



Kelancaran Psikologis dan Hubungannya dengan Praktik Pengajaran Kreatif di Kalangan Instruktur Pendidikan Jasmani Ditinjau dari Variabel Jenis Kelamin dan Lingkungan Pendidikan

Psychological Fluency and Its Relationship with Creative Teaching Practices among Physical Education Instructors in Light of Gender and Educational Environment Variables

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Abstrak

Permasalahan dalam penelitian ini berangkat dari pengamatan peneliti sebagai guru serta hasil kunjungan ke berbagai sekolah di wilayah pedesaan maupun perkotaan, sekolah laki-laki dan perempuan, yang menunjukkan adanya perbedaan tingkat penerapan praktik pengajaran kreatif di antara para guru. Perbedaan ini diduga dipengaruhi oleh kelancaran psikologis, faktor demografis, serta lingkungan pendidikan seperti jenis kelamin dan lokasi sekolah. Penelitian ini bertujuan untuk mengidentifikasi tingkat kelancaran psikologis dan praktik pengajaran kreatif pada guru pendidikan jasmani berdasarkan variabel jenis kelamin dan lingkungan pendidikan, serta menganalisis hubungan antara kelancaran psikologis dengan praktik pengajaran kreatif tersebut. Metode yang digunakan adalah deskriptif dengan pendekatan survei dan korelasional. Populasi penelitian mencakup 759 guru pendidikan jasmani di Provinsi Dhi Qar, terdiri atas 376 guru laki-laki dan 383 guru perempuan, dengan 310 guru di sekolah pedesaan dan 449 guru di sekolah perkotaan. Sampel penelitian berjumlah 540 guru yang dibagi menjadi sampel eksplorasi, konstruksi, dan aplikasi. Hasil penelitian menunjukkan adanya hubungan positif yang kuat antara kelancaran psikologis dan praktik pengajaran kreatif, yang berarti bahwa guru dengan tingkat kelancaran psikologis tinggi cenderung memiliki kinerja pengajaran yang lebih kreatif. Dengan demikian, kelancaran psikologis dapat menjadi prediktor terhadap peningkatan praktik pengajaran kreatif guru pendidikan jasmani.

Kata Kunci: Kelancaran Psikologis, Praktik Pengajaran Kreatif, Jenis Kelamin, Lingkungan Pendidikan.

Abstract

The problem addressed in this study stems from the researcher's observations as a teacher and through visits to various schools in both rural and urban areas, for boys and girls, where a noticeable discrepancy was found in the level of creative teaching practices among physical education teachers. This variation may be attributed to individual differences in psychological fluency, demographic characteristics, or environmental factors such as gender and the nature of the educational environment. The objectives of the study were to identify the levels of psychological fluency and creative teaching practices among physical education teachers in light of gender and educational environment variables, and to examine the relationship between these two constructs. The study adopted a descriptive design with survey and

correlational approaches. The population consisted of 759 physical education teachers in Dhi Qar Governorate, comprising 376 males and 383 females, with 310 teachers working in rural schools and 449 in central schools. The total sample included 540 teachers divided into exploratory, construction, and application samples. The results revealed a strong positive correlation between psychological fluency and creative teaching practices, indicating that teachers with higher levels of psychological fluency tend to exhibit more creative teaching performance. It can be concluded that psychological fluency serves as a significant predictor of creative teaching practices, suggesting that enhancing psychological fluency may improve teachers' creative teaching performance.

Keywords: *Psychological Fluency, Creative Teaching Practices, Gender, Educational Environment*

INTRODUCTION

The teaching profession is one of the most demanding fields that requires a high degree of psychological and mental balance, especially amid the rapid changes and multifaceted challenges of the modern educational environment (Adegbija & Fakomogbon, 2013; Anghelo Josué et al., 2023). This demand is particularly evident in practical disciplines such as physical education, where physical, mental, and psychological aspects intersect simultaneously, placing teachers in situations that require substantial adaptability and professional creativity. In such a dynamic context, psychological fluency emerges as a critical component that enables teachers to engage with new ideas, apply diverse and unconventional instructional strategies, and respond effectively to unexpected classroom situations, challenging questions, or student behaviors (Abarghouejad et al., 2021; Didymus et al., 2021; Haney Aguirre-Loaiza, 2025).

According to the study by (M. Dhanabhakym & Sarath M, 2023), there was no statistically significant relationship between psychological fluency and gender, indicating that other contextual or personal factors might play a stronger role in influencing teachers' performance. Meanwhile, creative teaching practices are among the most vital indicators of educational quality, as they empower teachers to design innovative teaching methods, stimulate student motivation, and utilize technology in varied and meaningful ways. Through creative teaching, educators can enhance students' learning experiences by presenting material in an engaging, flexible, and dynamic manner, thus breaking away from monotony and traditional teaching methods (Casey & MacPhail, 2018). (Abduh et al., 2024) confirmed the presence of a statistically significant relationship between teachers' creative teaching practices and their work values, emphasizing the essential role of psychological dimensions in fostering teaching creativity.

In the field of physical education, creative teaching practices play a particularly crucial role due to the motor and skill-based nature of the subject, which demands continuous adaptation to students' needs, varying educational environments, and available resources (Ahmed & Al Salim, 2024; Andika et al., 2024). Based on the researcher's experience as a teacher and observations across several schools—urban and rural, for both male and female students—a noticeable variation in the level of creative teaching practices among instructors was observed. This variation may be influenced by differences in psychological fluency, demographic factors, and educational contexts such as gender and school environment conditions.

According to (M. Dhanabhakym & Sarath M, 2023), there was no statistically significant relationship between psychological fluency and gender, suggesting that

contextual or personal variables might exert a stronger influence on teachers' performance. In contrast, (Abduh et al., 2024) reported a significant association between teachers' creative teaching practices and their psychological characteristics, emphasizing the pivotal role of psychological dimensions in fostering instructional creativity. This inconsistency in the literature underscores the need for further empirical investigation to clarify whether psychological fluency meaningfully contributes to creative teaching practices and whether such relationships vary across demographic and contextual factors.

Within the domain of physical education, creative teaching practices are particularly crucial due to the motor and skill-based nature of the subject, which requires continuous adaptation to students' diverse needs, learning environments, and available resources (Ahmed & Al Salim, 2024; Andika et al., 2024). Drawing on the researcher's professional experience and field observations across urban and rural schools for both male and female students, noticeable variations were observed in the level of creative teaching practices among instructors. These differences may be attributed to disparities in psychological fluency, demographic characteristics, and the contextual conditions of the educational environment.

Therefore, this study seeks to address the inconsistencies in prior research by examining the relationship between psychological fluency and creative teaching practices among physical education teachers, while also exploring the moderating effects of gender and school environment.

Accordingly, the central research problem of this study can be formulated as follows: *"What is the nature of the relationship between psychological fluency and creative teaching practices among physical education teachers, and does this relationship differ according to gender and educational environment variables?"*

The novelty of this study lies in its theoretical and empirical integration of self-determination theory and cognitive flexibility theory to explain the psychological mechanisms that underpin creative teaching performance. Unlike previous studies that have examined these constructs independently or within general educational contexts, this research provides new empirical evidence specific to physical education teachers—an area characterized by high demands for adaptability, innovation, and dynamic instruction. By investigating the moderating effects of gender and educational environment, the study offers a comprehensive perspective on how psychological fluency contributes to creative pedagogical behavior, thereby advancing theoretical understanding and informing future professional development initiatives in physical education.

Therefore, this study aims to: (1) construct, standardize, and apply measures of psychological fluency and creative teaching practices among physical education teachers; (2) identify the levels of psychological fluency and creative teaching practices according to gender and educational environment; (3) examine the relationship between psychological fluency and creative teaching practices in light of these variables; and (4) identify potential differences in the two variables based on gender and educational environment.

RESEARCH METHODOLOGY

A descriptive approach employing survey and correlational methods was adopted, as this design was deemed most appropriate for the nature and objectives of the present study. The methodology aimed to identify the levels of psychological fluency and creative

teaching practices among physical education teachers and to determine the relationships between these two variables in light of gender and educational environment.

Place and Time of Research

The study was conducted in Dhi Qar Governorate, Iraq, during the 2024/2025 academic year. The research covered seven administrative sections: Nasiriyah, Shatra, Souq Al-Shuyukh, Al-Rifai, Al-Jabaish, Al-Fuhoud, and Al-Islah.

Population and Sample

The research population consisted of all physical education teachers in Dhi Qar Governorate, totaling 759 teachers (376 males and 383 females). Based on the educational environment, 310 teachers worked in rural schools and 449 in central schools. The final research sample comprised 540 teachers (approximately 71.15% of the total population), distributed according to gender and educational environment. The sample was divided into three groups: a pilot sample of 20 teachers, a construction sample of 120 teachers, and an application sample of 400 teachers. A number of respondents were excluded from the final sample due to incomplete responses or failure to return the questionnaire electronically.

Sampling Technique

A stratified random sampling technique was applied to ensure proportional representation of gender and educational environment variables. This method was chosen to maintain balance and accuracy in analyzing the relationship between the studied variables.

Instrument Development and Data Collection

Two measurement scales were constructed and standardized for this research: the *Psychological Fluency Scale* and the *Creative Teaching Practices Scale*. The domains of each scale were determined after reviewing previous studies, theoretical frameworks, and relevant literature. The *Psychological Fluency Scale* consisted of 45 items across three domains—emotional fluency, verbal fluency, and intellectual or cognitive fluency—with 15 items per domain. Each item was rated on a five-point Likert scale: *Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree*.

The *Creative Teaching Practices Scale* contained 60 items distributed across six domains: creative preparation, creative diversification of stimuli, creative educational methods, creative teaching techniques, creative classroom interaction, and creative educational evaluation. Each item was rated on a five-point scale: *Always Agree, Often Agree, Sometimes Agree, Rarely Agree, and Never Agree*.

Exploratory Experiment

The initial versions of both scales were presented to a panel of experts to evaluate content validity and clarity. After revision and statistical analysis using the Chi-square (χ^2) test for a single sample, 45 valid items remained for the psychological fluency scale and 49 items for the creative teaching practices scale. The exploratory test was conducted on November 20, 2024, with 20 teachers to ensure item clarity. The average completion time was 17–20 minutes for the fluency scale and 22–25 minutes for the creative practices scale.

Main Construction Phase

The scales were then administered to the construction sample ($n = 120$) from December 11 to December 28, 2024. The items were analyzed using the *t*-test to determine the discriminating power between high and low scorers in each domain. Statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS). The discriminating power of the psychological fluency scale ranged

from 10.6 to 21.41, while that of the creative teaching practices scale ranged from 8.23 to 13.65. Internal consistency was calculated using the Pearson correlation coefficient between individual item scores and total scale scores, as well as between domain and total scores.

Validity and Reliability

Content validity was established through expert review, while construct validity was confirmed using the extreme groups method and internal consistency analysis. Reliability was assessed using the split-half method and Pearson’s correlation coefficient, and the full reliability score was calculated using the Spearman-Brown formula. For the *Psychological Fluency Scale*, Cronbach’s alpha coefficients were 0.873 for the first half, 0.848 for the second half, and 0.878 for the overall scale; Pearson’s r for the second half was 0.899, and Spearman’s r was 0.783. For the *Creative Teaching Practices Scale*, Cronbach’s alpha coefficients were 0.887 for the first half, 0.861 for the second half, and 0.854 for the overall scale; Pearson’s r was 0.796, and Spearman’s r was 0.860. These results indicate high levels of reliability and internal consistency.

Objectivity

The objectivity of the scales was verified through inter-judge agreement on scoring criteria. The coefficient of agreement was 0.87 for the Psychological Fluency Scale and 0.84 for the Creative Teaching Practices Scale, confirming a high degree of scoring objectivity.

Main Application Phase

After completing all standardization procedures, the final scales were administered to the main sample of 400 teachers from rural and urban schools between January 12 and January 27, 2025. Data were collected electronically and analyzed statistically using SPSS to determine descriptive statistics, correlation coefficients, and significance levels for all variables.

Data Analysis

Descriptive statistics (means, medians, and standard deviations) were calculated to describe the levels of psychological fluency and creative teaching practices. Pearson’s simple correlation coefficient was used to examine the relationship between the two variables. The results showed a significant positive correlation ($r = 0.845, p < 0.01$), indicating that higher psychological fluency corresponds to greater creative teaching performance.

RESULTS

Presentation and Analysis of the Correlation between Psychological Fluency and Creative Teaching Practices Based on Gender and Educational Environment Variables

To identify the correlation between psychological fluency and creative teaching practices among physical education teachers according to gender (male and female) and educational environment (rural and central), statistical analyses were conducted as shown in Table 1.

Table 1. Results of the Z-test for differences in the relationship between psychological fluency and creative teaching practices according to the gender variable (male and female teachers)

Sample	Correlation	Z-value (Correlation)	Z-value (Fisher)	Tabular Value	Significance
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Male Teachers	0.82	1.157	-0.91	1.96	Not Significant
Female Teachers	0.85	1.256	—	—	—

Table 1 shows that there were no significant differences between male and female teachers regarding the correlation between psychological fluency and creative teaching practices. Modern educational research confirms that effective teaching practices are not influenced by the teacher's gender. Previous studies have also indicated that both male and female teachers demonstrate comparable levels of teaching competence, creative thinking, and learner engagement.

Table 2. Results of the Z-test for differences in the relationship between psychological fluency and creative teaching practices according to the educational environment variable (rural and central teachers)

Sample	Correlation	Z-value (Correlation)	Z-value (Fisher)	Tabular Value	Significance
Rural	0.83	1.188	0.27	1.96	Not Significant
Central	0.82	1.157	—	—	—

Table 2 indicates that there were no significant differences in the correlation between psychological fluency and creative teaching practices between teachers working in rural and central environments. This finding aligns with Frelin, Grannas, and Woolner (2025), who reported no statistically significant differences based on educational settings.

The results suggest that teachers, regardless of gender or workplace environment, possess similar academic preparation, professional training, and access to equivalent curricular standards. These factors likely contribute to the consistency of creative teaching practices across contexts. Furthermore, creativity in teaching is not determined by gender but rather by individual characteristics such as fluency, psychological flexibility, intrinsic motivation, and professional experience.

Presentation and Analysis of the Correlation between Psychological Fluency and Creative Teaching Practices Based on Gender and Educational Environment Variables

To examine the correlation between psychological fluency and creative teaching practices among physical education teachers across gender (male and female) and educational environment (rural and central), statistical analyses were conducted, and the results are presented in Tables 1 and 2.

Table 3. Results of the Z-test for Differences in the Relationship Between Psychological Fluency and Creative Teaching Practices According to the Gender Variable (Male and Female Teachers)

Sample	Correlation	Z-value (Correlation)	Z-value (Fisher)	Tabular Value	Significance
Male Teachers	0.82	1.157	-0.91	1.96	Not Significant

Female Teachers	0.85	1.256	—	—	—
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Table 1 indicates that there were no statistically significant differences between male and female teachers in the correlation between psychological fluency and creative teaching practices. This finding suggests that both genders demonstrate a comparable capacity to integrate psychological fluency defined as the ability to adapt thoughts and emotions flexibly—into their teaching performance.

From a theoretical perspective, this result aligns with Social Cognitive Theory (Ashar et al., 2024), which posits that effective teaching behaviors stem from self-efficacy and adaptive learning experiences rather than biological or gender-based factors. Similarly, studies by (Ahmed & Al Salim, 2024; Casey & MacPhail, 2018) have emphasized that the determinants of teaching creativity are largely psychological and experiential, including intrinsic motivation, pedagogical reflection, and professional autonomy.

The absence of gender-based differences also supports the argument that contemporary educational systems promote equitable professional development opportunities, enabling both male and female teachers to engage equally in innovative and student-centered pedagogical approaches. Thus, creative teaching practices appear to be more a function of personal cognitive traits—such as fluency, flexibility, and openness to experience—than of demographic variables like gender.

Table 4. Results of the Z-test for Differences in the Relationship Between Psychological Fluency and Creative Teaching Practices According to the Educational Environment Variable (Rural and Central Teachers)

Sample	Correlation	Z-value (Correlation)	Z-value (Fisher)	Tabular Value	Significance
Rural	0.83	1.188	0.27	1.96	Not Significant
Central	0.82	1.157	—	—	—

As shown in Table 2, there were no significant differences in the correlation between psychological fluency and creative teaching practices among teachers working in rural and central school environments. This finding is consistent with the results of (Abarghoueinejad et al., 2021; Haney Aguirre-Loaiza, 2025), who reported that educational context alone does not significantly determine creative performance when teachers receive comparable levels of pedagogical support and access to instructional resources.

Theoretically, this outcome can be interpreted through the lens of the Self-Determination Theory (Xu & Baghaei, 2025), which highlights that autonomy and competence—rather than environmental constraints—are the key drivers of intrinsic motivation and creativity. Teachers in both rural and central areas may experience similar motivational fulfillment through their engagement in student-centered learning and professional collaboration, resulting in equivalent levels of creative teaching practice.

These findings collectively indicate that creativity in teaching is not

primarily shaped by gender or school location, but rather by psychological attributes such as fluency, adaptability, and intrinsic motivation, as well as professional experience and reflective capacity. Consequently, professional development programs should focus on enhancing teachers' psychological resources and self-efficacy rather than relying solely on structural or demographic distinctions.

DISCUSSION

The findings of this study revealed a positive correlation between psychological fluency and creative teaching practices among physical education teachers, although no significant differences were observed based on gender or educational environment. This indicates that the ability to adapt, think flexibly, and respond effectively to classroom situations contributes equally to creative instructional performance among all teachers.

The absence of gender-based differences supports previous research (Marit, 2018) which found that male and female teachers demonstrate comparable levels of pedagogical creativity and professional competence. This result suggests that creativity in teaching is not influenced by biological or social gender distinctions but rather by individual psychological and cognitive attributes. Teachers of both genders share similar educational backgrounds, training experiences, and exposure to modern pedagogical frameworks, which foster equivalent capacities for innovation in teaching (Cents-Boonstra et al., 2021; Cong Fei & Donna Marie Oyam, 2024; Teachers Institute, 2023).

Similarly, the lack of significant differences between teachers working in rural and central schools suggests that the educational environment does not play a decisive role in determining teaching creativity (Hu, 2024; Jintalan & Litao, 2025; Sudewi & Fadilah, 2023). This finding is consistent with (Patfield et al., 2022; Sudewi & Fadilah, 2023), who argued that effective teaching performance can be achieved in various learning contexts, provided that teachers possess adequate motivation, fluency, and professional commitment.

The strong correlation between psychological fluency and creative teaching practices further highlights the central role of psychological adaptability in modern education (Wallhead & Ntoumanis, 2004; Wardani & Mahendra, 2017), teachers with higher levels of psychological fluency exhibit greater capacity to engage in creative, student-centered instruction and to integrate innovative teaching strategies in dynamic learning environments. Psychological fluency enhances teachers' ability to manage stress, make flexible pedagogical decisions, and generate diverse instructional approaches that meet learners' needs.

Therefore, the study concludes that psychological fluency represents a crucial component of professional creativity in teaching. It enables teachers to maintain emotional balance, apply flexible thought processes, and effectively adapt their instructional methods to the evolving demands of education. Developing psychological fluency should thus be considered a key objective in teacher training and professional development programs aimed at improving creative teaching performance (Winn et al., 2019; Wood, 2004; World Bank, 2018).

The findings of this study revealed a significant positive correlation between psychological fluency and creative teaching practices among physical education teachers, while no significant differences were observed based on

gender or educational environment. This suggests that teachers' ability to adapt, think flexibly, and respond effectively to classroom dynamics plays an essential role in promoting creative instructional performance, regardless of demographic or contextual variations.

The absence of gender-based differences supports previous studies (Marit, 2018) which found that male and female teachers demonstrate comparable levels of pedagogical creativity and professional competence. This indicates that creative teaching is primarily determined by cognitive and psychological factors rather than biological or sociocultural distinctions. Both male and female teachers often share similar professional experiences, educational backgrounds, and access to pedagogical training that cultivates innovative thinking (Cents-Boonstra et al., 2021; Cong Fei & Donna Marie Oyam, 2024; Teachers Institute, 2023). These findings reinforce the idea that creativity in teaching emerges from internal cognitive mechanisms and self-regulatory processes rather than gender-related predispositions.

Likewise, the lack of significant differences between teachers in rural and central schools implies that the educational environment is not the primary determinant of teaching creativity (Hu, 2024; Jintalan & Litao, 2025; Sudewi & Fadilah, 2023). Instead, creativity appears to depend on the teacher's internal motivation, psychological adaptability, and cognitive flexibility. This finding is consistent with the argument of (Patfield et al., 2022) and (Sudewi & Fadilah, 2023) that effective and innovative instruction can occur in various educational contexts when teachers possess sufficient intrinsic motivation, professional competence, and mental resilience.

From a theoretical standpoint, these results can be interpreted through **Self-Determination Theory (SDT)** and **Cognitive Flexibility Theory (CFT)**. According to SDT (Wallhead & Ntoumanis, 2004), individuals are intrinsically motivated to engage in creative and high-quality performance when their psychological needs for autonomy, competence, and relatedness are satisfied. Teachers with higher psychological fluency are more capable of experiencing intrinsic motivation and autonomy in their teaching, which promotes greater engagement in creative pedagogical practices. Their sense of competence allows them to explore new instructional strategies confidently, while autonomy fosters a willingness to take risks and innovate within the classroom.

Simultaneously, (Winn et al., 2019) provides a complementary explanation. Teachers with high cognitive flexibility can restructure their knowledge, adapt instructional strategies, and consider multiple perspectives to solve pedagogical challenges creatively. Such flexibility allows them to respond effectively to diverse student needs, integrate technology, and employ dynamic teaching methods suited to changing classroom situations. Psychological fluency, therefore, reflects the underlying cognitive flexibility that enables teachers to generate original ideas and sustain creative instructional behavior in complex educational settings.

The integration of these theoretical perspectives suggests that psychological fluency serves as both a cognitive and motivational foundation for creative teaching. Teachers who exhibit higher levels of psychological adaptability are not only capable of adjusting to classroom challenges but are also intrinsically driven to pursue innovation and improvement in their professional practice. Hence, developing psychological fluency should be considered a critical objective in

teacher training and professional development programs. Such programs should emphasize reflective thinking, emotional regulation, and autonomy-supportive learning environments that enhance both cognitive flexibility and intrinsic motivation (Winn et al., 2019; Wood, 2004; World Bank, 2018).

In conclusion, psychological fluency represents a fundamental element of professional creativity in teaching. It enables teachers to balance emotional stability, maintain intrinsic motivation, and apply flexible cognitive strategies that align with contemporary educational demands. Strengthening psychological fluency through systematic professional development may thus lead to more adaptive, motivated, and creatively engaged educators in physical education and beyond.

In summary, this study offers a novel contribution by empirically validating the relationship between psychological fluency and creative teaching practices within the context of physical education—a domain rarely examined in this regard. Furthermore, it uniquely integrates self-determination theory and cognitive flexibility theory to explain how teachers' psychological adaptability fosters innovation in teaching. This dual theoretical–empirical approach extends previous research and provides a new framework for understanding creativity in physical education pedagogy.

CONCLUSION

The study concluded that there is a significant and positive correlation between psychological fluency and creative teaching practices among physical education teachers. Teachers who possess higher levels of psychological fluency tend to exhibit more innovative, flexible, and engaging teaching methods. Psychological fluency serves as a key predictor of creative performance, reflecting a teacher's ability to adapt, think divergently, and manage classroom challenges effectively. The results also indicated that gender and educational environment variables did not significantly influence this relationship, suggesting that psychological fluency operates as a universal factor in enhancing teaching quality across different contexts. Overall, the study highlights the vital role of psychological readiness and mental adaptability in promoting creativity and excellence in physical education instruction.

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CONFLICT OF INTEREST STATEMENT

The author declares that there is no conflict of interest regarding the publication of this research article. The study was conducted independently, without any financial or personal relationships that could have influenced the research results or interpretations.

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