

## Identifying the Factors of Psychological Empowerment in Female High School Teachers

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### ABSTRACT

**Purpose:** This study aimed identify the factors of psychological empowerment among female high school teachers in educational settings.

**Methods and Materials:** The study employed a mixed-methods approach. In the qualitative phase, 15 experts in educational sciences and psychology were interviewed to identify key dimensions of psychological empowerment, forming the basis of the questionnaire. In the quantitative phase, data were collected from 414 female high school teachers in Tehran using the developed questionnaire. The questionnaire included 61 items across nine dimensions: meaningfulness, job competence, autonomy, effectiveness, participation, trust, organizational commitment, self-management, and acceptance of outcomes. Confirmatory factor analysis (CFA) was performed using AMOS 24.0 to evaluate the structural validity of the model. Fit indices such as Chi-square, GFI, AGFI, CFI, and RMSEA were assessed to determine model adequacy.

**Findings:** The CFA results confirmed the validity and reliability of the Psychological Empowerment Questionnaire. The final hierarchical nine-factor model demonstrated acceptable fit indices after adjustments, with the strongest factor loading observed for effectiveness ( $\beta = 0.954$ ) and the weakest for meaningfulness ( $\beta = 0.701$ ). All factor loadings exceeded the acceptable threshold of 0.32, indicating that the questionnaire effectively measures its intended constructs. The results underscored the interconnectedness of the nine dimensions, emphasizing the centrality of effectiveness, participation, and trust in psychological empowerment.

**Conclusion:** Its multidimensional structure provides valuable insights for designing interventions aimed at enhancing teacher well-being and organizational effectiveness. The findings highlight the critical role of psychological empowerment in fostering teacher engagement and professional satisfaction.

**Keywords:** Psychological empowerment, teacher empowerment, confirmatory factor analysis, educational leadership, professional development, teacher well-being, organizational effectiveness.

## 1. Introduction

Teacher empowerment has emerged as a central concept in contemporary education research, driven by the growing recognition of its role in enhancing teacher performance, student outcomes, and overall school effectiveness. Psychological empowerment, a subdimension of teacher empowerment, is especially significant as it addresses teachers' perceptions of their competence, autonomy, and meaningfulness in their professional roles. Empowerment can be understood as a multi-faceted concept encompassing structural and psychological dimensions. Structural empowerment refers to organizational systems and processes that grant access to resources, information, and decision-making opportunities (Akgun, 2021). Psychological empowerment, on the other hand, is an individual's perception of their role in their workplace and involves feelings of competence, autonomy, impact, and meaningfulness (Dee et al., 2003). Together, these dimensions shape how teachers engage with their work, influencing their professional satisfaction and motivation.

In recent years, researchers have underscored the critical role of empowerment in fostering teacher well-being and professional growth. For instance, En (2023) explored the relationship between transformational leadership and teacher empowerment, highlighting that empowered teachers reported greater well-being and job satisfaction (En, 2023). Similarly, Ma, Zhou, and Liu (2021) demonstrated that psychological empowerment was positively correlated with retention intentions among kindergarten teachers (Ma et al., 2021). These findings underscore the relevance of empowerment not only for individual teachers but also for broader organizational and educational outcomes.

The concept of teacher empowerment has evolved in response to the changing dynamics of educational systems worldwide. Empowerment is no longer viewed as a static condition but rather as a dynamic process influenced by organizational structures, leadership practices, and individual attributes. Kang, Park, and Sorensen (2022) identified both internal (e.g., supportive leadership) and external (e.g., policy frameworks) organizational antecedents of teacher empowerment, emphasizing that empowering teachers requires a systemic approach (Kang et al., 2022).

Structural empowerment, as defined by Kiral (2020), entails the provision of opportunities for teachers to participate in decision-making processes, access professional development programs, and utilize

organizational resources effectively (Kiral, 2020). For example, Setiawan et al. (2020) demonstrated how empowerment management practices in Indonesian high schools improved teacher performance and organizational commitment (Setiawan et al., 2020). These structural changes often lead to psychological empowerment by fostering a sense of autonomy and competence among teachers.

Empowerment also plays a pivotal role in organizational effectiveness. Ghanbari and Majouni (2021) investigated the impact of ethical leadership on organizational effectiveness in schools and found that teacher empowerment and creativity mediated this relationship (Ghanbari & Majouni, 2021). The findings suggest that when teachers feel empowered, they are more likely to contribute to organizational success through innovative practices and enhanced engagement.

While structural empowerment provides the foundation for teacher engagement, psychological empowerment addresses the internal processes that shape teachers' attitudes and behaviors. Psychological empowerment is particularly relevant in the context of teachers, as their sense of competence, autonomy, and impact directly influences their teaching practices and interactions with students. Rezaei, Hoveida, and Samavatian (2015) highlighted the relationship between psychological empowerment and psychological capital, noting that empowered teachers exhibited higher levels of self-efficacy and resilience (Rezaei et al., 2015).

The link between empowerment and teacher well-being has been well-documented. Yusoff and Tengku-Arifin (2020) found that teacher empowerment significantly predicted teacher well-being, particularly in terms of reducing burnout and enhancing job satisfaction (Yusoff & Tengku-Arifin, 2020). Similarly, Valeh, Shokri, and Asadzadeh (2021) demonstrated the effectiveness of mental empowerment training programs in increasing teachers' psychological capital and job-related well-being (Valeh et al., 2021). These studies emphasize that psychological empowerment is not only a tool for enhancing professional performance but also a critical factor in improving teachers' mental health and emotional resilience.

Despite its benefits, achieving teacher empowerment remains a challenge in many educational contexts. Najafi et al. (2020) noted that factors such as low self-efficacy, limited knowledge transfer, and poor quality of work life hinder teacher empowerment in many schools. These challenges are particularly pronounced in under-resourced

settings, where teachers often lack access to professional development opportunities and supportive leadership (Najafi et al., 2020).

The relationship between leadership styles and teacher empowerment has also been explored extensively. Majouni et al. (2021) examined the relationship between Level 5 leadership and teacher empowerment, finding that transformational and servant leadership styles were particularly effective in promoting psychological empowerment (Majouni et al., 2021). Similarly, Akgun (2021) demonstrated that learning-centered leadership was positively associated with structural empowerment, suggesting that leadership practices play a crucial role in fostering an empowering environment for teachers (Akgun, 2021).

Another significant challenge is the lack of culturally relevant empowerment models. Samadi, Rashidi, and Shahraki (2020) emphasized the need for empowerment models tailored to specific cultural and educational contexts (Samadi et al., 2020). Their study on the empowerment of teachers in West Azerbaijan Province highlighted the importance of aligning empowerment initiatives with the values and goals of the Iranian-Islamic model of education. Similarly, Nasser Sheykholeslami, Oladian, and Bakhtiari (2021) proposed an empowerment model for primary teachers in Tehran based on the study approach, emphasizing the need for context-specific strategies (Nasser Sheykholeslami et al., 2021).

Given the multifaceted nature of empowerment, developing reliable and valid tools to measure psychological empowerment is essential. Accurate measurement allows researchers and policymakers to assess the effectiveness of empowerment initiatives and identify areas for improvement. Klein (2019) highlighted the importance of measuring psychological empowerment in the context of organizational learning, noting that empowered teachers are more likely to engage in horizontal and vertical learning processes (Klein, 2019).

Measuring empowerment also provides insights into its impact on student outcomes. Rafiee and Saeedian (2017) found that psychological empowerment was positively associated with teachers' creativity, which, in turn, improved student engagement and learning outcomes (Rafiee & Saeedian, 2017). Similarly, Maarefvand and Shafiabady (2024) demonstrated that empowerment training programs enhanced teachers' occupational well-being and quality of work life, ultimately benefiting their students (Maarefvand & Shafiabady, 2024).

Empowered teachers are at the forefront of educational transformation. Wilcoxon, Bell, and Steiner (2019) argued that induction programs designed to empower beginning teachers play a critical role in ensuring their success and retention (Wilcoxon et al., 2019). Such programs not only equip teachers with the skills and knowledge they need but also foster a sense of belonging and purpose.

The impact of empowerment extends beyond individual teachers to the broader educational ecosystem. Shahzadeh Teymourlu et al. (2020) developed an empowerment model for physical education teachers aligned with Iran's 1404 Vision Document, emphasizing the role of empowerment in achieving national educational goals (Shahzadeh Teymourlu et al., 2020). Similarly, Sami, Piri, and Talebi (2020) modeled the empowerment of primary school teachers based on the lesson study approach, highlighting its potential to improve teaching practices and student outcomes (Sami et al., 2020).

While existing research has established the importance of psychological empowerment, there remains a need to develop and validate instruments specifically designed for measuring this construct in diverse educational settings. In conclusion, psychological empowerment is a vital construct that influences teachers' professional performance, well-being, and organizational commitment. This study aimed identify the factors of psychological empowerment among female high school teachers in educational settings.

## 2. Methods and Materials

This study employs a mixed-methods design. The qualitative phase involved gathering expert opinions to develop and refine the questionnaire, while the quantitative phase focused on validating the instrument with a larger sample.

The qualitative phase consisted of interviews with 15 educational experts, including faculty members and researchers in the fields of psychology and educational sciences. These interviews were conducted to gather insights and suggestions for the content and structure of the questionnaire. The results of these interviews were used to construct an initial version of the Psychological Empowerment Questionnaire, which was then tested in the quantitative phase.

For the quantitative phase, the sample included 414 teachers from middle and high schools in Tehran province. The participants were selected using stratified random sampling to ensure diverse representation. The sample size

was determined based on the recommendations for structural equation modeling (SEM), which suggests at least 20 participants per estimated parameter. Given the 18 latent variables in the model, a sample size of 414 was considered sufficient for this study.

The data collection for this study is based entirely on the Psychological Empowerment Questionnaire, which was developed during the qualitative phase through expert interviews. The final version of the questionnaire consists of two main sections:

The core of the questionnaire assesses the key dimensions of psychological empowerment as identified in the expert interviews:

1. **Competence:** This section includes 10 items evaluating how competent teachers feel in their roles.
2. **Autonomy:** Measured through 7 items that assess teachers' perceived freedom and control over their work environment.
3. **Impact:** 7 items assess how much influence teachers believe they have on the outcomes of their teaching and their students' development.
4. **Meaningfulness:** 9 items designed to assess how meaningful teachers find their work and how it aligns with their personal values.
5. **Trust:** 4 items evaluate the level of trust that teachers feel from both their peers and school administrators.
6. **Participation:** This section, consisting of 7 items, assesses teachers' perceived involvement in school decision-making.
7. **Organizational Commitment:** Comprising 5 items, this section measures the teachers' emotional attachment to their institution.

The items use a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree". The questionnaire was developed using a combination of deductive reasoning (reviewing relevant literature on psychological empowerment) and inductive reasoning (gathering insights from educational experts). The initial set of items was refined based on expert feedback, ensuring that the questionnaire was comprehensive and contextually appropriate.

In the qualitative phase, content validity was assessed by analyzing the feedback from expert interviews. The experts helped to identify the key dimensions of psychological empowerment and suggested revisions to the questionnaire

items. This phase ensured that the questionnaire captured all relevant aspects of psychological empowerment in teachers.

In the quantitative phase, the data were analyzed using confirmatory factor analysis (CFA) to assess the construct validity of the questionnaire. Structural equation modeling (SEM) was used to test the factor structure and the relationships between the latent variables. The model fit was evaluated using common indices such as Chi-square, RMSEA, CFI, and TLI. Reliability analysis, including Cronbach's alpha, was conducted to assess the internal consistency of the subscales, with a threshold of 0.70 or higher indicating acceptable reliability. Descriptive statistics, including mean, standard deviation, skewness, and kurtosis, were also calculated to assess the distribution and central tendencies of the data.

### 3. Findings and Results

In this study, 414 female schoolteachers participated. The distribution of participants by age was as follows: 76 teachers (18.4%) were under 30 years old, 77 teachers (18.6%) were between 31 and 35 years old, 98 teachers (23.7%) were between 36 and 40 years old, 55 teachers (13.3%) were between 41 and 45 years old, 67 teachers (16.2%) were between 46 and 50 years old, and 41 teachers (9.9%) were over 50 years old. Regarding educational qualifications, 252 teachers (60.8%) held a bachelor's degree, 146 teachers (35.3%) held a master's degree, and 16 teachers (3.9%) held a doctoral degree. As for work experience, 99 teachers (23.9%) had less than 5 years of experience, 91 teachers (22%) had between 6 and 10 years, 60 teachers (14.5%) had between 11 and 15 years, 67 teachers (16.2%) had between 16 and 20 years, and 97 teachers (23.4%) had over 20 years of experience.

The objective of this section was to determine whether the 9-factor model of psychological empowerment, derived from the qualitative phase, was supported by the quantitative data collected from the questionnaire responses. The Psychological Empowerment Questionnaire, consisting of 61 items, was designed using a five-point Likert scale ranging from "Very Low" (1) to "Very High" (5). It was hypothesized that the questionnaire comprised nine dimensions: Meaningfulness (items 1–9), Competence (items 10–19), Autonomy (items 20–27), Effectiveness (items 28–34), Participation (items 35–41), Trust (items 42–45), Organizational Commitment (items 46–50), Self-management (items 51–57), and Acceptance of Personal Outcomes (items 51–57). The highest mean score was

obtained for item 14, while the lowest mean score was obtained for item 42. The skewness and kurtosis values for all items fell within the  $\pm 2$  range, indicating that the data for each item followed a normal distribution.

To assess the goodness of fit of the 9-factor model with the collected data, Confirmatory Factor Analysis (CFA) was conducted using AMOS 24.0 software with maximum

likelihood estimation (ML). Three measurement models were tested and compared: (1) a single-factor model where all items loaded on one factor, (2) a 9-factor model with correlated factors, and (3) a hierarchical 9-factor model where the 9 factors were allowed to load onto a higher-order factor. The results of the fit indices for each model are presented in Table 1.

**Table 1**

*Model Fit Indices*

| Goodness of Fit Indices | Single-Factor Model | 9-Factor Correlated Model | 9-Factor Hierarchical Model | Acceptable Cutoff Points |
|-------------------------|---------------------|---------------------------|-----------------------------|--------------------------|
| Chi-Square              | 7121.92             | 5206.08                   | 4396.32                     | -                        |
| Degrees of Freedom      | 1712                | 1632                      | 1548                        | -                        |
| X <sup>2</sup> /df      | 4.16                | 3.19                      | 2.84                        | < 3                      |
| GFI                     | 0.425               | 0.727                     | 0.746                       | < 0.90                   |
| AGFI                    | 0.346               | 0.698                     | 0.721                       | < 0.85                   |
| CFI                     | 0.504               | 0.818                     | 0.852                       | < 0.90                   |
| RMSEA                   | 0.087               | 0.073                     | 0.067                       | > 0.08                   |

As shown in Table 1, none of the fit indices for the single-factor model supported an acceptable fit with the collected data. Among the 9-factor models, except for the RMSEA index, none of the fit indices provided acceptable fit for the correlated 9-factor model or the hierarchical 9-factor model. This result was not unexpected, as Kline (2016) suggests that a large number of items can lead to poor fit indices in confirmatory factor analysis. Therefore, a combination of items was considered to address this issue.

Based on the exploratory factor analysis results, the items of the questionnaire were merged as follows:

- **Autonomy:** Items 24 and 20; Items 27 and 26; Items 23, 21, and 25
- **Competence:** Items 10, 19, and 13; Items 11, 18, and 15; Items 12, 17, 14, and 16
- **Meaningfulness:** Items 1, 9, and 4; Items 2, 8, and 5; Items 3, 6, and 7

- **Trust:** Items 42 and 44; Items 43 and 45
- **Participation:** Items 37 and 40; Items 39 and 35; Items 38, 41, and 36
- **Effectiveness:** Items 33 and 29; Items 28 and 32; Items 34, 30, and 31
- **Acceptance of Personal Outcomes:** Items 59 and 60; Items 58 and 61
- **Self-management:** Items 52 and 55; Items 57 and 53; Items 56, 54, and 51
- **Organizational Commitment:** Items 46 and 49; Items 50, 47, and 48

After merging the items, Confirmatory Factor Analysis (CFA) was rerun on the revised model. The results of this analysis are shown in Table 2.

**Table 2**

*Modified Model Fit Indices*

| Goodness of Fit Indices | Single-Factor Model | 9-Factor Correlated Model | Initial 9-Factor Hierarchical Model | Corrected 9-Factor Hierarchical Model |
|-------------------------|---------------------|---------------------------|-------------------------------------|---------------------------------------|
| Chi-Square              | 1320.48             | 911.84                    | 746.01                              | 607.32                                |
| Degrees of Freedom      | 252                 | 216                       | 243                                 | 241                                   |
| X <sup>2</sup> /df      | 5.24                | 4.22                      | 3.07                                | 2.52                                  |
| GFI                     | 0.695               | 0.862                     | 0.879                               | 0.907                                 |
| AGFI                    | 0.621               | 0.794                     | 0.818                               | 0.855                                 |
| CFI                     | 0.823               | 0.869                     | 0.933                               | 0.951                                 |
| RMSEA                   | 0.101               | 0.088                     | 0.071                               | 0.060                                 |



As shown in Table 2, after the merging of items, none of the fit indices for the single-factor model or the 9-factor correlated model provided acceptable fit with the data. However, except for the GFI and AGFI indices, the remaining fit indices supported the hierarchical 9-factor model as providing a good fit to the data. Based on the significant improvements in the fit indices, it was concluded that the hierarchical 9-factor model of the Psychological

Empowerment Questionnaire provided an acceptable fit with the data. This model, after some revisions, was deemed appropriate for use in measuring psychological empowerment among teachers.

Table 3 presents the factor loadings for each item of the Psychological Empowerment Questionnaire as estimated through Confirmatory Factor Analysis (CFA).

**Table 3**

*Factor Loadings of the Psychological Empowerment Questionnaire in Confirmatory Factor Analysis*

| Latent Variables - Indicators                         | b     | SE    | $\beta$ | CR      |
|-------------------------------------------------------|-------|-------|---------|---------|
| First Order                                           |       |       |         |         |
| Meaningfulness - Set 1                                | 1     |       |         |         |
| Meaningfulness - Set 2                                | 1.265 | 0.079 | 0.795   | 14.60** |
| Meaningfulness - Set 3                                | 1.394 | 0.095 | 0.808   | 14.75** |
| Job Competence - Set 4                                | 1     |       |         |         |
| Job Competence - Set 5                                | 0.998 | 0.046 | 0.840   | 21.64** |
| Job Competence - Set 6                                | 1.305 | 0.060 | 0.843   | 21.76** |
| Autonomy - Set 7                                      | 1     |       |         |         |
| Autonomy - Set 8                                      | 1.087 | 0.058 | 0.792   | 18.60** |
| Autonomy - Set 9                                      | 1.687 | 0.079 | 0.879   | 21.48** |
| Effectiveness - Set 10                                | 1     |       |         |         |
| Effectiveness - Set 11                                | 0.981 | 0.052 | 0.840   | 18.71** |
| Effectiveness - Set 12                                | 1.522 | 0.086 | 0.804   | 17.73** |
| Participation - Set 13                                | 1     |       |         |         |
| Participation - Set 14                                | 0.964 | 0.060 | 0.791   | 16.06** |
| Participation - Set 15                                | 1.551 | 0.089 | 0.860   | 17.53** |
| Trust - Set 16                                        | 1     |       |         |         |
| Trust - Set 17                                        | 0.972 | 0.050 | 0.832   | 19.57** |
| Organizational Commitment - Set 18                    | 1     |       |         |         |
| Organizational Commitment - Set 19                    | 1.703 | 0.100 | 0.831   | 17.11** |
| Self-management - Set 20                              | 1     |       |         |         |
| Self-management - Set 21                              | 0.724 | 0.055 | 0.628   | 13.10** |
| Self-management - Set 22                              | 1.634 | 0.082 | 0.906   | 19.86** |
| Acceptance of Outcomes - Set 23                       | 1     |       |         |         |
| Acceptance of Outcomes - Set 24                       | 1.249 | 0.176 | 0.641   | 7.11**  |
| Second Order                                          |       |       |         |         |
| Psychological Empowerment - Meaningfulness            | 1     |       |         |         |
| Psychological Empowerment - Job Competence            | 1.535 | 0.145 | 0.756   | 10.59** |
| Psychological Empowerment - Autonomy                  | 1.041 | 0.099 | 0.773   | 10.51** |
| Psychological Empowerment - Effectiveness             | 1.289 | 0.114 | 0.954   | 11.29** |
| Psychological Empowerment - Participation             | 1.185 | 0.109 | 0.944   | 10.86** |
| Psychological Empowerment - Trust                     | 1.372 | 0.121 | 0.912   | 11.39** |
| Psychological Empowerment - Organizational Commitment | 1.129 | 0.104 | 0.923   | 10.85** |
| Psychological Empowerment - Self-management           | 1.244 | 0.114 | 0.883   | 10.87** |
| Psychological Empowerment - Acceptance of Outcomes    | 0.632 | 0.093 | 0.920   | 6.76**  |

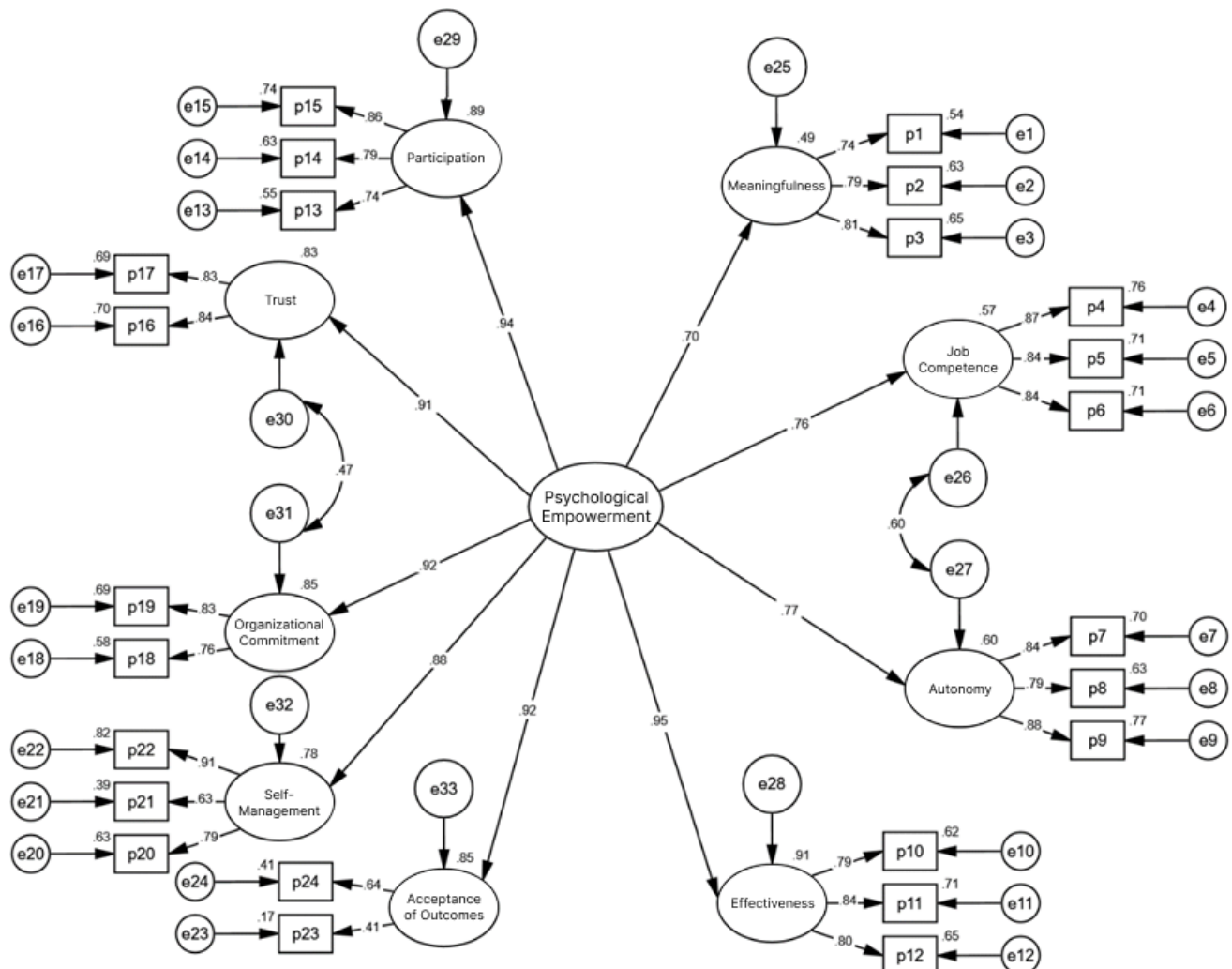
The first-order results in Table 3 indicate that the largest factor loading was found for the item in Set 22 ( $\beta = 0.906$ ), while the smallest loading was for the item in Set 23 ( $\beta = 0.407$ ). In the second-order factor analysis, the largest factor loading was observed for the Effectiveness dimension ( $\beta = 0.954$ ), and the smallest was for Meaningfulness ( $\beta = 0.701$ ).

These findings suggest that all factor loadings were above the threshold of 0.32, which indicates that all items and indicators have sufficient ability to measure their respective latent variables. According to Tabachnick and Fidell (2007), factor loadings higher than 0.71 are considered excellent, between 0.63 and 0.70 as very good, between 0.55 and 0.62 as good, between 0.45 and 0.55 as fair, between 0.32 and

0.44 as low, and less than 0.32 as weak. Therefore, all items in this study show appropriate factor loadings, supporting their inclusion in the measurement model.

**Figure 1**

*Measurement Model of the Psychological Empowerment Questionnaire*



This model, with all factor loadings greater than 0.32, demonstrates that the items of the Psychological Empowerment Questionnaire are valid indicators of the latent constructs they represent. The second-order structure, with Effectiveness emerging as the strongest dimension of psychological empowerment, confirms the hierarchical nature of the constructs within the model.

The results of this analysis underscore the overall construct validity of the Psychological Empowerment Questionnaire, with each item contributing significantly to the measurement of psychological empowerment.

#### 4. Discussion and Conclusion

Figure 1 presents the final measurement model of the Psychological Empowerment Questionnaire, displaying the estimated factor loadings based on the standardized data.

The primary objective of this study was to identify the factors of psychological empowerment among female high school teachers in educational settings. The results from confirmatory factor analysis (CFA) provided robust evidence supporting the validity and reliability of the questionnaire. The final hierarchical nine-factor model demonstrated acceptable fit indices after adjustments, confirming the instrument's ability to effectively measure key dimensions of psychological empowerment, including meaningfulness, job competence, autonomy, effectiveness, participation, trust, organizational commitment, self-management, and acceptance of outcomes.

The findings indicated that all factor loadings were above the acceptable threshold of 0.32, with the strongest factor loading observed for the Effectiveness dimension ( $\beta = 0.954$ ), followed closely by Participation ( $\beta = 0.944$ ) and Trust ( $\beta = 0.912$ ). The relatively weaker loading for Meaningfulness ( $\beta = 0.701$ ) suggests that while this dimension contributes to psychological empowerment, its influence may be less pronounced compared to other dimensions. These results align with findings from Kang, Park, and Sorensen (2022), who emphasized that teachers' perceptions of their effectiveness and ability to make an impact are critical drivers of empowerment. Similarly, Ghanbari and Majouni (2021) highlighted the pivotal role of participation and trust in fostering teacher creativity and organizational effectiveness (Ghanbari & Majouni, 2021).

The analysis also revealed that the Self-Management and Acceptance of Outcomes dimensions had moderate factor loadings, indicating their relevance but also suggesting room for further investigation. The importance of self-management in psychological empowerment has been discussed by Farzaneh, Poorkarimi, and Ezati (2015), who found that professional competencies are strongly linked to empowerment (Farzaneh et al., 2015). Additionally, Ma, Zhou, and Liu (2021) highlighted the role of psychological empowerment in retaining teachers, noting that acceptance of personal outcomes contributes to teachers' satisfaction and long-term commitment to the profession (Ma et al., 2021).

Interestingly, the findings also highlighted the importance of Job Competence, with high factor loadings across related items (e.g.,  $\beta = 0.843$ ). This dimension reflects teachers' confidence in their ability to perform effectively in their roles, a finding that aligns with previous studies. For example, Dee, Henkin, and Duemer (2003) argued that teachers' perceptions of competence are strongly linked to their psychological empowerment (Dee et al., 2003). Moreover, Rezaei, Hoveida, and Samavatian (2015) found a positive relationship between psychological empowerment and psychological capital, further underscoring the importance of fostering job-related competence among teachers (Rezaei et al., 2015).

The hierarchical structure of the model underscores the interconnectedness of the nine dimensions of psychological empowerment, suggesting that these dimensions collectively contribute to an overarching sense of empowerment. This finding supports the work of Klein (2019), who emphasized the importance of integrated approaches to understanding teacher empowerment (Klein, 2019), as well as the findings

of Najafi et al. (2020), who linked self-efficacy, knowledge transfer, and work quality to psychological empowerment (Najafi et al., 2020).

The CFA results also revealed that the Autonomy dimension exhibited strong factor loadings (e.g.,  $\beta = 0.879$ ), consistent with previous studies that have emphasized the importance of autonomy in fostering empowerment. Akgun (2021) found that structural empowerment, particularly through opportunities for decision-making and professional autonomy, significantly enhances teachers' psychological empowerment (Akgun, 2021). Furthermore, Maarefvand and Shafiabady (2024) demonstrated that autonomy plays a critical role in enhancing teachers' quality of work life and occupational well-being (Maarefvand & Shafiabady, 2024).

The results of this study align with a growing body of literature emphasizing the multidimensional nature of psychological empowerment. For instance, Yusoff and Tengku-Arifin (2020) found that empowerment significantly predicts teacher well-being, particularly in reducing burnout and enhancing job satisfaction (Yusoff & Tengku-Arifin, 2020). The current study's findings further validate the critical dimensions of empowerment, such as trust, participation, and organizational commitment, which are consistent with the findings of Ghanbari and Majouni (2021), who emphasized the mediating role of psychological empowerment in organizational effectiveness (Ghanbari & Majouni, 2021).

The emphasis on Participation as a key factor in psychological empowerment is supported by prior studies. For example, Kiral (2020) demonstrated that teacher participation in decision-making processes positively correlates with organizational commitment and job satisfaction (Kiral, 2020). Similarly, Setiawan et al. (2020) showed that effective empowerment management practices improve teachers' engagement and performance (Setiawan et al., 2020). The findings of this study reaffirm the importance of participation in fostering a sense of ownership and responsibility among teachers.

The Trust dimension, which exhibited strong factor loadings, is another critical component of psychological empowerment. En (2023) found that trust in leadership and organizational practices significantly influences teachers' empowerment and well-being (En, 2023). Additionally, Sadeghi et al. (2021) emphasized the importance of trust in creating a supportive school environment, noting that empowered teachers are more likely to contribute to organizational excellence (Sadeghi et al., 2021). The



findings of this study reinforce the centrality of trust in psychological empowerment models.

The relatively lower factor loadings for Meaningfulness align with the findings of Kang, Park, and Sorensen (2022), who noted that while meaningfulness is an important component of empowerment, its influence may vary depending on organizational and cultural contexts (Kang et al., 2022). This dimension's lower weight in the current study could reflect contextual factors specific to the educational system or cultural values of the participants. Further research is needed to explore this dimension in greater depth.

The Effectiveness dimension emerged as the strongest predictor of psychological empowerment, consistent with the findings of Ma, Zhou, and Liu (2021), who highlighted the importance of teachers' perceptions of their ability to make an impact (Ma et al., 2021). Similarly, Wall (2020) emphasized that teachers who feel effective in their roles are more likely to experience job satisfaction and professional growth (Wall, 2020). This dimension's prominence in the current study underscores the importance of fostering a sense of impact and efficacy among teachers to enhance their overall empowerment.

Overall, the results of this study align with existing literature, providing further validation for the Psychological Empowerment Questionnaire as a reliable and valid tool for assessing teacher empowerment. The multidimensional nature of the instrument captures the complexity of psychological empowerment, offering valuable insights for researchers and practitioners seeking to enhance teacher well-being and organizational effectiveness.

While this study provides important insights into psychological empowerment among teachers, it is not without limitations. First, the sample was limited to teachers from a specific geographic and cultural context, which may limit the generalizability of the findings. Future studies should aim to replicate this research in diverse educational and cultural settings to assess the broader applicability of the questionnaire. Second, although the study employed rigorous statistical analyses, self-reported data are inherently susceptible to social desirability bias, which may have influenced participants' responses. Employing triangulation methods, such as incorporating qualitative interviews or observational data, could provide a more comprehensive understanding of empowerment. Lastly, the cross-sectional design of the study precludes causal inferences about the relationships between psychological empowerment dimensions and teacher outcomes. Longitudinal studies are

needed to examine how empowerment evolves over time and its impact on teacher performance and well-being.

Future research should explore the contextual factors that influence psychological empowerment, particularly in relation to cultural and organizational differences. For example, examining how leadership styles, such as transformational or ethical leadership, interact with psychological empowerment dimensions could yield valuable insights. Additionally, future studies could investigate the relationship between psychological empowerment and specific teacher outcomes, such as creativity, retention, and student achievement. Expanding the scope of the research to include non-teaching staff, such as administrators and support personnel, may also provide a more holistic understanding of empowerment within educational organizations. Finally, efforts should be made to develop interventions and training programs aimed at enhancing specific dimensions of empowerment, such as meaningfulness and trust, and to evaluate their effectiveness in improving teacher well-being and organizational effectiveness.

Educational leaders and policymakers should prioritize fostering psychological empowerment among teachers as a means of improving both teacher well-being and organizational performance. Schools should implement participatory decision-making processes to enhance teachers' sense of ownership and responsibility. Providing opportunities for professional development that focus on enhancing job-related competencies and self-management skills can further support teacher empowerment. Additionally, creating a culture of trust and mutual respect within schools is essential for fostering psychological empowerment. Administrators should work to establish transparent communication channels and build strong, supportive relationships with teachers. Finally, efforts should be made to align organizational policies and practices with the dimensions of psychological empowerment, ensuring that teachers feel valued, competent, and impactful in their roles.

### Authors' Contributions

Authors equally contributed to this article.

### Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

## Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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## Declaration of Interest

The authors report no conflict of interest.

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## Ethical Considerations

All procedures performed in studies involving human participants were under the ethical standards of the institutional and, or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

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