

Female Students' Motivational Climate in Physical Education by Age and Educational Environment

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Abstract

Objectives. The Problem: The lack of interest of school administration and subject teachers in physical education lessons compared to other lessons, often placing them at the last class of the schedule or abandoning them to complete the curriculum. This contrasts with the joy and eagerness of students during the implementation of the physical education lesson by the instructor, who considers it a motivational climate with a clear impact on the students' psychology. Objectives: To develop and implement a motivational climate scale for secondary school students in physical education lessons. To identify the level of motivational climate for students in traditional and applied lessons based on the variables of age and educational environment. Furthermore, to identify differences in the level of motivational climate for students in physical education lessons between traditional and applied **Methods.** To achieve the objectives, the researchers used a descriptive approach using a survey and correlational approach. The research community was defined as female secondary school students aged 14-17 years, specifically those in the second intermediate and fifth preparatory stages, in the Nasiriyah city center and rural areas (Ur district) for the year 2023-2024. The total number of female students was 7,972, distributed across (49) schools in the center and (38) schools in the countryside **Results.** The four groups under study (rural and central areas) achieved their goal of significant influence in the first two tests (traditional lesson) and the second (practical lesson), with the second test (practical lesson) in favor of the motivational climate scale. **Conclusion and Recommendations.** The motivational climate was higher among urban female students compared to rural female students due to the surrounding environmental conditions. The motivational climate was higher among fifth-grade female students than among second-grade female students due to the customs and traditions adhered to by middle school female students due to their age.

Keywords Motivational Climate, Female Students, Physical Education, Educational Environment

Introduction

Since education has essential requirements without which it cannot be effective, the teacher is one of the most prominent of these requirements and one of the most important pillars of the educational triangle upon which the educational process is based (Abduh et al., 2024; Teachers Institute, 2023). The process cannot develop and fulfill its desired role, no matter how advanced and developed philosophies are and translated into curricula, methods, and techniques, without relying on the approach of a teacher who is scientifically and professionally prepared to a high level of competence, qualifying and enabling them to fulfill their roles as educators and teachers (Cents-Boonstra et al., 2021; Teachers Institute, 2023). Therefore, it is necessary to create an educational environment that works to improve student

learning by creating a motivational climate “which is the psychological and social environment created by teachers to increase student participation in the lesson and raise the level of interaction between students. It relies on rewards based on the effort they exert” (Sinha, 2024). This is in addition to the learning achieved and the efforts made to improve it during the physical education lesson by the subject teacher, as the benefits of the lesson extend beyond the lesson itself, as it affects students' attitudes, motivations, and participation (Nunes et al., 2023; Thiagarajan & Others, 1974). In physical activity inside and outside the lesson, in addition to raising morale and the spirit of competition among them and encouraging students to participate in various sports activities inside and outside the school (Ahmed & Al Salim, 2024a; Azlan et al., 2020). Field application is one of the important means of preparing the teacher. (Andika et al., 2024) believes that application is the scientific foundation in the project of linking the theoretical and scientific sciences that students learned during their years of study at college in a practical way, whether at the school or training level. Through application lessons, the teacher is properly prepared and helped in organizing and understanding their work in schools to become qualified for the educational and pedagogical construction process in the future. (Tan et al., 2025) emphasizes that the teacher will not be able to carry out his mission in the most complete manner unless he is properly prepared. Practical application represents one of the basic aspects in preparing the teacher in the field of physical education, as the matter is not limited to merely using technology in the educational process, but rather it is a situation in which appropriate and available resources are employed to enrich the educational process. (Cents-Boonstra et al., 2021; Yang et al., 2024) From the above, the importance of the research lies in identifying the level of motivational climate for female students during the traditional lesson of the school subject on the staff. The application was studied for the university lab due to its importance in raising the morale and psychological spirit of the female students through the interaction of the subject teacher with the female students during the lesson and raising appropriate recommendations to the school administrations regarding the necessity of paying attention to and not marginalizing these lessons.

Problem: Physical education (PE) classes are among the essential fields that contribute to developing students' personalities and honing their physical, psychological, and social skills. However, the success of these classes does not depend solely on the skill or physical aspect, but rather depends to a large extent on the motivational climate prevailing during the class. This climate is reflected in students' motivation to participate and learn, especially during adolescence, when they express their stored energies, whether positive or negative, and release any psychological pressures resulting from the pressure of other academic subjects. As the researchers supervise some university-based female students, they observed a lack of interest from school administration and subject teachers in PE classes compared to other classes. This was often placed at the last class in the schedule, or the subject teachers and administration sometimes waived it for other classes to complete the curriculum and make up for missed classes due to holidays and special occasions. This contrasts with the joy and eagerness of the students during the PE class, which is considered a motivational climate with a clear impact on the students' psychology (Akmal, 2024; Gordon-Gould & Hornby, 2023). Therefore, the researchers decided to develop a motivational climate scale to measure the level of motivational climate for female students in secondary schools between the

traditional lesson of the subject teacher and the practical lesson. Implemented by fourth-grade (applied) students, taking into account the variables of age and educational environment.

Research Objectives:

1. To construct, standardize, and implement a motivational climate scale for secondary school students in physical education classes.
2. To identify the level of motivational climate for students in traditional classes, taking into account the variables of age and educational environment.
3. To identify the level of motivational climate for students in applied classes, taking into account the variables of age and educational environment.
4. To identify differences in the level of motivational climate for students in physical education classes between traditional and applied classes.

Materials and Methods

This study employed a descriptive survey approach, as it was deemed most appropriate to address the nature of the research problem. The research community consisted of female high school students aged 14–17 years, specifically those in the second intermediate and fifth preparatory stages, enrolled in schools located in both the city center of Nasiriyah and rural areas (Ur district) during the academic year 2023–2024. In total, 7,972 female students were identified: 1,626 in the second intermediate stage (1,192 in rural schools and 434 in city schools) and 5,154 in the fifth preparatory stage (4,683 in city schools and 471 in rural schools), distributed across 49 schools in the city and 38 in the countryside. A sample drawn from the general population that included 4 different Secondary Facility (2 in rural areas and 2 City Facilities) was selected randomly by lottery. The sample design included drawing 25% of each level of Education resulting in the sample size of 20 - (Survey), 90 - (Construction sample) and 60 - (Application sample), all evenly balanced between both complete levels of education.

In order to answer the research objectives, researchers created a new tool to measure Motivation or "Motivational Climate". Initially the scale was made up of 55 items. Each item was rated via a 5 point Likert scale (always, frequently, sometimes, seldom, never) and were given response weights of 5 to 1 for the items. Each item was presented to a panel of experts for reviews and evaluations. The researcher(s) completed a Chi-square analysis to determine how many items to retain. The Chi-square analysis indicated that 40 items could be retained; 15 items to be excluded (Chi-square= 3.84). A pilot study was conducted on October 25, 2023 with a list of 20 students. All students' response times for each item ranged between 18 to 20 minutes. The scale was then administered to 90 students from the construction sample on November 8, 2023. Statistical analysis of the scale showed the items discrimination power via significant t-values (10.135, 13.461) meaning there was an indication that the items were correlated ($p < 0.05$).

The initial investigation of the scale resulted in a confirmatory process for establishing the scale's validity, reliability, and objectivity. Experts reviewed the scale to assess the content validity; therefore, the construct validity was determined by evaluating both extreme groups of students and examining the internal consistency. The reliability of the scale was established using the split-half reliability test, where the Pearson Correlation Coefficient was determined to be 0.838, when applying the Spearman-Brown formula the total coefficient of reliability should be 0.894, indicating that the scale has a very high level of reliability. The scale was created in such a way as to be objective; therefore, the items were clear, logically constructed, and there was a key that offered corrections for errors.

Subsequently, after having confirmed the scale as having been valid, reliable, and objective, two main experimental studies were conducted. The first of these experiments occurred during the first semester of the academic year with traditional Physical Education classes, with the scale being administered to the 60 sampled students from both a city and rural school environment. After having been returned, the questionnaires were checked for accuracy and all items were entered into the database for analysis. The second experiment occurred during the second semester of the same academic year, and this experiment was again conducted with the same 60 sampled students across both settings and environments. Data from both experiments were analyzed using SPSS version 20.

Results

1. Results of the Main Experiment Tests

To determine the significance of the differences between the first and second tests of the motivational climate scale for the four groups, a *t*-test for correlated samples was used.

Table 1 shows the means, standard deviations, calculated *t*-test values, and their statistical significance for the first (traditional lesson) and the second (application lesson) tests of the motivational climate scale according to age, academic level, and educational environment

Table 1. Means, standard deviations, calculated t-test values, and statistical significance of the first and second tests of the motivational climate scale.

Tests	Group type	First test (traditional lesson)	Test 2 (Application Lesson)	Calculated T value	Significance level	Type indication
1	Countryside Second Intermediate	76.17	6.08	132.5	5.577	15.558
2	Center Second Intermediate	74.5	5.577	134.8	4.215	20.762
3	Countryside Fifth Preparatory	73.67	7.501	148.3	3.724	18.719
4	Center –Fifth Preparatory	76	5.899	156.5	3.332	26.468

From Table (1), it is clear that all calculated t-values were statistically significant in favor of the second test, as the significance levels were less than 0.05. The motivational climate found in the four groups was significantly higher during the application lesson as compared to traditional lesson for all four of the groups tested.

The first test (traditional lesson) revealed that levels of teacher-created motivational climate were very low in comparison to the application lesson. Most traditional physical education (PE) classes lack plenty of innovative options, have inadequate facilities to support quality instruction, and are often devalued as less-important classes by those who create the schedules. Therefore, many times PE classes are considered to be secondary to all other classes, and in many cases are used as a compensatory class for students not completing other classes. These findings support what Wium (2021) reported about the marginalization of PE from the school curriculum due to limited time being provided for teaching PE.

The second test (application lesson) demonstrated a large increase in the level of teacher-created motivational climate for the students in the application lesson. There are several factors that contributed to this increased level of motivational climate: 1) commitment of the administration to provide quality, scheduled PE classes; 2) the teacher's approach to teaching the application lesson, including being close in age to the students, wearing athletic clothing, and participating in all activities, including games and exercises; and, 3) the creation of a more dynamic, engaging, and positive classroom by the teacher. These aspects are all in agreement with Bailey (2001), who identified the positive influence of a teacher on the creation of a motivational climate for learning.

2. Results of the Analysis of Variance (ANOVA)

The ANOVA results from the second test (Application Lesson) of the motivational climate scale are reported in Table 2 for the four groups within this study.

Table (2). Results of the ANOVA in the second test of the motivational climate scale.

Variables	Source of Variance	Sum of Squares	df	Mean Squares	F-value	Sig.	Significance
Motivational Climate Scale	Between Groups	2325.8	3	775.3	42.001	0.000	Significant
	Within Groups	369.2	56	18.5			

*Significant at $p < 0.05$

The results in Table (2) show that there were statistically significant differences between the four groups on the motivational climate scale in the application lesson ($F = 42.001$, $p < 0.05$). To determine the source of these differences, an LSD post hoc test was conducted.

Table 3. Results of the LSD post hoc test for differences between the four groups on the motivational climate scale.

Variables	Groups	Mean Difference	LSD Value	Sig.	Significance	Group Advantage
M1 - M2	Countryside Second Intermediate – Center Second Intermediate	2.333	5.183	0.358	Not significant	In favor of Center
M1 - M3	Countryside Second Intermediate – Countryside Fifth Preparatory	15.833		0.000	Significant	In favor of Fifth Preparatory
M1 - M4	Countryside Second Intermediate – Center Fifth Preparatory	24.000		0.000	Significant	In favor of Fifth Preparatory
M2 - M3	Center Second Intermediate – Countryside Fifth Preparatory	13.500		0.000	Significant	In favor of Fifth Preparatory
M2 - M4	Center Second Intermediate – Center Fifth Preparatory	21.666		0.000	Significant	In favor of Fifth Preparatory
M3 - M4	Countryside Fifth Preparatory – Center Fifth Preparatory	8.166		0.004	Significant	In favor of Center Fifth Preparatory

Discussion

The LSD post hoc test results (Table 3) show clear and significant differences between the four groups. The highest motivational climate was recorded among the center fifth preparatory group, followed by countryside fifth preparatory students, center second intermediate students, and finally countryside second intermediate students.

The superiority of fifth preparatory students over second intermediate students is attributed to age differences. Fifth preparatory (Ahmed & Al Salim, 2024b; Bessa et al., 2021), in late adolescence, are more constrained by cultural norms and traditions, limiting their opportunities for recreation outside of school. In this way, physical education PE classes can provide opportunities for students to exercise, enabling them to relieve stress with the help of their physical education teachers. On the other hand, since the second intermediate

children are younger than the other children in this cohort, they have greater opportunities to play at home, school, neighbourhood and beyond.

Compared to students from rural areas, urban students typically exhibit higher motivation levels which are attributed to the unique environmental aspects of each area. As urban environments tend to be more or less densely populated; residents generally have smaller homes than those found in rural areas. Additionally, urban children do not typically engage in physical education as actively as they would in a rural area because their daily schedule is usually more structured than that of a child living in a rural environment. On the other hand, children living in a rural location may participate in sports through traditional forms of recreation, such as playing basketball, football, etc., but do not have access to the same variety or amount of opportunities to participate in physical education as urban children. It should also be noted (Azlan et al., 2020; Gipit et al., 2017; Zhang et al., 2020) that children in rural environments tend to be exposed to much greater opportunities for natural movement, like walking/running/jumping, etc., than children in a city setting; therefore, children who live in a city do not have as many options to engage in these activities outside of a school environment.

Conclusion and Recommendations

The study supports the continued use of the Motivational Climate Scale, developed and adapted for the current study population by the researchers in this study. Results indicated significantly greater levels of motivation found within the Urban Female Student population as opposed to their Rural Female Student population due at least in part to their different physical environments. Results also suggest that Urban Fifth-Grade Female Students had much higher Motivational Climate Scores than their Rural Second-Grade Female Students; and this difference is assumed to be primarily due to the older age of the Urban Fifth-Grade Female Students related to youth customs and traditions associated with middle school-age youth. The authors recommend that educational institutions incorporate the newly created Motivational Climate Scale as an effective means to assess student preparation and to provide educators with additional information about the context of their students' lives, across all academic disciplines. Additionally, they advocate for Physical Education Teachers and School Leaders to reassess the importance of the Physical Education curriculum and the impact of physical education as compared to traditional methods of instruction.

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