlights the role of DG as a self-control factor in mediating the effects of PP on EC. This study serves as a valuable addition to the existing literature and offers insights for future research. Furthermore, this study broadens the

scope of self-determination theory. PP suggests a proclivity for actively modifying the surrounding environment. Starting with autonomous motivation, employees at PP are more likely to develop a sense of direction and purpose, expanding upon self-determination theory by incorporating the pursuit of knowledge and the psychological aspect of self-control. Furthermore, this study adds to the existing body of research on DG. The current body of research on DG lacks a systematic approach. This study specifically examines the relationship between DG and EC, offering valuable insights and suggesting new avenues for further research in related fields.

2. Theoretical Model and Hypothesis Development  
Experts Interviews

To enhance the credibility of the theoretical model, we employed the qualitative research method, specifically the expert interview method, to conduct comprehensive interviews with professionals from diverse fields. We conducted interviews with three experts who provided insights into the factors influencing employee creativity. The specific interviews are described below:

Table 3-1: Interview of Expert 1.

| Question   | Answer   |
|--|--|
| 1. How many years of work experience do you have?  | 22 years   |
| 2. What is your company's primary business?  | Investing and operation  |
| 3. What is your current position?  | Director of Human Resources  |
| 4. Do you think your organization values employee creativity? (Please elaborate)   | Employee creativity is essential for the ongoing growth and progress of an organisation. Our company is involved in various sectors, such as real estate development, construction, interior decoration, property management, and commercial operations. We place great importance on fostering employee creativity. The more creative our employees are, the more social value they contribute to the company. We promote the ongoing development of employee creativity as a priority in our daily operations. Our focus is on fostering personal growth through ongoing education, critical thinking, and creative thinking. We frequently hold brainstorming sessions to address complex problems, enabling employees to demonstrate their worth and enhance their productivity. This contributes to the company's ongoing growth and vitality.  |
| 5. How do you define creativity? (In academia, creativity refers to the ability to generate novel and practical solutions)   | In the business world, creativity is all about coming up with fresh and innovative ideas and approaches to enhance different processes within an organisation. The process involves transforming and modernising conventional methods to enhance efficiency and expedite work processes, ultimately achieving the company's business objectives swiftly.   |
| 6. How do you measure the creativity level of employees?   | Employee creativity is primarily evaluated by considering their education, age, work experience, and position within the company. In addition, the organisation considers the employees' loyalty, enthusiasm, and emotional performance in their work. The sense of belonging and teamwork within the company greatly impacts employee creativity. Individuals who possess advanced cultural and professional competence often demonstrate enhanced levels of creativity and innovation. There is a positive correlation between high levels of creativity and various desirable outcomes in the workplace, such as increased work enthusiasm, stronger company attachment, and improved efficiency.   |
| 7. What factors do you believe can cultivate employee creativity in the workplace? (For example, more interaction and idea exchange with employees from other departments) | We hold specialised learning and development programmes for senior staff at our property management branches to encourage employee creativity. We arrange educational tours for companies in the same industry. To solve complex issues, we also lead departmental collaboration sessions. To identify and reward great achievement, the organisation offers incentives. Monthly service excellence awards, quarterly star staff recognition, and annual outstanding individual awards are examples. We strongly encourage employees to engage in professional skill training and provide incentives for obtaining professional qualifications. We conduct regular surveys to assess the training needs of our employees and offer targeted training programmes to improve their job skills. Overall, in the realm of daily work management, we employ a range of strategies across various production and operational activities to effectively address the diverse abilities, personalities, and professional knowledge of our employees. This approach aims to foster and amplify their creativity. |
| 8. In your opinion, how does a proactive personality affect an employee's creativity level?  | A proactive personality is closely linked to a positive and proactive approach to tasks. Employees with these qualities are more likely to demonstrate a strong sense of responsibility and accountability in their work. Positive emotions at work foster a concentration on individual creativity. When confronted with work tasks, individuals tend to produce innovative and effective solutions, resulting in favourable evaluations and expanding their cognitive abilities, ultimately fostering their creativity.  |
| 9. Can you provide an example of how employees with proactive personalities generate high levels of creativity?  | Mr. Zhu is proactive. After taking office, he struggled to collect secondary property management fees. Due to many project issues, including construction issues. Mr. Zhu thoroughly examined the personnel, procedures, and departmental coordination. He proposed an Engineering Maintenance Centre to coordinate maintenance across divisions. The 1207 guideline mandated answering calls within one minute, arriving on-site within twenty minutes, and completing time-sensitive repairs within seven days. This unique technique disrupted the repair process, solved engineering maintenance problems, and exceeded the initial performance goal by a large margin.  |

|  |   |
|--|---|
| 10. What do you think a proactive employee needs to achieve a high level of creativity? (For example, factors related to self-improvement and the influence of external leaders) | A proactive, creative employee must examine internal and external issues. It takes a strong drive for self-learning, a true passion for work, a proactive approach that transcends personal boundaries, and a deep sense of fulfilment and contentment when duties are finished. Various external elements affect an organisation's success. These include strong leadership, effective management, acknowledging and appreciating employee contributions, fostering teamwork, providing internal career growth opportunities, implementing effective incentive programmes, establishing comprehensive training systems, creating a positive work environment, and adopting flexible regulations and policies. Employee creativity is affected by many things.  |
| 11. What advice do you have for organizations looking to stimulate employee creativity?  | 1. Match job positions to individual strengths, ensuring the right person is in the right role, which not only enhances work efficiency but also boosts individual work enthusiasm. 2. Provide effective training to enhance employee job efficiency. 3. Show care for employees; let them know the organization cares about them. Failing to do so can affect their self-confidence and creativity. 4. Establish and improve various incentive measures, including both psychological and material incentives, to foster creativity in employees. 5. Leaders should engage more at the grassroots level, offer words of encouragement, and praise different employees daily. These actions often have unexpected positive effects on motivating employees and improving productivity. 6. Develop a strong organizational culture to foster employee belonging. 7. Assist employees in career planning and establish a rational internal promotion mechanism. |

Table 3-2: Interview of Expert 2.

| Question   | Answer  |
|--|---|
| 1. How many years of work experience do you have?  | 8 years   |
| 2. What is your company's primary business?  | Teaching and training   |
| 3. What is your current position?  | Head of the Teaching and Research Group   |
| 4. Do you think your organization values employee creativity? (Please elaborate)   | Yes, our organization highly values employee creativity. We stimulate teachers' creativity through various means, such as integrating information technology into teaching, heterogeneous teaching, and integrating subject units.                                    |
| 5. How do you define creativity? (In academia, creativity refers to the ability to generate novel and practical solutions)   | Creativity is having a strong desire for knowledge and introducing innovative teaching methods based on this foundation, leading to the development of innovative students.   |
| 6. How do you measure the creativity level of employees?   | We measure it by looking for qualities like optimism, humour, self-confidence, broad interests, and a willingness to accept different viewpoints.   |
| 7. What factors do you believe can cultivate employee creativity in the workplace? (For example, more interaction and idea exchange with employees from other departments)       | To cultivate employee creativity, it's essential to grasp modern educational theories, organize research and learning activities, and embrace the integration of information technology in the classroom.   |
| 8. In your opinion, how does a proactive personality affect an employee's creativity level?  | Teachers with proactive personalities tend to have more flexible thinking and unique ideas, which are conducive to creating an innovative classroom environment.  |
| 9. Can you provide an example of how employees with proactive personalities generate high levels of creativity?  | Teachers who infuse colourful and exciting materials into their lessons or create engaging games to make dull subjects more interesting tend to have higher student engagement and popularity.  |
| 10. What do you think a proactive employee needs to achieve a high level of creativity? (For example, factors related to self-improvement and the influence of external leaders) | Internally, they should have a diverse knowledge structure, grasp modern educational theories, incorporate creativity principles and methods into teaching, possess a scientific methodology, and have extensive knowledge in various scientific and cultural fields. |
| 11. What advice do you have for organizations looking to stimulate employee creativity?  | Do not negate or limit people's thoughts. Dare to let go and be willing to experiment.  |

Table 3-3: Interview of Expert 3.

| Question  | Answer  |
|---|---|
| 1. How many years of work experience do you have?   | I am 37 years old this year, and I have over 15 years of work experience.   |
| 2. What is your company's primary business?   | Real Estate Development and Architectural Design  |
| 3. What is your current position?   | I am the Project General Manager.   |
| 4. Do you think your organization values employee creativity? (Please elaborate)                                | Yes, our organization values employee creativity. As a real estate development company, we encounter design and construction issues in the early stages of projects, which can lead to defects and cost overruns. Our employees are proactive in identifying and implementing solutions during the construction process.  |
| 5. How do you define creativity?  | Creativity, in my view, involves proposing effective modifications that both save costs and maintain project quality.   |
| 6. How do you measure the creativity level of employees?  | We measure creativity in terms of marketing achievements, such as achieving specific publicity goals, attracting a certain number of customers, and meeting sales targets.  |
| 7. What factors do you believe can cultivate employee creativity in the workplace?                              | We promote creativity through a range of meetings and discussions, such as weekly meetings, on-site visits to construction sites, and inter-departmental exchanges. When construction encounters design-related problems, we engage design institutes and supervisory companies to thoroughly assess and modify the plans. We engage in discussions and develop plans for modifications to enhance sales and customer satisfaction. We also record these lessons for future projects to prevent similar issues from arising again.  |
| 8. In your opinion, how does a proactive personality affect an employee's creativity level?                     | An employee who takes initiative has a positive impact on their surroundings, spreading optimism. Individuals who are proactive have a quality that can be quite contagious. Their optimistic outlook and proactive approach, whether in sales or middle management, are vital to the company's progress and the professional development of its employees.   |
| 9. Can you provide an example of how employees with proactive personalities generate high levels of creativity? | Our Project Property Manager demonstrates a proactive and gentle work style, coupled with strong execution. In the early stages of our project property department, when there was limited awareness of property services in the county, he successfully developed a team of exceptional property managers and maintenance personnel. Throughout the initial stage of project handover, there were a significant number of complaints and maintenance requests. The Property Manager provided thorough explanations and promptly resolved every complaint, establishing a reputation for exceptional property services that has become synonymous with our property management. |
| 10. What do you think a proactive employee needs to achieve a high level of creativity?                         | Proactive employees can achieve high levels of creativity by 1. Setting examples and benchmarks. 2. Providing regular training to empower the team and foster self-improvement. 3. Receiving recognition and awards from senior leadership.   |
| 11. What advice do you have for organizations looking to stimulate employee creativity?                         | 1. Encourage and empower leaders to inspire and lead their teams. 2. Set examples and benchmarks within the organization. 3. Foster competition to motivate employees. 4. Provide frequent encouragement, recognition, and assessments. 5. Share the company's vision with the team and implement it step by step.  |

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The theoretical model for this work has been constructed based on a literature analysis and expert interviews, as depicted in Figure 3-1. Self-determination theory posits that individuals' actions are driven by distinct forms of work motivation, namely autonomous motivation, or controlled motivation. Autonomous motivation refers to a powerful drive towards a specific activity or behaviour that arises from recognising its inherent value, such as genuine interest or personal significance. In contrast, controlled motivation is driven by external factors such as rewards, avoidance of punishment, or social recognition. The individual can control and choose autonomous motivation, which is characterised by a greater level of self-determination. Controlled motivation, in contrast, lacks control and selectivity, exhibiting a diminished level of self-determination. Seibert, Crant, and Kraimer (1999) introduced the concept of proactive personality, which refers to the consistent inclination of individuals to engage in proactive behaviours that have an impact on their surroundings, actively enhancing or establishing advantageous new situations.

Proactive personality refers to people who actively initiate changes in their surroundings rather than simply accepting environmental forces as a characteristic of their personality. Individuals possessing a proactive personality exhibit autonomous motivation, wherein their decision to engage in a certain behaviour is driven by their true desire rather than the anticipation of external rewards or the avoidance of punishment. The correlation between proactive personality and creativity has been extensively studied (Kim, Hon, & Crant, 2009; Seibert et al., 1999; Mom, Van Den Bosch, & Volberda, 2007), offering avenues for investigating ways to enhance creativity among personnel with proactive personalities. The Componential Theory of Organisational Creativity posits that creativity is influenced by several key elements, including domain-specific abilities, creativity-related cognitive processes, intrinsic motivation towards work, and the external work environment. To enhance creativity, personnel should amass expertise in their field, enhance their intrinsic motivation for creativity, demonstrate perseverance, and operate within an environment that encourages experimentation and offers support from their superiors.

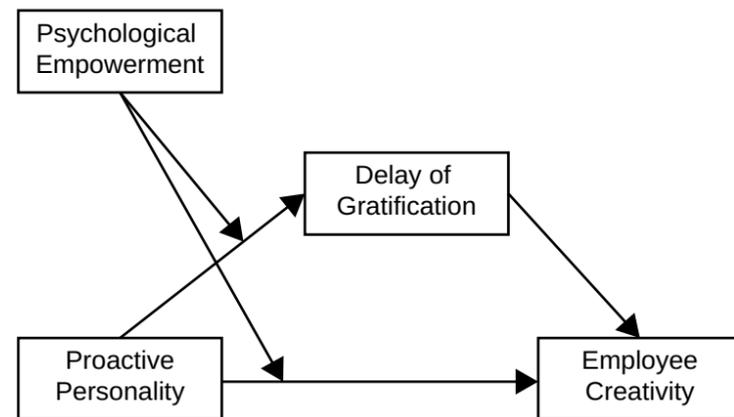


Figure 3-1: Hypothetical Model.

After considering these elements, proactive employees' inventiveness can be increased. Proactive workers take charge of their work and delay gratification. This lets them invest in their work, which boosts creativity. Leadership and a creative environment can also affect creativity, according to the Componential Theory of Organisational Creativity. This study analyses how psychological empowerment affects the process mentioned. Psychological empowerment combines psychological states or cognitions. It acts as a boundary condition here.

**Proactive Personality and Employee Creativity**  
Self-Determination Theory suggests that various

forms of motivation drive individuals' behaviours. Autonomous motivation arises from an intrinsic desire to participate in a particular activity or behaviour due to its inherent value or personal significance. Intrinsic motivation, which is fuelled by genuine interest and personal fulfilment, is fundamentally different from controlled motivation, which stems from external incentives like rewards, punishments, or social recognition. It is evident that autonomous motivation is characterised by a greater level of self-determination, while controlled motivation is influenced by external factors that are outside of an individual's control (Deci & Ryan, 1985, 2000).

In addition, the Componential Theory of Organisational Creativity (Amabile, 1983) suggests that creativity is influenced by various factors. These factors include skills related to the specific domain, processes related to creativity, intrinsic motivation towards one's work, and the external work environment. Employees' ability to tap into their creative potential is closely linked to factors such as professional knowledge, autonomous motivation, persistence, a supportive environment for experimentation and learning, and leadership support.

Within this context, PP embodies a personality trait that involves actively shaping the environment instead of passively yielding to external pressures. People who possess a strong sense of PP tend to act based on their own intrinsic motivation. They base their decision to engage in a particular behaviour on their internal drive and sincere interest, rather than external incentives or consequences. Prior research has extensively examined the correlation between PP and creativity, with studies conducted by Seibert et al. (1999) and Kim et al. (2009). These studies have laid solid groundwork for further exploration of the pathway to creativity for proactive employees. Thus, it's proposed that:

Hypothesis 1: PP positively related to EC.

### The Mediation Effect of Delay of Gratification

Renn et al. (2005) emphasised that individuals who struggle with delayed gratification are more prone to self-management failures. One reason for this is that individuals who have difficulty delaying gratification often face challenges in effectively managing their attention. As a result, individuals often struggle to resist immediate rewards and wrestle with the desire for instant gratification. These tendencies can hinder their ability to effectively monitor their environment and engage in self-management. In addition, Nowakowski and Conlon (2005) propose that individuals who have a greater tendency to delay gratification demonstrate a heightened focus on future outcomes. As a result, they work harder, receive a fairer portion of the results, and feel a greater sense of fairness in the distribution. Research has shown that avoiding impulsive time-discounting behaviour can have significant benefits in terms of financial security and health. These areas often require significant investments of time and energy. Recent studies have shown that the ability to delay gratification is a strong predictor of short-term job performance among newly recruited employees (Liu & Yu, 2017).

Employees who possess proactive personalities often demonstrate a tendency to delay the immediate

gratification that comes from completing tasks, drawing on the concept of autonomy motivation for inspiration. Instead, people choose to remain devoted to their work because they want to develop their creative abilities. The relationship between proactive personality and delayed gratification is both intricate and fascinating. Delayed gratification has been associated with self-control and psychological maturity, and it can have a positive influence on an individual's ability to manage themselves, their work performance, and their long-term outcomes. When combined with proactive personality traits, it enhances a strong work ethic that values delayed gratification, ultimately promoting creativity and innovation in the workplace. The interplay between these personality traits highlights their complex impact on both individual and organisational dynamics.

Thus, it's hypothesized that:

Hypothesis 2: PP is positively related to DG.

Hypothesis 3: DG is positively related to EC.

Hypothesis 4: DG mediates the positive relationship between PP and EC.

### Moderation Effect of Psychological Empowerment

Psychological Empowerment (PE) is a concept developed by Spreitzer (1995) that focuses on an individual's psychological states and perceptions. These factors have a significant impact on their motivation to participate in creative activities. Multiple studies in the field of organisational behaviour have highlighted the significance of organisational empowerment behaviours in fostering Employee Creativity (EC) and innovative behaviours. However, these studies highlight the importance of subordinates' psychological perceptions, specifically their PE, in determining the effectiveness of organisational empowerment behaviours. Employees must understand and adopt empowering behaviours to enhance their intrinsic motivation, leading to increased creativity and innovation (Zhang & Bartol, 2010). Thus, we include PE as a contextual factor in our model.

PE, as a motivation for tasks, indicates a strong sense of personal control and active involvement in one's work (Seibert, Wang, & Courtright, 2011). According to Aggarwal et al. (2020), individuals with elevated levels of PE are more inclined to perceive their work as meaningful, exhibit increased self-efficacy, appreciate autonomy, and possess a sense of competence. In addition, the cognitive perception of employees, known as PE, enhances agility. PE promotes employee initiative, adaptability, and resilience through intrinsic motivation and self-efficacy (Muduli & Pandya, 2018).

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New research has shed more light on the connection between PE and innovative work behaviour. For example, research has shown that servant leadership has a beneficial effect on innovative work behaviour by influencing personal effectiveness. Servant leadership promotes employee autonomy, encourages their involvement in decision-making, and fosters transparent information sharing (Khan et al., 2022).

PE enhances the favourable qualities linked to proactive personalities, such as independence and drive. Employees who possess a strong sense of personal engagement naturally derive significance and worth from their work, thereby strengthening their dedication to their responsibilities. Their strong sense of purpose drives their initiative and strengthens their willingness to take autonomous actions. As a result, proactive personalities in the workplace benefit greatly from the amplifying effects of PE, which acts as a catalyst.

Thus, it's proposed the following:

Hypothesis 5: PE positively moderates the relationship between PP and DG, and when the level of PE is higher, the positive relationship between PP and DG is stronger, and vice versa.

Hypothesis 6: PE positively moderates the relationship between PP and EC; when the level of PE is higher, the positive relationship between PP and EC is stronger, and vice versa.

3. Empirical Analysis and Hypothesis Testing  
Sample and Procedure

The research sample consisted of science and technology-based small and medium-sized enterprises from Henan Province. There are several justifications for selecting science and technology-based small and medium-sized enterprises in Henan Province as the research subject for investigating the mechanisms of proactive personality on employee creativity.

Henan Province's science and technology-based small and medium-sized enterprises can be viewed as a representation of similar enterprises in China and around the world. They encompass a wide array of industries, organisational structures, and employee profiles. Hence, examining this group of corporate employees can offer valuable insights that can be applied to a wider range of organisations. Furthermore, China, being an emerging market, has experienced substantial economic growth and made notable strides in technology. Henan Province, as a significant industrial centre, showcases the distinct challenges and opportunities that arise in such settings. Examining the impact of proactive

personality on creativity in this context can provide valuable insights into the intricacies of innovation and creativity in fast-paced markets.

Furthermore, small, and medium-sized enterprises frequently face resource constraints in comparison to their larger counterparts. The constraint mentioned can influence the way proactive personality traits are expressed and how they influence creativity in the organisation. Examining this context can provide valuable insights for managers and policymakers regarding promoting innovation in resource-limited environments. Henan Province's cultural and geographical differences may affect employee behaviour and creativity differently than in other locations. Understanding these localised processes is crucial to developing precise interventions that boost creativity in this context. Henan Province's science- and technology-based small and medium-sized enterprises research can also advise local firms and politicians. These findings can help regional companies improve their HR management and create a more creative and innovative workplace. And can extend its policies to the whole country.

Ultimately, studying science and technology-based small and medium-sized enterprises in Henan Province provides a valuable opportunity to examine how proactive personality impacts employee creativity. This research considers the context of a representative, dynamic, resource-constrained, culturally unique, and practically relevant setting. This decision improves the external validity and applicability of the research findings to a broader array of organisations and regions.

Next, 25 scientific and technology-focused Henan Province SMEs were randomly selected. Before distributing the questionnaires, the researcher informed respondents that their responses would be anonymized and used for academic study. The original questionnaires were in English; thus, back-translation was employed to assure quality. The initial questionnaire was created from the Chinese version using open-ended surveys, expert and target audience reviews, pre-testing, reliability analysis, and exploratory factor analysis. The final questionnaires for this study were used after this process.

The survey was carried out in two phases. During Time Point 1, participants were asked to provide demographic details such as age, gender, education level, and years of work experience. At the same time, participants were instructed to respond to questions assessing proactive personality, personal learning, and delay of gratification.

The questionnaires were distributed to a sample of

800 employees from 25 randomly chosen enterprises. The distribution was done through web links or paper questionnaires. Staff members were notified that their active involvement and successful completion of the survey would qualify them for incentives. In total, we collected 709 paired responses, which yielded an impressive response rate of 88.63%. Two months later, at Time Point 2, the 709 employees who had previously participated were given another questionnaire. This time, they were asked to answer questions about psychological empowerment and ambidextrous leadership. To minimise the common-method error, leaders were requested to evaluate the creativity levels of their subordinates. A total of 642 responses were received for this stage, resulting in a response rate of 90.55%. 35 surveys were excluded due to incomplete or identical responses across all questions in the questionnaire. The resulting dataset consisted of 607 questionnaires, reflecting a response rate of 75.88%.

In this questionnaire survey, all items on the scales were presented using a Likert scale format. The scale ranged from 1 (strong disagreement with the item's description) to 5 (strong agreement with the item's description). Respondents were instructed to select their responses based on their individual circumstances.

Reliability and Validity Test

The scale was initially translated into Chinese using the back-translation method. After analysing the open-ended questionnaire and consulting with experts and employees, certain adjustments were made to the questions. As a result, the initial scale for assessing

proactive personalities was established. In the pre-survey phase, the reliability of the scale was assessed to remove entries that had little or no impact on the overall reliability. Subsequently, the dimensional structure of the scale was determined using Exploratory Factor Analysis (EFA) and Certified Factor Analysis (CFA).

**Proactive Personality:** In their 1999 study, Seibert et al. put forth a definition of PP that highlights how individuals proactively engage in behaviours to shape their surroundings. This definition emphasises how individuals take initiative to improve existing environments or create new ones that are more favourable. The PP scale used in this study is derived from a 10-item scale developed by Seibert et al. (1999), which focuses on a single dimension. Items used to assess proactive personality were as follows: "Wherever I have been, I have been a powerful force for constructive change"; "Nothing is more exciting than seeing my ideas turn into reality"; "No matter what the odds, if I believe in something I will make it happen"; "I love being a champion for my ideas, even against others' opposition"; "If I believe in an idea, no obstacle will prevent me from making it happen"; "I can spot a good opportunity long before others can".

The formal research utilised a ten-item scale derived from Seibert et al. (1999) following the process. Reliability and validity tests were conducted for this scale. The Cronbach's  $\alpha$  value for the scale was 0.935, which indicates strong internal consistency. The final scale can be found in the appendix. The validity test can be seen from Figure 5-1.

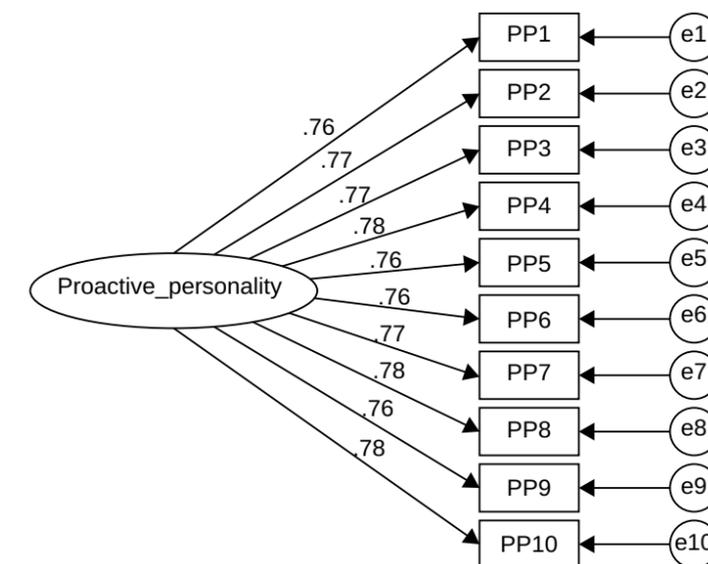


Figure 5-1: Confirmatory Factor Analysis for Proactive Personality Scale.

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The regression weights for each item were found to be statistically significant when compared to their corresponding factor. All seven validity indices for measuring the Proactive Personality Scale fell within the recommended ranges, as shown in Table 5-1. This suggests that the Proactive Personality Scale has good validity.

Table 5-1: Validity Test for Proactive Personality Scale.

| Indicator Name | Value | Recommended Range of Values          |
|----------------|-------|--------------------------------------|
|                | .948  | Below 5, lower than 3 is better      |
| GFI            | .989  | 0.9 or higher, closer to 1 is better |
| NFI            | .991  | 0.9 or higher, closer to 1 is better |
| TLI            | 1     | 0.9 or higher, closer to 1 is better |
| CFI            | 1     | 0.9 or higher, closer to 1 is better |
| RMR            | .017  | Below 0.1, lower than 0.08 is better |
| RMSEA          | .00   | Below 0.1, lower than 0.05 is better |

**Delay of Gratification:** Delayed gratification is a process that emphasises an individual's commitment to achieving long-lasting and valuable satisfactions. It involves maintaining self-control and endurance

throughout the journey towards the goal (Ray & Najman, 1986). The scale used to measure delayed gratification consists of 8 questions derived from Liu et al.'s research conducted in 2007 and 2018 and one of the items is "I often work late into the night to get the job done better". In accordance with the principles, the English version of the scale was initially translated into a Chinese scale using the back-translation method. After analysing the responses from the questionnaire and consulting with experts and employees, certain adjustments were made to the questions. As a result, a concise scale consisting of eight items was developed to measure the delay in gratification.

The formal research utilised an eight-item scale that was derived from previous studies conducted by Ray & Najman (1986) and Liu et al. (2007); Liu and Wang (2018). Reliability and validity tests were performed on this scale. The Cronbach's  $\alpha$  value for the scale was 0.932, suggesting strong internal consistency with no need to remove any items. The final scale can be found in the appendix. Figure 5-2 provides a visual representation of the validity test.

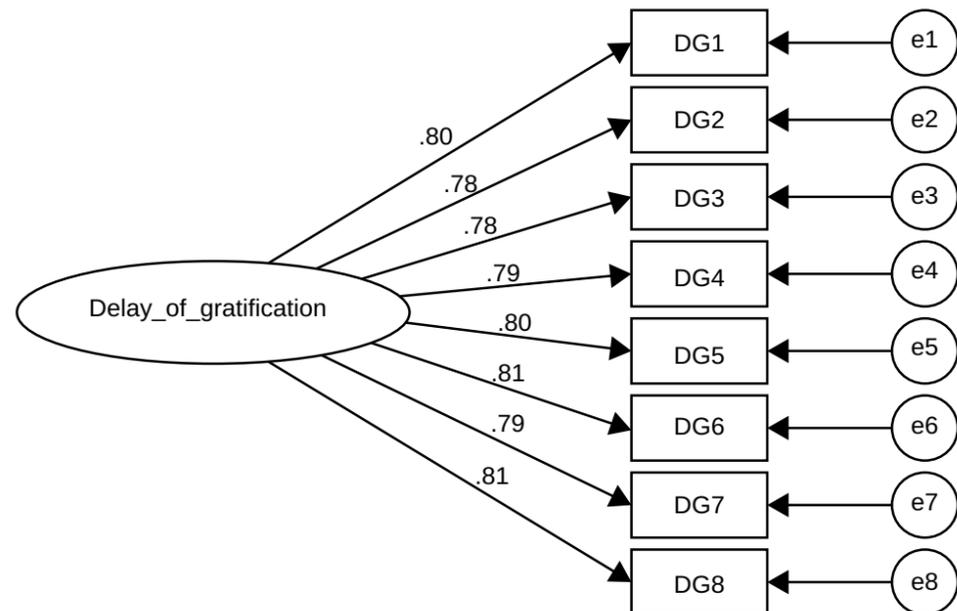


Figure 5-2: Confirmatory factor Analysis for Delay of Gratification Scale.

The regression weights for each item were found to be statistically significant when compared to their corresponding factor. All seven validity indices for measuring the Proactive Personality Scale fell within the recommended ranges, as shown in Table 5-2. This suggests that the Proactive Personality Scale has good validity.

Table 5-2: Validity Test for Delay of Gratification Scale.

| Indicator Name | Value | Recommended Range of Values          |
|----------------|-------|--------------------------------------|
|                | 1.45  | Below 5, lower than 3 is better      |
| GFI            | .988  | 0.9 or higher, closer to 1 is better |
| NFI            | .991  | 0.9 or higher, closer to 1 is better |
| TLI            | .997  | 0.9 or higher, closer to 1 is better |
| CFI            | .996  | 0.9 or higher, closer to 1 is better |
| RMR            | .02   | Below 0.1, lower than 0.08 is better |
| RMSEA          | .027  | Below 0.1, lower than 0.05 is better |

**Employee Creativity:** Amabile (1988, 1993) defines creativity as the capacity to generate original and useful ideas. The EC scale utilised in this study was derived from a widely employed scale (Gong, Huang, & Farh, 2009). One of the items is "I am always able to generate ideas at work". To decrease the desire effect, we invite the direct leader of the respondents to evaluate subordinate's creativity. In accordance with the principles, the English version of the scale was initially translated into a Chinese scale using the back-translation method. After analysing the responses from the questionnaire and consulting with experts

and employees, certain adjustments were made to the questions. As a result, a concise scale consisting of nine items was developed to measure employee creativity.

The formal research utilised a nine-item scale derived from Gong et al. (2009) based on the process. Reliability and validity tests were conducted for this scale. The Cronbach's  $\alpha$  value for the scale was 0.934, which indicates strong internal consistency. The final scale can be found in the appendix. Figure 5-3 provides a visual representation of the validity test.

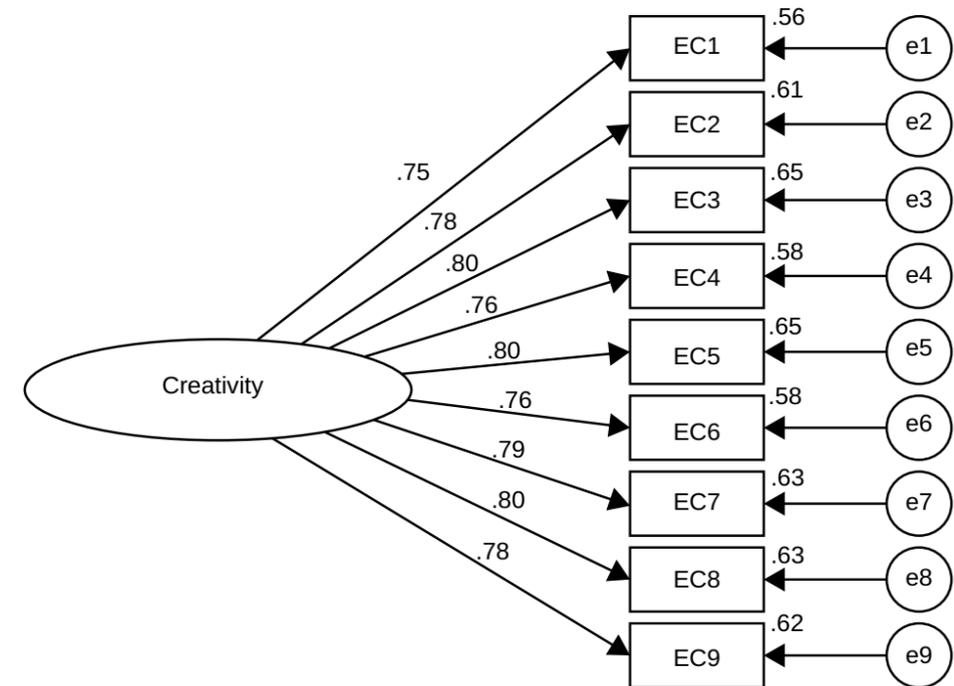


Figure 5-3: Confirmatory Factor Analysis for Employee Creativity Scale.

The regression weights for each item were found to be statistically significant when compared to their corresponding factor. All seven validity indices for measuring the Employee Creativity Scale fell within

the recommended ranges, as shown in Table 5-3. This suggests that the Employee Creativity Scale has good validity.

Table 5-3: Validity Test for Employee creativity Scale.

| Indicator Name | Value | Recommended Range of Values          |
|----------------|-------|--------------------------------------|
|                | 2.089 | Below 5, lower than 3 is better      |
| GFI            | .979  | 0.9 or higher, closer to 1 is better |
| NFI            | .984  | 0.9 or higher, closer to 1 is better |
| TLI            | .989  | 0.9 or higher, closer to 1 is better |
| CFI            | .992  | 0.9 or higher, closer to 1 is better |
| RMR            | .025  | Below 0.1, lower than 0.08 is better |
| RMSEA          | .042  | Below 0.1, lower than 0.05 is better |

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**Psychological Empowerment:** PE refers to the psychological states and perceptions that individuals experience in relation to their work. This includes factors such as work meaning, self-efficacy, autonomy, and work impact (Spreitzer, 1995). The questionnaire includes 12 questions, with one item addressing the significance of the work performed. In accordance with the principles, the English version of the scale was initially translated into a Chinese scale using the back-translation method. After analysing the open-ended questionnaire and considering the feedback from experts and employees, a total of six items were removed, i.e., "The work I do is very important to me", "I am confident about my ability to do my job", "I am self-assured about my capabilities to perform

my work activities", "I have significant autonomy in determining how I do my job", "I can decide on my own how to go about doing my work", "My impact on what happens in my department is large". Finally, the initial scale with six items used for the psychological empowerment was formed.

The formal research utilised a six-item scale derived from Spreitzer's work in 1995. Reliability and validity tests were conducted for this scale. The Cronbach's  $\alpha$  value for the scale was 0.903, indicating strong internal consistency without the need to remove any items. The final scale can be found in the appendix. Figure 5-4 provides a clear indication of the validity test.

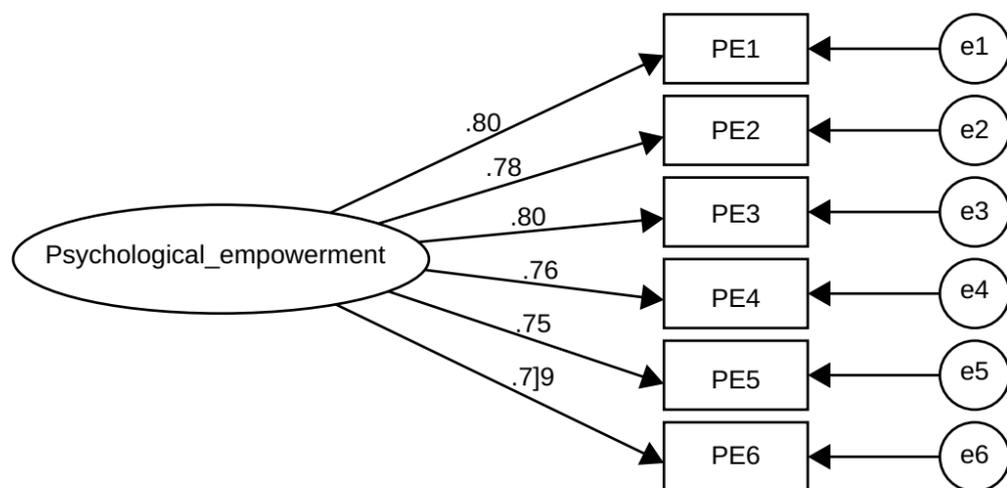


Figure 5-4: Confirmatory Factor Analysis for Psychological Empowerment Scale.

The regression weights for each item with its corresponding factor were statistically significant. All seven validity indices for measuring the Psychological Empowerment Scale fell within the recommended ranges, as shown in Table 5-4. This suggests that the Psychological Empowerment Scale has good validity.

Table 5-4: Validity Test for Psychological Empowerment Scale.

| Indicator Name | Value | Recommended Range of Values          |
|----------------|-------|--------------------------------------|
|                | 1.682 | Below 5, lower than 3 is better      |
| GFI            | .992  | 0.9 or higher, closer to 1 is better |
| NFI            | .993  | 0.9 or higher, closer to 1 is better |
| TLI            | .995  | 0.9 or higher, closer to 1 is better |
| CFI            | .997  | 0.9 or higher, closer to 1 is better |
| RMR            | .018  | Below 0.1, lower than 0.08 is better |
| RMSEA          | .034  | Below 0.1, lower than 0.05 is better |

**Model Fit Test**

The regression weights for each item and its corresponding factor were found to be statistically significant. The validity indices for measuring the theoretical model were found to fall within the recommended ranges, as shown in Table 3-1. This suggests a good fit for the theoretical model.

Table 3-1: Validity Test.

| Indicator Name | Value | Recommended Range of Values          |
|----------------|-------|--------------------------------------|
|                | 1.047 | Below 5, lower than 3 is better      |
| GFI            | .952  | 0.9 or higher, closer to 1 is better |
| NFI            | .962  | 0.9 or higher, closer to 1 is better |
| TLI            | .998  | 0.9 or higher, closer to 1 is better |
| CFI            | .998  | 0.9 or higher, closer to 1 is better |
| RMR            | .033  | Below 0.1, lower than 0.08 is better |
| RMSEA          | .009  | Below 0.1, lower than 0.05 is better |

**Regression Analysis**

The descriptive results of the variables are presented in Table 3-2. Out of a total of 607 employees, 322 were male and 285 were female. 76.6% of the employees were from the generations of the 80s, 90s, and 00s. There were 208 individuals with a bachelor's degree or below, 333 individuals with a master's degree, and 66 individuals

with a doctoral degree. At present, the company has a total of 61 employees who have less than 1 year of experience. Additionally, there are 131 employees with 1-3 years of experience, 132 employees with 3-5 years of experience, 79 employees with 5-8 years of experience, 66 employees with 8-10 years of experience, and 138 employees with over 10 years of experience.

Table 3-2: Descriptive Results.

|           | M    | SD   | Gender | Age     | Tenure | Education | PP     | DG     | PE     | EC     |
|-----------|------|------|--------|---------|--------|-----------|--------|--------|--------|--------|
| gender    | 1.47 | 0.50 |        |         |        |           |        |        |        |        |
| age       | 3.24 | 1.08 | 0.07   |         |        |           |        |        |        |        |
| tenure    | 4.31 | 1.53 | -.102* | -.870** |        |           |        |        |        |        |
| education | 2.78 | 0.69 | -0.05  | 0.04    | 0.02   |           |        |        |        |        |
| PP        | 3.37 | 0.92 | 0.00   | 0.01    | 0.02   | .094*     | (.935) |        |        |        |
| DG        | 3.32 | 0.99 | -0.01  | 0.07    | -0.05  | 0.06      | .479** | (.932) |        |        |
| PE        | 3.32 | 0.95 | -0.07  | 0.00    | 0.03   | .084*     | .387** | .449** | (.934) |        |
| EC        | 3.37 | 0.94 | 0.00   | 0.03    | -0.03  | 0.05      | .433** | .441** | .422** | (.903) |

NOTE: N = 607. \*p < 0.05, \*\*p < 0.001. Reliabilities are in parentheses.

The variables in the table showed a significant correlation, highlighting the need for additional regression analysis. The results of the regression analysis are presented below.

Hypothesis 1 suggests a positive relationship between

PP and EC, while Hypothesis 2 assumes a positive connection between PP and DG. Additionally, Hypothesis 3 proposes a positive association between DG and EC. Finally, Hypothesis 4 suggests that DG acts as a mediator between PP and EC, as confirmed in Table 3-3.

Table 3-3: Results of Mediation Regression.

| Dependent variable | DG      |       | EC     |       |
|--------------------|---------|-------|--------|-------|
|                    | B       | SE    | B      | SE    |
| PP                 | 0.513** | 0.038 | 0.29** | 0.041 |
| DG                 |         |       | 0.3**  | 0.038 |
| PP→DG→EC           |         |       | 0.15** |       |

Notes: \*\* p<.05.

Hypothesis 5 suggests that the level of PE has a moderating effect on the relationship between PP and DG. Specifically, when PE is higher, the positive

relationship between PP and DG becomes stronger, and vice versa. Furthermore, the validity of this hypothesis is confirmed through the data presented in Table 3-4.

Table 3-4: Result of Interaction Effect Analysis.

| Conditional effect of PP on DG at values of the moderator (PE): |        |       |        |       |
|---|--------|-------|--------|-------|
| PE  | Effect | Se    | t      | p     |
| 2.345   | 0.138  | 0.054 | 2.555  | 0.011 |
| 3.323   | 0.367  | 0.038 | 9.632  | 0.000 |
| 4.271   | 0.597  | 0.05  | 11.868 | 0.000 |

The direct impact of DG on PP and PL is clearly illustrated in Figure 3-1.

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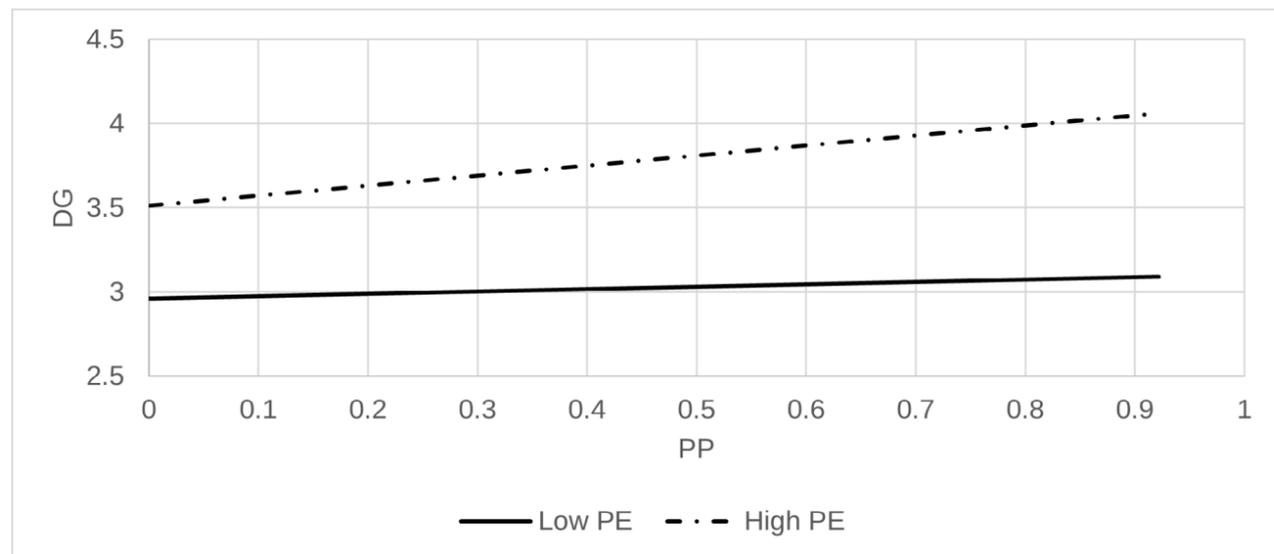


Figure 3-1: Moderation effect of PE on PP and DG.

Hypothesis 6 suggests that there is a positive moderation effect of PE on the relationship between PP and EC. Specifically, when the level of PE is higher, the positive relationship between PP and EC

becomes stronger, and vice versa. Furthermore, the validity of this hypothesis is confirmed through the data presented in Table 3-5.

Table 3-5: Result of Interaction Effect Analysis.

| Conditional effect of PP on EC at values of the moderator (PE): |        |       |       |       |
|---|--------|-------|-------|-------|
| PE  | Effect | Ee    | t     | p     |
| 2.345   | 0.128  | 0.054 | 2.392 | 0.017 |
| 3.323   | 0.31   | 0.038 | 8.168 | 0.000 |
| 4.271   | 0.49   | 0.05  | 9.821 | 0.000 |

And the moderation effect of PE on PP and EC can be seen directly in Figure 3-2.

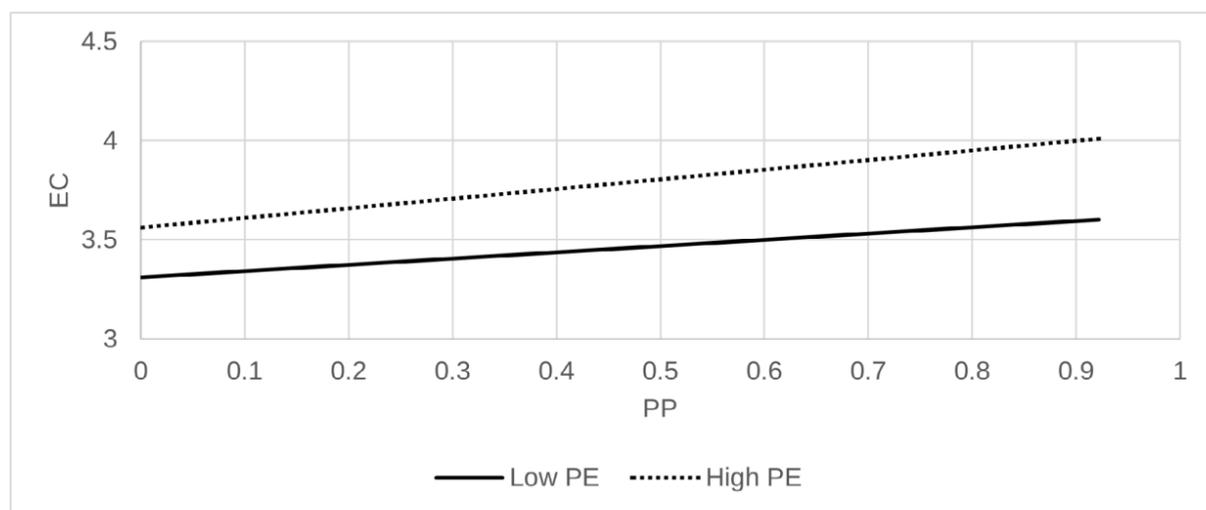


Figure 3-2: Moderation effect of PE on PP and EC.

Based on the regression results presented above, it can be concluded that all hypotheses have been supported.

4. Conclusion

Theoretical Contributions

First, this study provides a systematic analysis of the mechanisms through which PP influences EC. Specifically, it demonstrates that PP impacts EC by acting on DG as a self-control factor. This study serves as a valuable addition to the existing literature and offers insights for future research.

Second, this study extends the scope of self-determination theory. PP suggests a proclivity for actively modifying the surrounding environment. Employees at PP are more likely to develop a sense of self-determination, which expands on the theory of self-determination by incorporating the pursuit of knowledge and psychological self-control.

Third, this study adds to existing research on DG. The current body of research on DG lacks a systematic approach. This study specifically examines the relationship between DG and EC, offering valuable insights and suggesting new avenues for further research in related fields.

Practical Implications

The findings of this study have significant implications for managers. Organisations can harness the power of proactive personality traits in their employees to cultivate a culture of creativity. In addition, gaining insight into the relationship between proactive personality and delay of gratification can assist organisations in creating training and development initiatives that enhance employees' decision-making abilities, time management, and overall performance.

Furthermore, acknowledging the significance of psychological empowerment as a moderator can assist organisations in fostering a work environment that amplifies the beneficial impacts of proactive personality and personal learning.

Limitation and Future Directions

This study makes a substantial contribution to the field, although it does have some limitations. The data was collected from a specific industry or organisation, which may restrict the applicability of the findings to other industries or contexts. Further investigation is necessary to validate these findings across different organisational contexts.

In addition, the study specifically examined a defined set of variables and their relationships. It is important to acknowledge that there may be additional factors

or interactions that were not considered in this study, which could potentially impact the connection between proactive personality and employee creativity. Investigating these previously unexamined mechanisms may lead to a more thorough comprehension of the phenomenon.

For further investigation. An avenue worth exploring is the examination of the effects of these variables and relationships in various cultural and organisational contexts. Examining cross-cultural studies can provide valuable insights into the variations of these dynamics in different settings.

This research represents a significant advancement in comprehending the intricate relationship between proactive personality, delay of gratification, psychological empowerment, and employee creativity. This study uncovers the process by which proactive employees demonstrate creativity. Further investigation is necessary to delve deeper into these dynamics across various contexts to enhance our understanding of this area of study.

Reference

Aggarwal, A., Chand, P. K., Jhamb, D., & Mittal, A. (2020). Leader-member exchange, work engagement, and psychological withdrawal behavior: the mediating role of psychological empowerment. *Frontiers in psychology, 11*, 423. <https://doi.org/10.3389/fpsyg.2020.00423>

Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of personality and social psychology, 45*(2), 357-376. <https://doi.org/10.1037/0022-3514.45.2.357>

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior* (1st ed.). Springer. <https://doi.org/10.1007/978-1-4899-2271-7>

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological inquiry, 11*(4), 227-268. [https://doi.org/10.1207/S15327965PLI1104\\_01](https://doi.org/10.1207/S15327965PLI1104_01)

Gong, Y., Huang, J.-C., & Farh, J.-L. (2009). Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy. *Academy of management Journal, 52*(4), 765-778. <https://doi.org/10.5465/amj.2009.43670890>

Khan, M. M., Mubarik, M. S., Islam, T., Rehman, A., Ahmed, S. S., Khan, E., & Sohail, F. (2022). How servant leadership triggers innovative work behavior: exploring the sequential mediating role of psychological empowerment and job crafting. *European Journal of Innovation Management, 25*(4), 1037-1055. <https://doi.org/10.1108/EJIM-09-2020-0367>

## WHY ARE PROACTIVE EMPLOYEES ALWAYS CREATIVE? A PERSPECTIVE FROM THE DELAY OF GRATIFICATION

Kim, T.-Y., Hon, A. H., & Crant, J. M. (2009). Proactive personality, employee creativity, and newcomer outcomes: A longitudinal study. *Journal of Business and Psychology*, 24, 93-103. <https://doi.org/10.1007/s10869-009-9094-4>

Liu, X., Hao, C., Chen, J., & Cui, H. (2007). The influence of organizational career management on occupational promise and job satisfaction: vocational delay of gratification as a mediator. *Acta Psychologica Sinica*, 39(04), 715. <https://journal.psych.ac.cn/acps/EN/Y2007/V39/I04/715>

Liu, X., & Wang, M. (2018). The Influence of Employee Voice Behavior on Career Delayed Satisfaction: An Analysis of the Moderating Role of Social Support. *Journal of Guangzhou University (Natural Science Edition)*, 17(1), 88-94. <https://www.cqvip.com/qk/90730a/201801/7000552610.html>

Liu, X., & Yu, K. (2017). Delay of gratification in predicting job performance in new employees: A time-varying process and the moderating role of perceived informational justice. *Journal of Pacific Rim Psychology*, 11, e4. <https://doi.org/10.1017/prp.2017.4>

Muduli, A., & Pandya, G. (2018). Psychological empowerment and workforce agility. *Psychological Studies*, 63(3), 276-285. <https://doi.org/10.1007/s12646-018-0456-8>

Nowakowski, J. M., & Conlon, D. E. (2005). Organizational justice: Looking back, looking forward. *International Journal of Conflict Management*, 16(1), 4-29. <https://doi.org/10.1108/eb022921>

Renn, R. W., Allen, D. G., Fedor, D. B., & Davis, W. D. (2005). The roles of personality and self-defeating behaviors in self-management failure. *Journal of Management*, 31(5), 659-679. <https://doi.org/10.1177/0149206305279053>

Seibert, S. E., Crant, J. M., & Kraimer, M. L. (1999). Proactive personality and career success. *Journal of applied psychology*, 84(3), 416-427. <https://doi.org/10.1037/0021-9010.84.3.416>

Rodrigues, L., Pereira, J., da Silva, A. F., & Ribeiro, H. (2023). The impact of artificial intelligence on audit profession. *Journal of Information Systems Engineering and Management*, 8(1), 19002. <https://doi.org/10.55267/iaedt.07.12743>

Seibert, S. E., Wang, G., & Courtright, S. H. (2011). Antecedents and consequences of psychological and team empowerment in organizations: a meta-analytic review. *Journal of applied psychology*, 96(5), 981-1003. <https://doi.org/10.1037/a0022676>

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of management Journal*, 38(5), 1442-1465. <https://doi.org/10.5465/256865>

Zhang, X., & Bartol, K. M. (2010). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. *Academy of management Journal*, 53(1), 107-128. <https://doi.org/10.5465/amj.2010.48037118>

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