

Research Paper: The Role of Self-efficacy in the Relationship Between Classroom Climate and Students' Educational Motivation



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ABSTRACT

Background: “Motivation” is an influential factor in the learning process, which its absence can prevent the learner from learning. Motivation affects both new learning and performance, skills, strategies, and pre-learned behaviors. “Educational motivation” is an essential aspect of education and the learning process. Educational motivation is generally referred to as the desires, needs, and factors that cause a person to have hope and resilience in educational environments for the flow of education and obtain the necessary results from it and transactional satisfaction. The purpose of this research was to determine the role of self-efficacy in the relationship between classroom climate and students' educational motivation.

Methods: This correlational research was done on 250 people selected by a simple multi-stage random sampling method from male and female high school students of Gonabad in 2019-2020. The measurement tools were Sinclair & McInroy Educational Motivation Scale (SIMS), Psychosocial Climate Inventory by Fraser, Giddings, and Mac Ruby (1955), The Morgan-Jinks Student Efficacy Scale (MJSES). Multiple regression was used to analyze the findings.

Results: The results showed a significant relationship between classroom climate and educational motivation without the presence of self-efficacy ($r=0.41$), while there was no significant relationship between these two variables with the presence of self-efficacy ($r=0.186$). The findings also indicated that the classroom climate perception was a significant predictor of mediated academic motivation without self-efficiency ($P=0.0346$).

Conclusion: There was a significant relationship between classroom climate and educational motivation without the presence of self-efficacy and classroom climate perception was not an effective predictor of educational motivation with the presence of self-efficacy. Hence, it is recommended to focus on factors predicting educational motivation in future studies.

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1. Introduction

Nowadays, the need for achievement is one of the initial motivations studied in detail [1]. Butel believes that educational motivation is the all-out tendency to evaluate self-performance considering the highest standards to strive for success in performance and enjoy the joy that is accompanied by performance success. Students have different levels of educational motivation and behave in completely different ways in their lives. For example, at a high level of the need for achievement, people are more likely to pursue higher education, higher grades, and extracurricular activities than those who need a low level of need for achievement [2].

Educational psychologists and scholars have studied many variables to identify the predictors of educational performance and sought to identify the most essential and significant components in this field to specify educational quality and performance improvement by studying the variables related to educational achievement. In other words, the main reasons for paying attention to motivation in education have been mentioned due to their effective relationship with new learning, skills, strategies, behaviors, and educational achievement [3].

One of the factors affecting self-efficacy and consequently, educational motivation is the classroom environment and climate, which plays a vital and robust role in the educational and psychological performance of students and the interaction between them [4]. The school environment is one of the most critical places in students' lives because they spend a lot of time at school [5]. The psychological climate of the learning environment (classroom) has significant effects on students' learning behaviors, their target orientation, their beliefs, educational and social motivation, emotional performance, educational values, and educational achievement [5].

The classroom and school environment, the school administrative system, and the teacher education method have undeniable effects on educational performance and cognitive and self-efficacy processes [6]. School or classroom activities perception is a wide range of processes, attitudes, and beliefs, including perceptions of control, support for autonomy, choice, and enjoyment [7]. As a small and subsidiary community, the classroom is made up of different people who are different in terms of experiences, culture, and personality. These people bring their characteristics into the classroom and prevail in a different climate. Therefore, the creators of the class-

room climate are teachers and students whose primary goal is education and learning [8]. Therefore, a favorable climate in the classrooms is necessary for teaching and learning. A favorable and appropriate climate is a positive and purposeful relationship between the teacher and students in the classroom with "efficiency" [9]. Therefore, recognizing the classroom climate and interacting with peers can provide valuable feedback for teachers because this factor affects dropout, absenteeism, sadness and depression, anxiety, student resistance to the teacher, lack of camaraderie between students in the classroom, dissatisfaction, and lack of interest in lessons and learning. Various factors affect the way students learn and perform in the educational environment, among which two factors related to the characteristics of the classroom climate and individual characteristics of students (such as the level of motivation and arousal to acquire knowledge, cognitive and metacognitive strategies, and personality) are more critical. The interaction of these two factors plays a vital role in increasing the educational environment's quality and efficiency, which increases a person's learning and education [10].

Some studies have indicated the relationship between high levels of educational self-efficacy and variables, such as adjustment and success in school and asking others for help in educational issues. They believe that self-efficacy is correlated with effective learning strategies, self-regulation, educational performance, and social interaction skills with classmates [11]. According to studies, the relationship between a happy classroom climate and educational motivation can promote appropriate individual and social upbringing and reduce educational and job burnout. A positive and significant relationship between classroom climate and educational motivation has been reported [12-19].

Educational self-efficacy is positively and significantly related to educational motivation, and classroom climate and psychosocial relationships of peers and teachers have a broad effect on self-efficacy and motivational processes [20]. Teacher and student support, especially peers, positively and significantly affect students' educational self-efficacy [21]. There is a positive and significant relationship between self-efficacy and educational motivation [22-26]. Several studies have been conducted in this field in Iran. For example, a study reported that self-efficacy has an influential role in educational performance and motivation [27]. Another study showed that competition in the psychosocial climate of the classroom could significantly be a negative predictor of educational self-efficacy.

Moreover, friction and discipline of the psychosocial climate significantly and positively predicted educational self-efficacy. The discipline of the psychosocial climate significantly and positively predicted the context of students' educational self-efficacy dimension, while discipline in the psychosocial climate of the classroom negatively predicted the effort in the educational self-efficacy [28].

"Self-efficacy" is another crucial factor considered by educational psychologists regarding improving performance and increasing students' motivation levels. Previous studies have indicated a direct and indirect relationship (mediating) between self-efficacy and educational motivation, which means more positive students' beliefs about their ability to do educational affairs leads to better educational motivation and performance. Thus, self-efficacy is a strong determinant and predictor of the level of achievement in students [29-32].

In the recent decade, "self-efficacy" has been one of the most substantial positive factors of motivation, which has attracted many psychologists parallel with the development of positive psychology. Self-efficacy is so closely and effectively correlated to motivation and some consider self-efficacy as a dimension of intrinsic motivation. Self-efficacy and motivation are two sides of the same coin. In other words, as soon as people believe in their abilities and capabilities, they have a double motivation to continue and accomplish their tasks and goals [33, 34].

"Educational self-efficacy" is sometimes considered as one of the main concepts related to self-efficacy, which refers to students' beliefs about the ability to do a certain amount of duties [5]. The psycho-mental nature is critical in defining and understanding self-efficacy. Self-efficacy does not only mean judging and calculating the objective and external results of their capabilities and volume but it also means the individuals' perceptual level and motivation. For example, it refers to a person who has significant achievements and is endorsed by others but does not consider himself self-sufficient and worthy in terms of believable differences, perceptual perspectives, and unrealistic existential expectations. Regarding the self-efficacy as a mediating variable, it can be said that a sense of trust, confidence, and firm confidence in being able to overcome as a mediator of this relationship becomes necessary and essential despite any factor related to students' educational motivation (including context, facilities, level of instructors, etc.) [33].

Previous studies have focused on the mentioned variables and the importance of the role of the classroom climate as an environmental variable and educational

motivation as an often internal variable in student education and the need for self-efficacy in various areas of education and mental health. Given that there are no studies in the country on the simultaneous relationship between the three studied variables (classroom climate, self-efficacy, and educational motivation), the purpose of this research was to investigate the role of self-efficacy in the relationship between classroom climate and students' educational motivation.

2. Methods

This correlational research employed a regression method. The statistical population of the research included all high school students (3057 cases) of Gonabad in 2019-2020 (1646 female and 1411 male). Multi-stage random sampling in this research was performed. The sample size was estimated to be 200 students, which increased to 250 people to reduce the sampling error and the ability to generalize the results to the entire statistical population. In the first stage, 6 schools, including 3 female and 3 male schools, were randomly selected out of 25 male and female high schools in Gonabad. In the second stage, the researcher referred to the schools and selected several classes in each school, and in the next stage, the samples were randomly selected in each classroom based on the list of students. The inclusion criteria were being a high school student, willingness to participate in research for 12 to 15 years, and the lack of a history of mental disorders, and the exclusion criteria were withdrawal from the study for any reason, being absent in one of the stages of the research, and no complete answer to the questionnaires.

The measurement tools of the research included the Sinclair & McInroy Educational Motivation Scale, Psychosocial Climate Inventory by Fraser et al. (1955), and the Morgan-Jinks Student Efficacy Scale (MJSES), which was developed and validated by Fraser et al. (1955). The scale has 20 items with a minimum and maximum score of 20 and 60, which measures the psychological and social climate of the subject. The Iranian form of this questionnaire has been standardized in a sample of middle school students. In this study, the reliability coefficient with Cronbach's alpha for the whole scale and subscales of friction, cohesion, discipline, and competition was reported to be 0.87, 0.81, 0.79, 0.79, and 0.80, respectively. In this research, the reliability coefficient was 0.69 with a retest method and tested on 56 students with a three-week interval [34, 35].

The main form of the Educational Motivation Scale was created by Sinclair & McInroy (1992) with 100 terms. The

short 49-item form was compiled by Bahrani in Shiraz. The internal stability of this form is equal to 0.77 for the whole questionnaire and ranges from 0.27 to 0.77 for the dimension of the tendency to achievement and dimension of external motivation, respectively with a median of 0.50 and a reliability coefficient of 0.95 obtained through the retest method. This value was relatively high and ranged from 0.70 (dimension of the tendency to achievement) to 0.90 (dimension of external motivation) for its 11 dimensions. Its median coefficient was 0.77 [35].

The Morgan-Jinks Student Efficacy Scale (MJSES) was developed by Morgan et al. (1999). This scale has 30 questions and three subscales of talent, effort, and context. The items of the scale are rated on a four-point Likert scale. The scale has an internal consistency of 0.82 obtained using Cronbach's alpha method. Cronbach's alpha coefficient of three subscales of talent, effort, and context were reported to be 0.78, 0.66, and 0.70, respectively. The validity of this scale in Iran has been reported as favorable through factor analysis and its reliability coefficients for overall self-efficacy, and its dimensions of talent, effort, and context are 0.76, 0.66, 0.65, and 0.60, respectively with Cronbach's alpha method [36, 37].

Table 1 shows the values of Cronbach's alpha coefficient to check the reliability of all three questionnaires. According to the results and the reliability values, the good reliability of the research questionnaires is confirmed, considering all its values more than 0.7. Motivation questionnaire questions had the highest reliability with the alpha and mental climate values of 0.85 and 0.81, respectively. The MJSES had the lowest reliability value with the alpha and self-efficacy values of 0.69 and 0.74, respectively.

Initially, the researcher received a letter of introduction from the University Vice-Chancellor for Education to conduct the study. Sampling was performed after obtaining the necessary permissions and coordination. The researcher referred to the selected schools, and the subjects completed the mentioned questionnaires. The necessary explanations were provided about the research purpose and the subjects were informed about the information confidentiality and providing right answers to the questions of the questionnaires before completing the questionnaires. It should be noted that written and informed consent was obtained from the students before the study. SPSS v. 22 statistical software was used to analyze the data, and the results were reported using descriptive and inferential statistics.

3. Results

The statistical population of the study was 3057 people, including 1646 females and 1411 males. The sample size is estimated as many as 250 people. According to Table 2, out of 250 participants, 127 cases (50.8%) were female and 123 cases (49.2%) were male. Also, 76 cases (30.4%) were in the eighth grade, 75 (30%) in the ninth grade, and 99 (39.6%) were in the tenth grade. A total of 62 people (24.8%) were studying humanities, 54 people (21.6%) mathematics, 72 people (28.8%) experimental sciences, 41 people (16.4%) professional technical, and 21 (8.4%) were studying work and knowledge. The average age of the subjects was 15 years. The relevant assumptions for using this inferential statistic were first confirmed before performing the regression model (for example, the independence and normality of the residuals).

The regression model was used to evaluate the predictability of the studied indicators for educational motivation, in which the educational motivation index was included as a dependent variable, and the classroom climate was entered as an independent variable. Finally, this regression was fitted with and without the presence of self-efficacy in the model. The significance of the model was first checked for each regression model. If the model was significant, the R^2 index was used as the value of the motivation index.

We examined the predictive role of classroom climate with the presence of self-efficacy and according to Table 3, a P-value of 0.0346 was obtained, which was not significant, showing the unpredictability of the classroom climate in the presence of self-efficacy for educational motivation. Moreover, the regression model result showed that the perception of the classroom climate was a significant predictor of educational motivation without a mediating role ($P=0.421$).

The correlation coefficient was used to determine the relationship between the studied indicators and educational motivation. This coefficient was calculated with and without the self-efficacy in the model. The Pearson correlation coefficient was used in the model without the presence of self-efficacy, and the marginal correlation coefficient was used in the model with the presence of self-efficacy to control the effect of self-efficacy.

As shown in Table 4, a positive and significant relationship was found between classroom climate and educational motivation without self-efficacy ($r=0.415$), while the obtained correlation coefficient between these two variables mediated by self-efficacy ($r=0.186$) was not significant. The percentage of variance explaining the

Table 1. Cronbach's alpha values of the research questionnaires used

Self-efficacy	Psychological Climate	Motivation
74%	81%	85%

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presence or absence of self-efficacy in the model was expressed using the R^2 index. The percentage of variance explained by the whole mediated model was equal to 0.201 according to the R^2 index. A good classroom climate can positively affect self-efficacy and motivation; thus, the lack of a proper classroom climate can negatively affect these indicators (Table 5).

4. Discussion

The purpose of this research was to determine the role of self-efficacy in the relationship between classroom climate and students' educational motivation. According to the findings, consistent with several studies, the classroom climate had a positive and significant with educational motivation [38]. The classroom is a small and subsidiary community with different people who have similarities and differences in terms of experiences, culture, personality, and other factors and need a favorable climate in the classroom for teaching, learning, and being motivated in this direction. Students are motivated to do their homework and advance their educational interests together and receive the necessary guidance to

improve educational performance in their relationships with educators and teachers. These improvements increase self-confidence and self-esteem and cause motivation more than before [39].

“Competition” is one of the dimensions of classroom climate, which has a positive and significant relationship with student's educational achievement and motivation [22]. In other words, there are many interactions between students at school and in the classroom, of which competition between students is a situation, in which students fight each other in a friendly way to achieve a goal. Competitive activities are motivating, exciting, and enjoyable, which allow students to demonstrate competencies and abilities by comparing themselves with others and their previous performance. In addition, the competition improves performance by affecting the attempt to impress the people to achieve a goal. This improvement increases educational achievement. Iranian schools today are highly affected by competitive education. Many techniques and strategies used in schools, like score and rank and the first and second grade in the scoring system, encourage competition [40].

Table 2. Demographic information of the subjects

Variables	Category	No. (%)
Gender	Female	127 (50.8)
	Male	123 (49.2)
Level of education	Eighth grade	76 (30.4)
	Ninth grade	75 (30.0)
	Tenth grade	99 (39.6)
Educational field	Humanities	62 (24.8)
	Math	54 (21.6)
	Experimental sciences	72 (28.8)
	Technical and professional	41 (16.4)
	Work and knowledge	21 (8.4)
Age (y)	2.3±15	

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Table 3. Predicting role of the classroom climate for educational motivation

Models		Sum of Squares	F	Significance
Psychological climate without the mediating role of self-efficacy	Regression	6.16	17.1	0.0346
	Residual	0.81		
	Total	7.372		
Psychological climate with the mediating role of self-efficacy	Regression	1.211	7.860	0.4210
	Residual	7.154		
	Total	7.372		



“Discipline” is another dimension of the classroom climate. In justifying its positive and significant relationship with educational motivation, it can be said that discipline refers to the extent, to which students do the homework assigned by their teacher regularly and on time. Discipline is considered a positive factor because it is used by the teacher for educational achievements considering the importance of students’ independence. If the discipline provides conditions for optimal management of the classroom climate and meets the obligations and expectations to provide effective training, it can be effective in educational motivation. Furthermore, “frictional” relationships negatively and significantly reduce students’ educational motivation, and on the contrary, friendly and intimate relationships and a sense of belonging and support effectively increase students’ motivation [41-44].

In the present study, classroom climate was not significantly related to self-efficacy in educational motivation and could not play an indirect predictive role for self-efficacy. Our findings are also consistent with some of the studies in this field. According to some reports [45, 46], in the last three decades, the psychosocial climate of the classroom can sometimes not predict self-efficacy and educational motivation. In explaining and analyzing this lack of relationship and predicting the classroom climate for students’ educational motivation, it can be expressed

that discipline or upbringing generally have a weak relationship with educational achievement and improvement in students’ attitudes. Some students are inattentive and weak to their peers, classmates, teachers, and the school environment, despite being motivated and performing well in lessons and learning [47] or they gradually take an individualistic approach, do not care about interpersonal and collective relationships, and strongly think about spending school hours and being successful in passing grades and doing homework [48].

In some cases, the classroom climate and the derived indicators from its context and culture may be relatively different and contradictory by students’ perceptions and selected methods for the development and improvement of students’ performance and personality, beliefs, and future career-educational perspectives. In this situation, it is normal for inappropriate classroom climate styles, such as observant or controller styles, to have a negative effect on students’ motivation, especially self-efficacy.

5. Conclusion

Our results confirmed a positive and significant correlation between “perception of psychosocial climate in the classroom” and “students’ educational motivation;” however, the classroom climate regarding its predic-

Table 4. Relationship between classroom climate and educational motivation

Models	Classroom Climate	
Correlation coefficient without the mediating role of self-efficacy	Pearson correlation coefficient	0.415
	Significance	0.004
Correlation coefficient with the mediating role of self-efficacy	Marginal correlation coefficient	0.186
	Significance	0.420



Table 5. The variance of classroom climate explained the educational motivation

Models	R	R ²	Adjusted R ²	Estimated Standard Deviation
Psychological climate without the mediating role of self-efficacy	0.405 ^a	0.164	0.025	0.58505
Psychological climate with the mediating role of self-efficacy	0.615 ^a	0.354	0.201	0.47653

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a: The percentage of variance explaining the presence or absence of self-efficacy in the model was expressed using the R² index; the percentage of variance explained by the whole mediated model was equal to 0.201 according to the R² index.

tive role for educational motivation did not have the necessary power and significance in the present study. Because the classroom climate is linked to the relationship between the student with his/her classmates and teachers, this relationship may not be sincere. Therefore, the lack of a significant relationship in this study can indicate the lack of this relationship in students. There was a significant relationship between the perception of classroom climate and educational motivation without the mediating role of self-efficacy, while there was no significant correlation between these two variables with the mediating role of self-efficacy. However, the perception of classroom climate was not an effective predictor of educational motivation with or without the mediating role of self-efficacy. It is recommended to focus on other factors predicting educational motivation in future studies.

Recommendations

Considering the predictive role of classroom climate on the educational motivation (directly and indirectly with self-efficacy) and the relationship between them, the insiders, teachers, and educators are recommended to provide the necessary solutions for the appropriate classroom climate for education and training to increase motivation and improve students' educational achievement. For example, teachers should not teach using the traditional method to a group of students and should create opportunities for the learner to be actively involved in improving educational content and social interaction. Students must be taught to be self-disciplined and to take an active role in their learning by targeting, monitoring, and evaluating achievement and going beyond future needs by discovering interests. These students must also adopt important factors and necessary training as effective measures considering the role of self-efficacy in this regard (the effect of class climate on increasing the educational motivation).

Given that the present research was conducted on students in Gonabad, the researchers suggested repeating this research in other areas with different cultures and

other age groups and courses. Such studies increase the generalizability of the findings and provide a basis for comparing the findings. Considering the insignificant relationship between classroom climate and educational motivation by mediating self-efficacy, it is recommended to examine the role of other factors involved in educational motivation.

Research Limitations

This research had some limitations that should be considered in future studies. One of the main problems and limitations was the lack of access to students due to the E-learning system due to the outbreak of the COVID-19 in the country.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Ethics Committee of the University of Gonabad (Code: 09 /24/2/129).

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Authors' contributions

Methodology and investigation: All authors; Writing – review & editing and writing – original draft, data analysis: Najmeh Sadat Haji Vosough.

Conflict of interest

The authors declared no conflict of interest.

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