



## The Moderating Role of Organizational Intelligence in Psychological Empowerment and Creative Thinking

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### Abstract

The study explored the relationship between psychological empowerment through its dimensions (meaning, competence, sense of influence, choice), and creative thinking with its dimensions (logical thinking, critical thinking, lateral thinking). The moderated role of organizational intelligence with its dimensions (strategic vision, shared fate, appetite of change, alignment and congruence, heart, knowledge deployment, and performance pressure) was tested in the relationship between the two variables. Kufa University was chosen as the community for the study, and the study sample consisted of (264) university professors. The study found a relationship between psychological empowerment and creative thinking, and that the presence of organizational intelligence moderates these two variables by a large percentage.

**Keywords:** Organizational Intelligence, Psychological Empowerment, Creative Thinking.

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### Introduction

Creativity is one of the most significant attributes influencing all aspects of life and is considered one of the most pressing challenges for modern management: how to cultivate employees with creative thinking skills (Moshdey & Arabshahi, 2008). Creative thinking is a fundamental cognitive ability in the 21st century (Yao, Liu, & Chen, 2024). With the increasing demand for creative talent in the economy and society amid the new technological revolution, it is insufficient to merely memorize or understand knowledge. Employees must grasp complex skills to meet the diverse challenges of the external environment (Shin, Postiglione, & Ho, 2018; Wu, Wu, Chen, & Chen, 2014). Among the skills that employees must possess are communication, collaboration, critical thinking, problem-solving, self-management, and creative thinking, which holds special significance as it is the source of scientific and technological innovation, contributing to organizational restructuring (Frydenberg & Andone, 2011; Yudha, Dafik, & Yuliati, 2018).

Undoubtedly, creative thinking requires support to flourish and manifest clearly within organizations. This support or complement is psychological empowerment and organizational intelligence. The term 'organizational intelligence' gained prominence in the 1980s when researchers asserted that an

organization's greatest intelligence lies in its collective mental capabilities that lead to superior performance (Bkhshian, Hamidi, & Ezati, 2011).

Although organizational intelligence has received relatively little attention from researchers in the field of management, it has begun to play a fundamental role in contemporary management research (Abdelwahab, 2010). Supporting the concept of organizational intelligence contributes to increasing organizational effectiveness through learning and adaptation (Le, Nguyen, & Bui, 2024). Organizational intelligence represents a set of reciprocal interactions and feedback between system components on the one hand and the external environment on the other. Researchers Saarinen and Hamalainen (2007) described organizational intelligence as a smart and creative response to a complex situation. Activating the role of organizational intelligence in organizations requires them to allow employees to act freely and express their opinions without fear of management decisions. Empowerment is one of the most important factors in the success of organizations and achieving desired results. It is a process of feeling internally and externally in control. Being psychologically empowered means having a better motivational orientation towards one's job, feeling independent in one's decisions, and having a sense of control, which in turn leads to job satisfaction and participation. This, in turn, leads to creative thinking, as psychological empowerment keeps employees satisfied with their jobs (Sun, Zhang, Qi, & Chen, 2012; Amundsen & Martinsen, 2015). Contemporary developments have driven organizations to adopt numerous fundamental changes, most notably psychological empowerment, to create a suitable work environment for employees.

This defines the extent to which an organization cares about their well-being while performing their job duties, leading to motivation to exert maximum effort. Moreover, psychological empowerment contributes to supporting employees' creative and innovative tendencies, thereby improving organizational performance (Dogan & Otken, 2011). This study aims to uncover the role of psychological empowerment in enhancing creative thinking through the mediation of organizational intelligence among employees. This is considered a modern administrative approach that enhances employees' capabilities and increases efficiency and effectiveness of performance, as confirmed by researchers (Jawahar, Stone, & Kisamore, 2007). Therefore, this research can contribute to several aspects related to the studied organizations:

First, the current study tests some variables that can contribute to increasing levels of creative thinking, as one of the important factors for organizational success. Second, the current study tests its variables in the environment of government academic institutions. For the educational sector in Iraq to thrive, educational institutions must motivate employees to increase their creative output through empowerment. Third, the current study can contribute to providing guidance to decision-makers in academic institutions to restructure human resources within them.

## **Literature Review**

### **Psychological Empowerment**

Psychological empowerment is considered one of the most important primary skills that have a significant impact on individuals' creative thinking. According to Spreitzer's theory of psychological empowerment (1995), it functions as an effective mechanism within organizations (Zhu, Sosik, Riggio, & Yang, 2012) and is defined as "the psychological states of feeling capable of influencing one's work environment" (Spreitzer, 2008:17; Mangundjaya, 2019). It is also described as the behaviors, feelings, and psychological state of employees, through which they feel capable of performing their work freely (Allameh, Heydari, & Davoodi, 2012). Others have argued that empowerment involves increasing intrinsic work motivation through four dimensions characterized by a sense of competence, self-determination, meaning, and impact (Kranthi, Rai, & Showry, 2024).

Psychological empowerment primarily focuses on developing trust, motivation, participation in decision-making, and removing any barriers between employees and upper management. It expands the boundaries of communication between employees and upper management, thus enabling better decision-

making (Seibert, Wang, & Courtright, 2011). Psychological empowerment plays a significant role in increasing the motivation to accomplish tasks through employees' feelings of personal competence, interaction with each other and their supervisors, independence, and freedom to perform their tasks, which reduces problems among employees in the organization (Mendes, 2014; Allameh et al., 2012).

High psychological empowerment enhances employees' self-belief and self-efficacy, especially when coupled with their feeling of influence over the organizational environment. This leads to increased engagement in their work as a result of their feelings of autonomy, competence, and impact on the organization (Mangundjaya, Arumi, & Wicaksana, 2024). Given the importance of psychological empowerment in organizations, top management should continuously reinforce it. There are increasing motivations towards psychological empowerment, manifested in a set of dimensions that reflect an individual's orientation and role in work. Spreitzer (1995) identified four dimensions to measure psychological empowerment:

1. **Meaning:** This refers to the feeling of importance and value of the tasks performed by employees, and the extent of alignment between their personal goals and their work goals. The greater the alignment, the greater the value and importance of the work in their eyes, resulting in loyalty and commitment from these employees (Mendes, 2014).
2. **Competence:** Competence is defined as a person's belief in their ability to perform activities skillfully. When employees realize that they have the competence to use available resources to accomplish tasks, they will be able to maximize their use of these resources (Sigala, 2011). When employees feel capable of completing a task efficiently, it increases their internal beliefs in their ability to perform the work effectively. Competence arises from the reinforcement of training, education, and experience (Seibert et al., 2011).
3. **Sense of influence:** An individual believes in their ability to influence the outcomes and outputs of work, and the response of others to their ideas as a result of their knowledge and abilities. They feel the ability to influence and control work strategies and policies within the organization (Spreitzer, 1995). Organizational leaders who promote participatory decision-making increase employees' sense of importance to the organization, making employees more productive and encouraging creativity at work. Also, leaders' focus on employee well-being enhances the alignment between the organization's values and employees, developing their feelings towards the organization (Mendes, 2014).
4. **Choice:** This is the individual's independence in initiating and organizing work behaviors, manifested in decision-making. An empowered employee enjoys independence in performing their tasks (Spreitzer, 1995). Autonomy is related to an individual's opportunity to choose tasks and perform them in ways they see fit; empowered individuals feel free to choose how to perform their work and control their actions, which means meeting their psychological needs and thus increasing their motivation to work (DelVecchio, Deeter-Schmelz, & Anselmi, 2013). (Al-Sharifi, Almayali, & Haddawee, 2023) believe that providing psychological support to employees enhances their independence and competence and also reduces the stress they may experience.

### **Organizational Intelligence**

Organizational intelligence is defined as an organization's ability to use all its mental faculties and focus that mental power on accomplishing its mission (Albrecht, 2003). It is also referred to as an organization's ability to gather information, innovate, generate knowledge, and act effectively based on the knowledge it has generated (Akgün, Byrne, & Keskin, 2007). The line between individual intelligence and organizational intelligence is not very clear, making it difficult to easily distinguish between these constructs. This is because organizational intelligence is inherently a social process, and building theories of organizational intelligence based solely on theories of individual intelligence tends to be neglected. Conversely, applying individual intelligence fails to understand the social nature of organizational intelligence, thus requiring a social theory to shape it (Akgün, Lynn, & Byrne, 2003).

Dimensions of organizational intelligence include strategic vision, shared destiny, desire for change, heart, alignment, knowledge dissemination, and performance pressure (Moshdey & Arabshahi, 2008). According to Albrecht (2003), organizational intelligence consists of seven dimensions:

1. **Strategic Vision:** This means that the organization formulates its own vision that outlines its goals and works to achieve them to support its survival and foster creativity and innovation. It expresses the organization's ability to achieve justice, articulate its goals, and develop a clear vision for its future in a changing and unstable environment. Vision refers to a set of perceptions of what the organization should be in the future, which occurs when members of the organization share values and beliefs. Vision also expresses the tasks to be accomplished (Albrecht, 2003; Moshdey & Arabshahi, 2008).
2. **Shared Fate:** When all parties share an understanding and knowledge of the mission that shapes the organization's existence, a shared destiny is created that binds them to the success and survival of the organization. All members of the organization feel a sense of community that is enhanced through communication skills, respect for values among members, and their sense of belonging to the organization and being a part of it (Albrecht, 2003).
3. **Appetite of Change:** The process by which the organization changes its strategies, technology, infrastructure, or overall structure of the organization, taking into account the consequences of those changes. Internal or external changes cause change (Stouten, Rousseau, & De Cremer: 2018).
4. **Alignment and Congruence:** This means that there is a match between an individual's values, goals, and attitudes and what exists in the organization, and that both the individual and the organization have the ability to meet each other's needs (Wang & Wang, 2018).
5. **Heart:** This is manifested in the desire of employees to perform more than is required or expected of them, with the aim of achieving success and excellence for the organization they work for. This is because they believe that their success is linked to the success of the organization, and that the organization cares about their needs, so they are optimistic and willing to exert more effort than is required of them (Albrecht, 2003).
6. **Knowledge Deployment:** The process of knowledge dissemination is described as the process by which knowledge possessed by individuals is transferred to others (Zheng, 2017). According to Dong, Bartol, and Zhang (2017), the exchange of knowledge among individuals increases their creativity and development.
7. **Performance Pressure:** Yan and Xie (2016) described work stress as a continuous chain of physiological, psychological, and behavioral reactions that arise from the continuous impact of stressors on the individual in the organization. According to Gutnick, Walter, Nijstad, and De Drew (2012), work stress leads to increased levels of creativity and flexibility among individuals, as it is associated with resources that, in turn, are positively related to challenges.

### **Creative Thinking**

Researchers (Adil, Khan, Khan, & Qureshi, 2018) described creative thinking as the ability to put existing ideas together in new combinations when dealing with problems and solutions. Creative thinking is a comprehensive, high-level thinking process that relies on divergent, theoretical, and problem-solving thinking (Huang, Chang, & Chou, 2020). Horikami and Takahashi (2014) mentioned that creative thinking consists of three dimensions: logical thinking, critical thinking, and lateral thinking.

- **Logical thinking:** involves mental processes where the individual is active and requires an organized knowledge base integrated into the individual's cognitive structure. Logical thinking occurs when an individual faces a problem for which they do not have a ready-made solution or an experimental method, as they practice it to try to understand the reasons and causes behind the occurrence of things and is based on theoretical evidence and proofs.

- **Critical thinking:** is a highly disciplined intellectual process that involves using cognitive skills such as conceptualizing, explaining, analyzing, synthesizing, and evaluating to reach a sound and unbiased judgment, then finding solutions to address challenges that may arise in the future.

- **Lateral thinking:** is one of the modern patterns of thinking in research and problem-solving using unconventional methods. Lateral thinking can be learned, practiced, and used, and the skill can be acquired to the same extent as any other skill.

## Hypotheses Development

### Psychological Empowerment and Creative Thinking

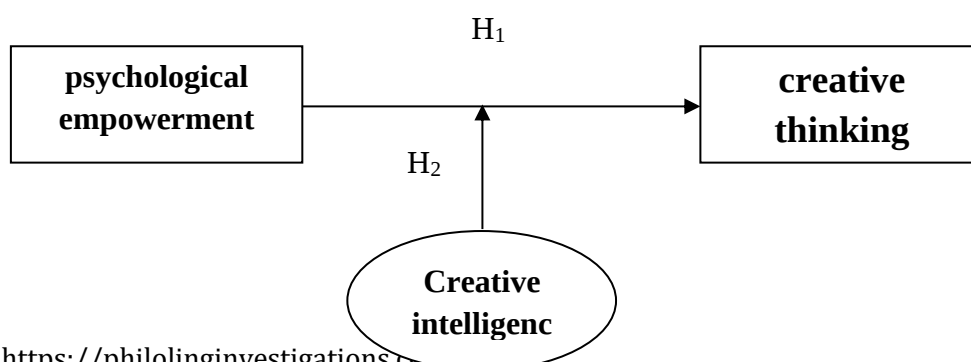
Psychological empowerment is a manifestation of intrinsic motivation, reflecting the extent to which employees' values and beliefs align with the demands of their work, and the degree to which individuals believe that their skills will help them succeed in their jobs. In the same context, it also refers to individuals' belief that their abilities can influence work activities, outcomes, and the realization of creative thinking. In short, psychological empowerment reflects an active orientation and a sense of control towards work (Mahmood & Al-Dulami, 2023).

Empowerment theory posits that empowered employees have a more positive orientation toward their work. This reflects the orientation that employees desire. Psychological empowerment can reduce the harmful effects of work stress, allowing employees to seize opportunities, take risks, and take corrective actions. Therefore, psychological empowerment is a critical factor in increasing employees' willingness to take risks by introducing new ideas and is essential for stimulating and managing creativity in organizations. Employees' creative efforts persist despite the prevalence of environmental and organizational obstacles, and having the freedom to make decisions improves their creative energy (Vansteenkiste, Ryan & Soenens, 2020). As a result, they have more confidence in handling challenging tasks, the ability to cope with stress, and are more positive at work, embodying independence and a sense of control in initiating and continuing work behaviors. For example, this can include decisions related to work methods, procedures, and efforts, and it stimulates creative behaviors that reflect the creation of something new or different, which is a behavior directed towards positive change. Therefore, empowering employees stimulates their creative energies, as providing employees with independence makes them feel less constrained by others in terms of technical aspects or adherence to work rules.

Researchers (Tripathi & Bharadwaja, 2020; Feng, Jacobsen & Reik, 2010) have found a relationship between empowerment and creative thinking among employees. Employees perform their work more creatively if they are motivated by developing their interest and appetite for work, and by improving their intrinsic motivation rather than through threats or incentives, which contributes effectively to promoting positive thinking that contributes to the development of the organization. Figure 1 shows the hypothesized model of the study.

The most creative employees are those who have a tendency towards curiosity, are learning-oriented, have high cognitive flexibility, are willing to take risks, and are more persistent in facing obstacles and challenges (Vansteenkiste et al., 2020). When an individual sees that their work is impactful and contributes to achieving organizational goals, they will be more motivated. When an employee realizes that their work is meaningful, they are willing to exert extra effort to perform their work skillfully and creatively (Zhang & Bartoi, 2010). Based on the foregoing, the current study tests the following hypothesis:

**H<sub>1</sub>: There is a significant effect of psychological empowerment in achieving creative thinking**



**Figure 1: Hypothesis model of the study**

### **Psychological Empowerment and Moderated Role of Creative Thinking**

The Moderating Role of Organizational Intelligence Organizations today face a changing and complex environment, emphasizing the need for creativity and organizational intelligence. Managers must ensure that they develop and enhance the capabilities of their employees to contribute to problem-solving, participate in decision-making, generate new ideas, work in a team spirit, and ultimately achieve creativity in work (Volery & Tarabkina, 2021).

In this context, it is necessary to provide as much independence and freedom as possible for employees to perform their tasks to enhance their organizational intelligence and to provide an environment that encourages the production of creative ideas in a way that contributes to achieving the organization's goals while providing them with opportunities for growth, ambition, and building positive relationships between subordinates and leaders. This clarifies that psychological empowerment is of great conceptual importance to creativity (Mikalef & Gupta, 2021). Empirical studies have proven the positive impact of psychological empowerment on creativity. Therefore, since creative thinking is the production of new and useful ideas, psychological empowerment is a motivational construct or an internal drive manifested in a set of perceptions. Perceptions of psychological empowerment are positively related to creativity, as individuals who feel empowered are more likely to produce creative ideas and engage in creative activities. Similarly, psychological empowerment affects creativity by positively influencing an individual's intrinsic motivation. Other studies have suggested that feelings of self-confidence, competence, and organizational intelligence can enhance creative thinking. Moreover, psychological empowerment has been shown to influence individual innovative behavior (Ayoub, Al-Akhras, Na'anah, & Al-Madadha, 2018). In general, psychological empowerment acts as an internal motivator to increase an individual's orientation towards work, and this perception results in new and innovative ideas, thus enhancing creative thinking as proposed in the hypothesized model of the research (Figure 1). Previous studies have shown that individual-level creative thinking has an impact on job performance outcomes. For example, an individual's creativity affects their job performance, as there is a positive correlation between an individual's creativity and performance (Müller-Stewens, Widener, Möller, & Steinmann, 2020; Harrison, Jiao, & Chen, 2022). According to the foregoing, the current study tests the following hypothesis:

**H<sub>2</sub>: There is a significant effect of psychological empowerment on creative thinking through the moderating role of organizational intelligence.**

### **Methods**

The University of Kufa in Najaf was selected as the population for the current study. The sample size was determined to collect the necessary data for the research objectives and hypotheses by selecting five respondents for each item of the scale (Klein, 2009:12). To ensure an appropriate sample size, 275 questionnaires were distributed manually, of which 264 were retrieved and suitable for statistical analysis, giving a response rate of 96%, which is acceptable and meets the requirements of the required sample size.

**Measures:** The research relied on previous studies to measure its variables, which had been previously tested in various environments, as follows:

- **Psychological Empowerment (PE):** Psychological empowerment was measured using Spreitzer's scale (1995), which measures psychological empowerment through four dimensions: meaningfulness (MF) comprising 4 items, competence (CM) comprising 3 items, self-efficacy (SI) comprising 3 items, and

choice (CS) comprising 3 items. A five-point Likert scale was used, ranging from "never" (1) to "always" (5).

- **Creative Thinking (CT):** The dimensions identified by Horikami and Takahashi (2014) were used, which are three dimensions: logical thinking (LT) comprising 10 items, critical thinking (CT) comprising 11 items, and lateral thinking (LA) comprising 11 items. All items were measured using a five-point Likert scale ranging from "strongly agree" (5) to "strongly disagree" (1).

- **Organizational Intelligence (OI):** Organizational intelligence was measured using Albrecht's scale (2003), which measures organizational intelligence through seven dimensions: strategic vision (SV) comprising 5 items, shared fate (SF) comprising 5 items, acceptance of change (AC) comprising 5 items, alignment and consistency (AL) comprising 5 items, giving (CHA) comprising 4 items, knowledge dissemination (KD) comprising 6 items, and performance pressure (PP) comprising 5 items. A five-point Likert scale was used, ranging from "strongly agree" (5) to "strongly disagree" (1).

## Results

### Reliability and Validity Testing

To ensure the suitability of the data for conducting other statistical analyses to achieve the research objectives, reliability and validity tests (Cronbach's alpha) were conducted on the data as follows:

**Reliability Test:** The purpose of the reliability test is to verify the consistency of the responses by reapplying the instrument to the same sample and obtaining the same responses at a different time. It means the breadth of the study scale and the stability of the results. The reliability coefficient ranges between zero and one. The closer the reliability coefficient is to one, the higher the reliability. The Cronbach's alpha coefficient was used, and statistical studies indicate that it is acceptable in administrative and behavioral research when the coefficient values are equal to or greater than 70% (Nunnally & Bernstein, 1994). As for the validity criterion, it proves that the items actually measure the main purpose for which they were designed, and it is acceptable with values greater than 70%. After conducting the test application, it was clear that all the dimensions yielded acceptable results individually and collectively, as shown in Table 1.

**Table (1) Reliability coefficient for dimensions and items**

| Variables                                         | Dimensions         | Item | Reliability coefficient | Validity coefficient |
|---------------------------------------------------|--------------------|------|-------------------------|----------------------|
| Psychological empowerment                         | Meaning Fullness   | 4    | 74.3%                   | 83.8%                |
|                                                   | Competence         | 3    | 72.6%                   | 85.8%                |
|                                                   | Sense of Impact    | 3    | 77.3%                   | 86.5%                |
|                                                   | Choice             | 3    | 71.2%                   | 84.4%                |
| All Dimensions of Psychological Empowerment Items |                    | 13   | 85.3%                   | 94.0%                |
| Creative thinking                                 | Logical thinking   | 10   | 75.9%                   | 87.1%                |
|                                                   | Critical thinking  | 11   | 84.7%                   | 91.4%                |
|                                                   | Lateral thinking   | 11   | 79.7%                   | 89.3%                |
| All Dimensions of Creative Thinking Items         |                    | 32   | 92.2%                   | 96.0%                |
| Organizational intelligence                       | Strategic Vision   | 5    | 86.9%                   | 94.3%                |
|                                                   | Shared Fate        | 5    | 72.7%                   | 82.1%                |
|                                                   | Appetite of Change | 5    | 74.6%                   | 82.2%                |

|                                                            |                                 |           |              |              |
|------------------------------------------------------------|---------------------------------|-----------|--------------|--------------|
|                                                            | <b>Alignment and Congruence</b> | <b>5</b>  | <b>74.8%</b> | <b>84.7%</b> |
|                                                            | <b>Heart</b>                    | <b>4</b>  | <b>80.3%</b> | <b>78.4%</b> |
|                                                            | <b>Knowledge Deployment</b>     | <b>6</b>  | <b>79.4%</b> | <b>91.6%</b> |
|                                                            | <b>Performance Pressure</b>     | <b>5</b>  | <b>83.6%</b> | <b>89.8%</b> |
| <b>All Dimensions of Organizational Intelligence Items</b> |                                 | <b>35</b> | <b>89.6%</b> | <b>91.2%</b> |

Source: Prepared by researchers

### Descriptive Analysis of Variables

This section of the research aims to present and analyze the collected data, specifically focusing on the response rates for the individual dimensions in comparison to the hypothetical mean of 3. Furthermore, it seeks to understand the levels of the study's dimensions about its variables, namely psychological empowerment, creative thinking, and organizational intelligence.

A five-point Likert scale was employed to gather data, and descriptive statistics such as mean, standard deviation, and percentage were calculated to summarize the findings.

### Descriptive Analysis of the Independent Variable Psychological Empowerment

Table 2 presents the descriptive statistics for the variable of psychological empowerment. These statistics include the mean, standard deviation, and percentage. The results indicate a clear response pattern, with the mean score for psychological empowerment calculated at 3.3310 and a standard deviation of 0.67198. The standard deviation provides a measure of the dispersion of scores around the mean. Additionally, approximately 66.6% of the responses fell within one standard deviation of the mean, suggesting a relatively normal distribution.

The following section will present a detailed analysis of the responses for each dimension of psychological empowerment, providing a deeper understanding of the participants' perceptions regarding this construct.

**Table (2): Statistical description of the dimensions of the independent variable psychological empowerment**

| No                                                     | Dependent Dimension          | Mean          | Standard Deviation | Percentage   | Dimensional order |
|--------------------------------------------------------|------------------------------|---------------|--------------------|--------------|-------------------|
| 1                                                      | <b>Meaning Fullness (MF)</b> | <b>3.1290</b> | <b>0.89066</b>     | <b>62.6%</b> | <b>4</b>          |
| 2                                                      | <b>Competence (CM)</b>       | <b>3.2590</b> | <b>0.87449</b>     | <b>65.2%</b> | <b>3</b>          |
| 3                                                      | <b>Sense of Impact (SI)</b>  | <b>3.4860</b> | <b>0.70519</b>     | <b>69.7%</b> | <b>1</b>          |
| 4                                                      | <b>Choice (CS)</b>           | <b>3.4500</b> | <b>0.74006</b>     | <b>69.0%</b> | <b>2</b>          |
| <b>Total Psychological Empowerment Dimensions (PE)</b> |                              | <b>3.3310</b> | <b>0.67198</b>     | <b>66.6%</b> |                   |

Source: SPSS program output.V.26.

Table 2 shows that the dimension "Sense of Impact" (SI) ranked first, having the highest mean score of 3.4860, a standard deviation of 0.70519, and a percentage of 69.7%. This indicates that the mean is greater than the hypothesized mean of 3. Additionally, Table 2 reveals that the dimension "Meaningfulness" ranked last, with the lowest mean score of 3.1290, a standard deviation of 0.89066, and

a percentage of 62.6%. Even though the mean is higher than the hypothesized mean of 3, it still represents the lowest score among the dimensions.

### **Descriptive Analysis of the Moderated Variable: Organizational Intelligence**

Table 3 presents the results related to the moderated variable of organizational intelligence, using the statistical indicators of mean, standard deviation, and percentage. The variable has achieved a significant response, as the mean reached 3.7563, with a standard deviation of 0.59010, indicating the deviation of values from the mean, and a percentage of 75.1%. The following section will present the key findings regarding the sample's responses for each dimension of organizational intelligence.

**Table (3) Statistical description of the dimensions of the variable Organizational intelligence**

| No.                                                                 | Dependent dimensions     | Mean          | Standard deviation | Percentage   | Dimensional order |
|---------------------------------------------------------------------|--------------------------|---------------|--------------------|--------------|-------------------|
| 1                                                                   | Strategic Vision         | 3.3200        | 0.81792            | 67.6%        | 7                 |
| 2                                                                   | Shared Fate              | 4.2670        | 0.55289            | 85.3%        | 1                 |
| 3                                                                   | Appetite of Change       | 3.8050        | 0.81571            | 76.1%        | 2                 |
| 4                                                                   | Alignment and Congruence | 3.4800        | 0.84792            | 69.6%        | 6                 |
| 5                                                                   | Heart                    | 3.5460        | 0.98272            | 70.9%        | 5                 |
| 6                                                                   | Knowledge Deployment     | 3.7890        | 0.77013            | 75.8%        | 3                 |
| 7                                                                   | Performance Pressure     | 3.6510        | 0.75845            | 73.0%        | 4                 |
| <b>Total dimensions of the variable Organizational Intelligence</b> |                          | <b>3.7563</b> | <b>0.59010</b>     | <b>75.1%</b> |                   |

Source: SPSS program output.V.26.

It can be seen from Table 3 that the dimension "Shared Fate" ranked first, having the highest mean score of 4.2670, a standard deviation of 0.5528, and a percentage of 85.3%. This indicates that the mean is significantly higher than the hypothesized mean of 3.

Table 3 also reveals that the dimension "Strategic Vision" ranked last among the other dimensions, with the lowest mean score of 3.3200, standard deviation of 0.81792, and a percentage of 67.6%. Even though the mean is higher than the hypothesized mean of 3, it represents the lowest score among the dimensions.

### **Descriptive analysis of the dimensions of the dependent variable Creative Thinking**

Table 4 summarizes the findings using descriptive statistics such as mean, standard deviation, and percentage. The results indicate a positive response pattern, with a mean score for creative thinking exceeding the hypothesized mean of 3. The mean score is 3.5381, and the standard deviation is 0.63692, reflecting the scores' spread around the mean. Additionally, approximately 70.8% of the responses fall within one standard deviation of the mean, suggesting a relatively normal data distribution.

A detailed analysis of the responses for each creative thinking dimension will be provided to offer a deeper understanding of the participants' perceptions regarding their creative abilities within the organizational context.

**Table (4) Statistical description of the dependent variable Creative Thinking**

| No. | Independent dimensions | Mean   | Standard Deviation | Percentage | Dimensional order |
|-----|------------------------|--------|--------------------|------------|-------------------|
| 3   | Logical thinking       | 3.6152 | 0.62883            | 72.3%      | 1                 |

|   |                   |        |         |       |   |
|---|-------------------|--------|---------|-------|---|
|   |                   |        |         |       |   |
| 4 | Critical Thinking | 3.6020 | 0.73775 | 72.0% | 2 |
| 5 | Lateral Thinking  | 3.5770 | 0.77474 | 71.5% | 3 |
|   | (ORI)             | 3.5381 | 0.63692 | 70.8% |   |

Source: SPSS program output.V.26.

Table 4 indicates that the dimension of logical thinking ranked first among the other dimensions, achieving the highest mean score of 3.6152. The standard deviation for this dimension was 0.62883, and the percentage was 72.3%. Notably, the mean score is greater than the hypothesized mean of 3.

Furthermore, Table 4 shows that the dimension of lateral thinking ranked last among the other dimensions. This is because it obtained the lowest mean score of 3.5770, with a standard deviation of 0.7747 and a percentage of 71.5%. Although the mean score is higher than the hypothesized mean of 3, it still represents the lowest score among the dimensions.

### Confirmatory Factor Analysis (CFA) of Study Variables

The objective of employing confirmatory factor analysis is to determine the construct validity of the measurement instrument. In other words, CFA is used to explain the data of the study variables through 80 items that represent the main research variables: psychological empowerment (independent variable), organizational intelligence (moderator variable), and creative thinking (dependent variable). These variables represent 14 dimensions. CFA is considered one of the best methods for verifying the construct validity of measures. Therefore, the researchers used the AMOS V.26 program to confirm the results of the CFA and analyze the data of the researched variables. It is assumed that the results will match the goodness-of-fit indices, as shown in Figure 2:

**Table (5) Quality of fit indicators for the structural equation model**

| Indicator                                                | General rule                                                                 |  |
|----------------------------------------------------------|------------------------------------------------------------------------------|--|
| (Conformity Indicators) Goodness of fit                  |                                                                              |  |
| X2 percentile and df degrees of freedom                  | Less than 5                                                                  |  |
| (GFI)                                                    | GFI>0.9                                                                      |  |
| (RMSEA)                                                  | 0.8<RMSEA >0.5                                                               |  |
| Standardized regression weights (regression saturations) | The regression weights of the paragraphs are greater than or equal to (0.40) |  |

Source: Prepared by the researchers based on Hair et al. (2010).

### Confirmatory Factor Analysis (CFA) for Psychological Empowerment

Figure 2 displays the confirmatory factor analysis for the psychological empowerment (PE) variable, an independent variable in the study. The PE variable consists of four dimensions: meaningfulness (MF), competence (CM), self-determination (SI), and impact (CS). These four dimensions are measured by 13 items.

The results of the CFA indicate that all 13 items measuring psychological empowerment have factor loadings greater than 0.40 and are statistically significant. Additionally, all goodness-of-fit indices met the established criteria, and all critical ratios (C.R.) were greater than 1.96, supporting the adequacy of the measurement model. These findings are summarized in Table 5.

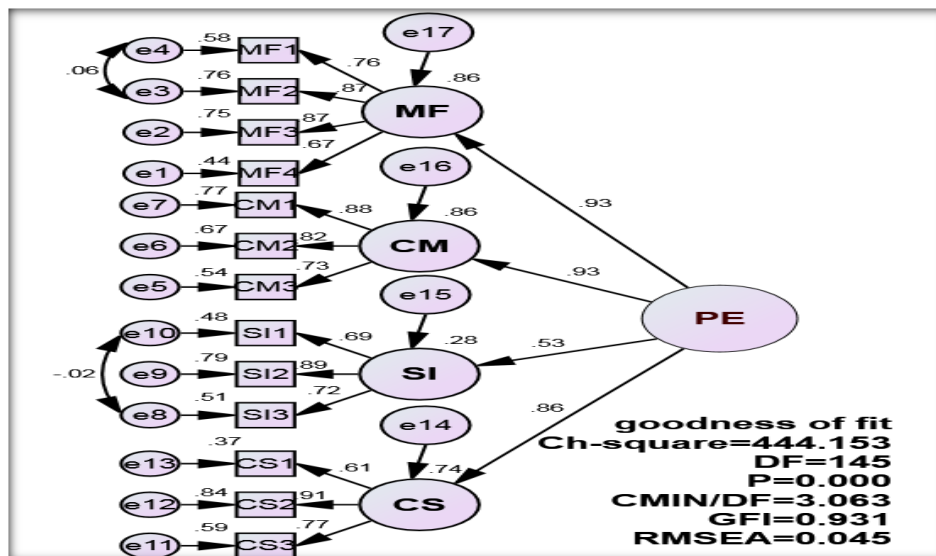


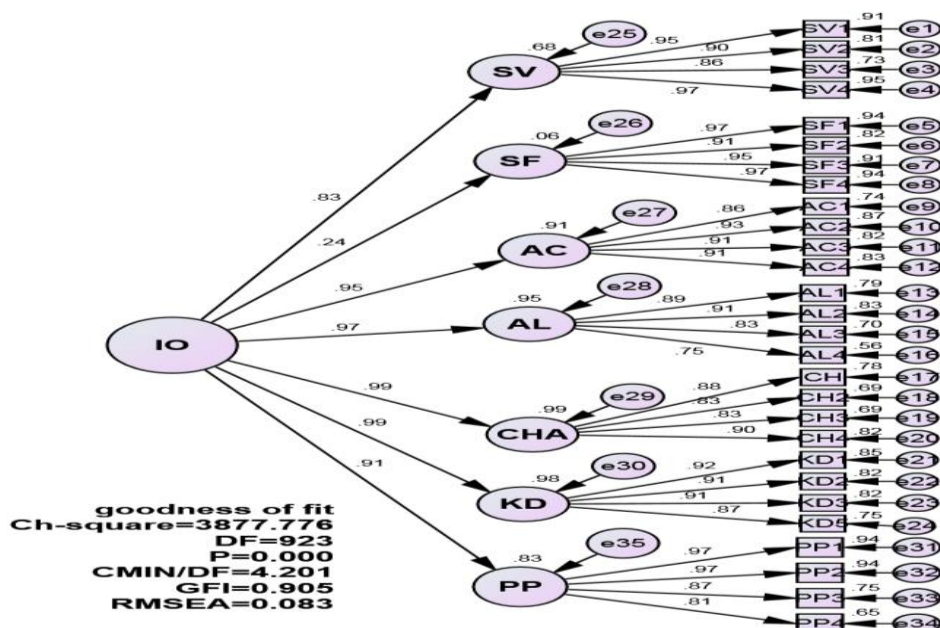
Figure (2) Confirmatory factor analysis of the independent variable psychological empowerment

Source: Prepared by the researchers based on the outputs of the AMOS program .V.26.

#### Factor analysis test for the moderated variable Organizational Intelligence

Figure 3 presents the confirmatory factor analysis for the items of the moderating variable, Organizational Intelligence (IO), which comprises seven dimensions: (SV), (SF), (AC), (AL), (CHA), (KD), and (PP), consisting of 35 items. The factor loadings for all 35 items of the moderating variable, Organizational Intelligence, exceeded 0.40 and were statistically significant, as illustrated in Figure 2. The researchers found that the conditions for confirmatory factor analysis were met, with item loadings greater than 0.40 and statistical significance. A comparison of the goodness-of-fit indices revealed that they all met the criteria. Moreover, all item factor loadings exceeded the critical ratio (C.R) of 1.96, supporting the quality of the measurement, as shown

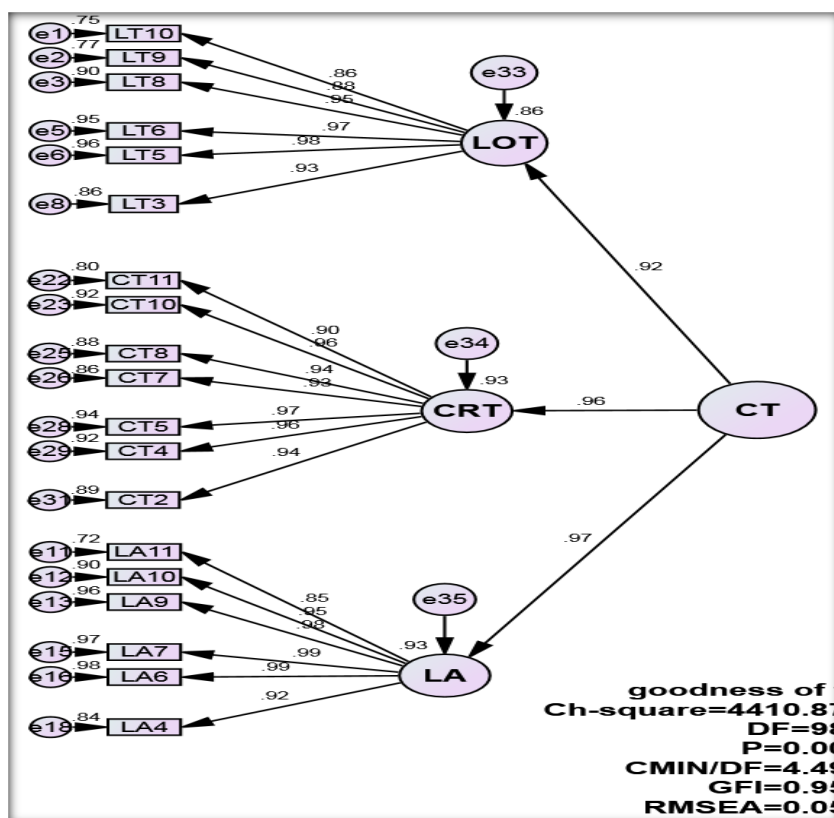
in Table 5.



**Figure (3) Confirmatory factor analysis of the moderated variable Organizational Intelligence**  
Source: Prepared by the researchers based on the outputs of the AMOS.V.26 program.

#### Confirmatory Factor Analysis for the Dependent Variable: Creative Thinking

The confirmatory factor analysis for the dependent variable, creative thinking, revealed that after removing items (1, 2, 4, and 7) from the first dimension (1, 3, 6, and 9) from the second dimension, and (1, 2, 3, 5, and 8) from the third dimension due to insufficient factor loadings and lack of significance, 19 items remained suitable for analysis. As shown in Figure 4, after the deletion and rotation process, the researchers found that the conditions for confirmatory factor analysis were met. The factor loadings for the indicators were greater than 0.40 and were significant. Comparisons of the goodness-of-fit indices revealed that all indices met the established criteria, and all factor loadings exceeded the critical ratio (C.R.) of 1.96.



**Figure (4) Confirmatory factor analysis of the dependent variable Creative Thinking**

Source: Prepared by the researchers based on the outputs of the AMOS.V.25 program

#### Testing Direct and Indirect Effects Between Variables

**H<sub>1</sub>: There is a significant positive effect of psychological empowerment on creative thinking.**

Thus, it is hypothesized that creative thinking is a true function of the independent variable, psychological empowerment. Simple regression analysis will be conducted between the two variables using the AMOS v.26 statistical program. The strength of the relationship will be determined by the estimated coefficients. To assess the significance of these coefficients, the p-value will be compared to 0.05, or the critical ratio (C.R.) will be compared to the tabulated value of 1.96. If the calculated value is greater than the tabulated value, the hypothesis will be accepted. Additionally, the extent to which the independent variable (psychological empowerment) explains the dependent variable (creative thinking) will be tested by comparing the calculated F-value to the tabulated F-value of 4.00. The results are presented in Figure 5 and Table 6.

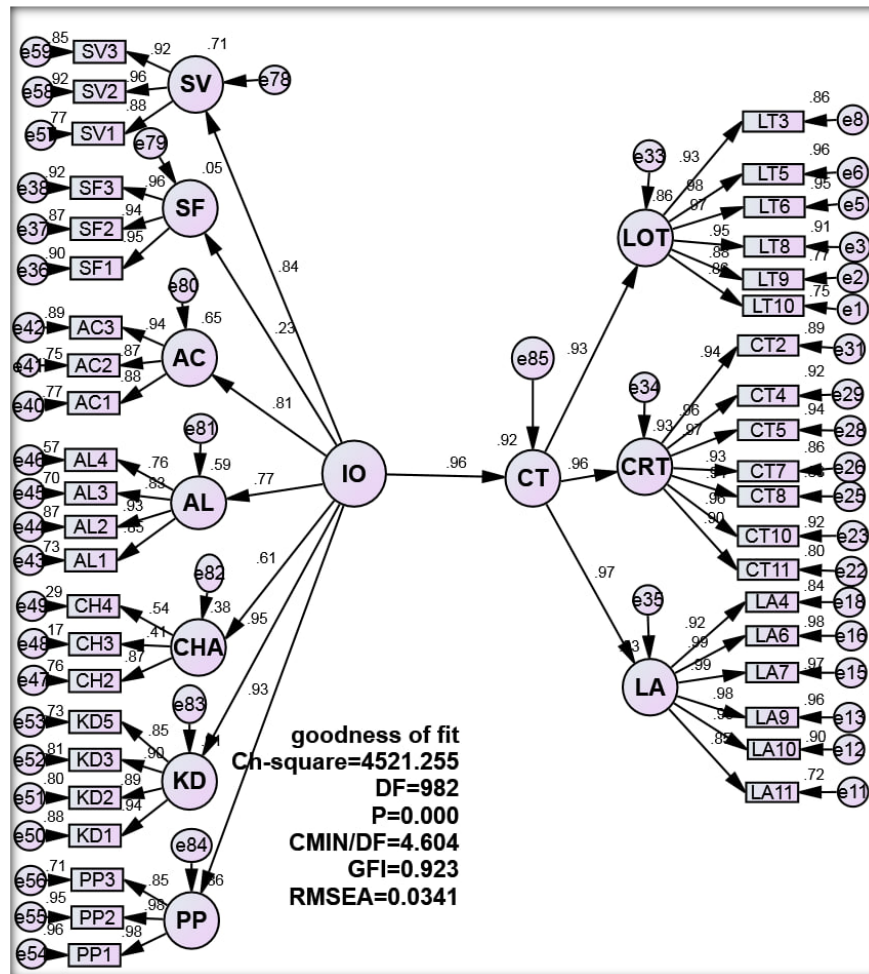


Figure (5) Structural model of the relationship between psychological empowerment and creative thinking

Table (6) Results of the relationship between the effect of psychological empowerment on creative thinking

| Dependent variable        | Creative thinking |        |      |                |        |         |
|---------------------------|-------------------|--------|------|----------------|--------|---------|
| Independent variable      | Estimate          | S.E.   | C.R. | R <sup>2</sup> | F      | P.Value |
| Psychological empowerment | 0.96              | 0.0927 | 9.34 | 0.92           | 578.18 | 0.001   |

Source: Prepared by the researchers based on the AMOS.26 program

Based on the results presented in Figure 5 and Table 6, psychological empowerment was found to have a positive and significant effect on creative thinking. The regression coefficient was 0.91, indicating that for every unit increase in psychological empowerment, creative thinking increased by 0.91 units. The significance level was less than 0.05, further supporting the positive and statistically significant relationship between the two variables.

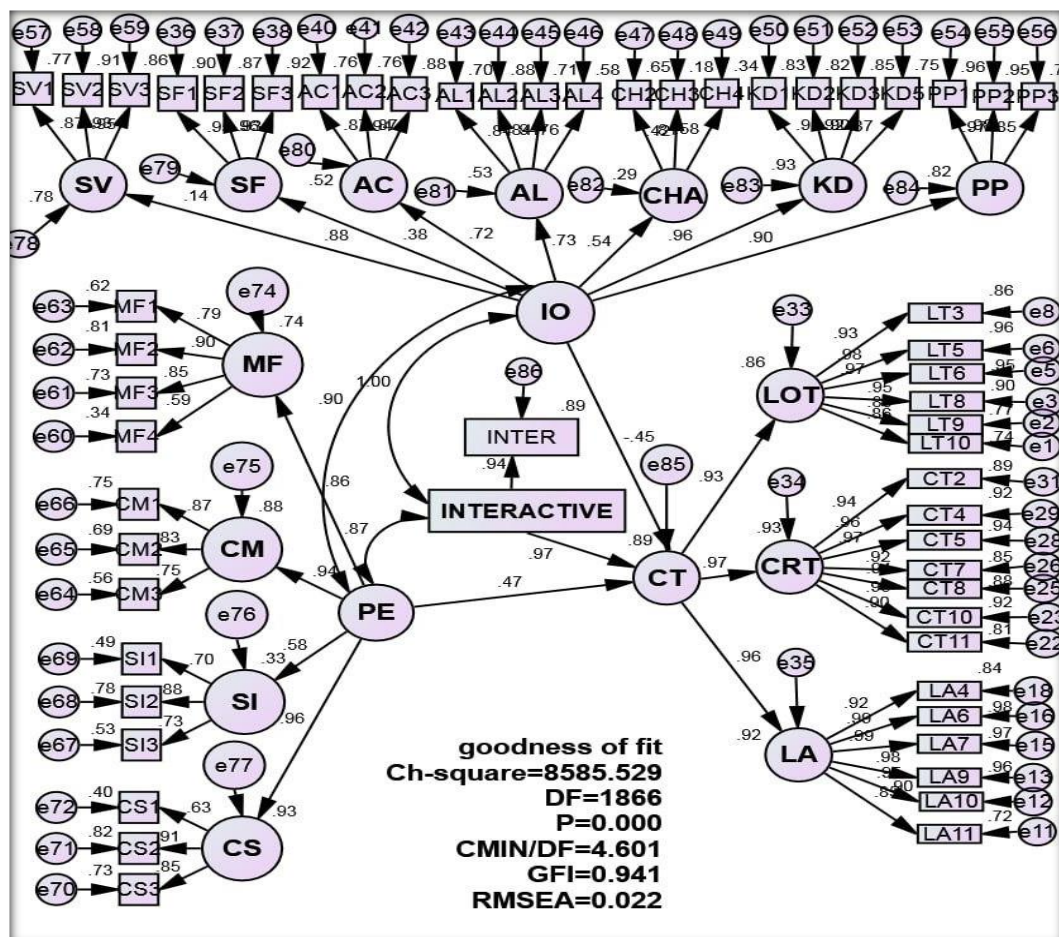
Furthermore, the analysis revealed that psychological empowerment explains 83% of the variance in creative thinking. This result was statistically significant as the calculated F-value exceeded the tabulated

value of 4.00. In conclusion, based on the findings of this study, Hypothesis 1 is supported at the level of this research.

## H<sub>2</sub>: Psychological empowerment has a significant effect on creative thinking through the moderating role of organizational intelligence.

To test this hypothesis, a structural model was constructed to illustrate the nature and type of relationship and impact of psychological empowerment on creative thinking in the presence of the moderating role of organizational intelligence. Figure 6 shows the structural model of the total indirect effect of psychological empowerment on creative thinking with organizational intelligence as a moderating variable. As shown in Table 7, the more the University of Kufa recognizes the importance of psychological empowerment in the presence of organizational intelligence, the more it enhances the creative thinking of its faculty members. In other words, an increase in psychological empowerment by one unit in the presence of organizational intelligence leads to an improvement in creative thinking by a standardized weight of 0.385 with a critical value of 10.224 and a standard error of 0.023, which means that the University of Kufa's recognition of the importance of honing organizational intelligence in the workplace contributes to the University of Kufa's recognition of the importance of improving creative thinking.

The results in Table 7 also show that psychological empowerment explains 65.3% of the variance in creative thinking in the presence of organizational intelligence. The remaining variance is attributed to factors not included in the study.



**Figure 6: The Structural Model of Psychological Empowerment Activities in Creative Thinking: The Interactive Role of Organizational Intelligence.**

Source: Prepared by the researchers based on the output of AMOS V.26

Building on the previous findings, Table 7 indicates that organizational intelligence enhanced the strength of the relationship between psychological empowerment and creative thinking. The results show an improvement of 0.117 in standardized estimates, accompanied by a decrease of 0.052 in standard error and an increase of 6.533 in the critical value. This implies a reduction in the risk associated with the research institution's efforts to improve creative thinking. Additionally, the results reveal a significant increase in the explanation of creative thinking in the presence of organizational intelligence, accounting for 42.1% of the variance.

**Table (7) The final results of the direct effect of psychological empowerment activities on achieving creative thinking through the moderating role of organizational intelligence**

| The path                  |   |                             |                     | Normative estimate | Normative error | Critical value | R <sup>2</sup> value | Sig.  | Accepting or rejecting the hypothesis |
|---------------------------|---|-----------------------------|---------------------|--------------------|-----------------|----------------|----------------------|-------|---------------------------------------|
| Psychological empowerment | → |                             | Creative thinking   | 0.96               | 0.105           | 6.681          | 0.92                 | 0.000 | Accepted                              |
| Psychological empowerment | → | Organizational intelligence | → Creative thinking | 0.45               | 0.023           | 10.224         | 0.89                 | 0.000 | Accepted                              |

Source: Prepared by the researchers based on the outputs of the statistical package (AMOS.V.25)

## Discussion of the Results

The current study examined the moderating role of organizational intelligence in the relationship between psychological empowerment and creative thinking. The results indicated that psychological empowerment plays a pivotal role in providing individuals with spiritual energy, as employees feel a sense of personal significance resulting from their participation and contribution to the organization's goals. Moreover, they recognize the importance and meaning of their work, both for themselves and for the organization. Additionally, employees are able to overcome numerous and ongoing changes in the work environment, whether internal or external, due to their possession of the competencies and skills that make them more flexible in responding to these changes, thereby reducing their intention to leave the job. Previous studies (Tripathi & Bharadwaja, 2020; Feng, Jacobsen & Reik, 2010) have supported the findings of the current study regarding the relationship between psychological empowerment and creative thinking. Furthermore, the current study found that organizational intelligence plays a pivotal role in moderating the relationship between psychological empowerment and creative thinking, confirming the findings of a study by Mikalef & Gupta (2021).

## Practical Implications

The results of this study necessitate that decision-makers at the University of Kufa enhance psychological empowerment among faculty members. Psychological empowerment should become a university-wide culture to foster creative thinking among faculty. Although implementing psychological empowerment within a university is a complex and multifaceted process that requires a concerted effort, the resulting benefits in terms of increased creativity, especially in the presence of high levels of organizational intelligence, are significant.

Additionally, the University of Kufa should strive to provide psychological and emotional stability for its faculty members, as this has a positive impact on their sense of empowerment, which in turn enhances their creativity.

Furthermore, it is essential to consider the inclinations and aspirations of faculty members when assigning tasks and workloads, and to encourage and reward creativity and innovation. This will contribute to the development of new work methods and approaches in the future.

Encouraging collaborative teamwork, knowledge sharing, and the implementation of a fair and objective incentive program for training programs can enhance organizational intelligence at the University of Kufa.

Psychological empowerment is one of the most important approaches to developing administrative work in organizations and is a source of creative thinking. It can unleash the potential of human resources and optimize their utilization, especially in addressing and solving problems. Given the importance of creative thinking and the limited research in this area, we recommend conducting further studies, particularly on creative thinking, and testing the variables of the current study in other Iraqi organizations such as healthcare institutions and their medical staff.

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