

PERCEIVED MOTIVATIONAL CLIMATE AS PREDICTOR OF STUDENT ENGAGEMENT IN SPORTS AND PHYSICAL ACTIVITIES

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ABSTRACT

The goal of this research was to evaluate the relationship between perceived motivational climate and student engagement in physical activity and sports among 11th- and 12th-grade students in the Pantukan District, using a descriptive-correlational quantitative design. Random sampling (Slovin's formula) was used to select respondents with an allowable error of 5%, and data were collected using the standardized Perceived Motivational Climate in Sports Questionnaire (PMCSQ) and the Student Engagement in Sports Questionnaire (SESQ). The statistical tools used in this study included the mean and Pearson's r . Findings revealed that the perceived motivational climate was high, with an overall mean score of 4.10, and that student engagement in sports and physical activities was also high, with a mean score of 4.01. Results further showed that mastery climate ($r=0.185$, $p=0.001$) and performance climate ($r=0.335$, $p=0.001$) both had a significant positive relationship with student engagement in sports and physical activities. The study concluded that a positive motivational climate in physical education and sports activities significantly enhances students' engagement and participation, contributing to healthier, more active lifestyles among secondary students.

Keywords: *motivational climate, student engagement, sports, physical activities, secondary students, physical education, Philippines.*

SDG Indicator: #4 – Quality Education

INTRODUCTION

In recent years, education has undoubtedly undergone a substantial transformation. More than one billion learners – around 98% of the global student population have been impacted by the crisis brought about by the pandemic (UNESCO, 2020). As a result, schools mostly relied on remote/online learning in response to the call for safe educational continuity. This, in turn, raised concerns about student engagement, as the public health crisis significantly altered many aspects of life. The dilemma prompted social isolation and economic recession, causing anxiety and stress, which worsen students' existing mental health problems (Singh et al., 2020). Consequently, self-determination theory (SDT) holds that student engagement, fueled by motivation, is a requirement for learning (Chiu, 2020).

In Turkey, Ada et al. (2018) found that school physical education is widely believed to play a crucial role in motivating kids to engage in regular physical exercise. Students who are enthusiastic about PE are more likely to develop long-term activity routines. Positive experiences in physical education classes, according to Pharez (2016, as referenced in Ada et al., 2018), can be an important step toward a more active and healthier lifestyle for all students, as well as a crucial element in continuing participation in other sports activities. The physical education

teacher is another significant thing to consider. As a result, the most crucial task for PE teachers should be to provide a positive experience (Cherubini, 2009; Pharez, 2016; Rukavina and Doolittle, 2016). Positive climates also foster adaptive outcomes, such as satisfaction and happiness.

In Spain, Chacón Cuberos et al. (2018) found that both task-involved and ego-involved climates were positively associated with physical activity, with task-involved climate showing the strongest association. Furthermore, a high adherence to a Mediterranean diet was positively connected with task climate. According to the findings, children who are more intrinsically motivated to participate in sports and perceive a task-involved climate have better habits. This emphasizes the need to establish task-based motivational climates in sport and physical education classes.

In Davao de Oro, particularly in the Pantukan District, the Department of Education, Division of Davao de Oro, refined its physical education curriculum. Dr. Reynante Solitario, the former Officer In-Charge, Division Schools Superintendent, stated that reform in curriculum, the adoption of teaching techniques, and the establishment of a thorough motivational climate for PE Teachers were needed to ensure the full participation of students in their physical education subjects in all districts of the Division (Ampilan, 2013).

Perceived motivational climate refers to how students interpret the learning environment, particularly how success, effort, and achievement are emphasized in physical education settings. It is widely acknowledged that physical education plays a crucial role in motivating students to engage in regular physical activity, and students who enjoy these experiences are more likely to develop long-term participation habits (Ada et al., 2018; Pharez, 2016, as cited in Ada et al., 2018).

Positive experiences in physical education classes lay a foundation for promoting healthier lifestyles and continued engagement in sports, while teachers' roles are essential in creating a supportive and motivating environment that fosters satisfaction and participation (Cherubini, 2009; Rukavina & Doolittle, 2016).

Motivational climate is commonly categorized into task-involving and performance-involving climates. The terms "task-involving" and "performance-involving" describe two different types of climates (Jaakkola et al., 2016). Task-involving climates are associated with intrinsic motivation, positive behaviors, and healthier habits, whereas performance climates are associated with competitive anxiety, decreased enjoyment, and lower participation (Chacón-Cuberos et al., 2018; Duda & Whitehead, 1998).

Additionally, evidence suggests that the motivational climate in physical education can significantly impact students' psychological and behavioral outcomes. Specifically, a task-oriented climate increases intrinsic motivation and engagement, whereas an ego-oriented climate can hinder participation and well-being. Therefore, educators have a critical role in creating classroom environments that foster positive motivational climates, thereby enhancing student participation and learning outcomes (Hogue, Fry, & Iwasaki, 2019).

A mastery climate emphasizes an individual's improvement, effort, skill acquisition, and working with classmates. Success in a mastery climate is based on progress relative to oneself rather than others; therefore, students are encouraged to focus on their own improvement and engage in lifelong learning (Avci, Çepikkurt, & Kale, 2018). In a mastery climate, students will develop intrinsic motivation and be provided with an environment that facilitates their engagement in their learning.

Research indicates that mastery-oriented climates are positively correlated with various affective outcomes, including enjoyment, satisfaction, and increased motivation. Students who learn in a mastery climate tend to be more committed, persistent, and self-regulated in their learning (Granero-Gallegos et al., 2017). Furthermore, mastery climates are positively related to relationships among students and teachers, as well as among peers, thereby creating an inclusive classroom environment (Fernandez-Rio et al., 2014, cited in Cecchini-Estrada, 2017).

Additionally, mastery climates help mitigate the negative effects of performance-oriented climates by reducing anxiety among students, helping them feel good about their personal growth and development, while promoting positive psychological well-being. Thus, developing mastery-oriented climates within physical education programs will lead to greater student engagement, motivation, and long-term participation in physical activity (Buch, Nerstad & Säfvenbom, 2017).

Performance-oriented climates are defined by competition, social comparison, and an emphasis on outdoing others. Within a performance-oriented climate, a student's success is defined as exceeding their peers on an objective measure, resulting in a high level of extrinsic motivation (Ames, 1992, cited in Avci, Çepikkurt & Kale, 2018). Students are compared to one another, and as a result, experience anxiety about their performance relative to peers, which may indirectly affect their participation or engagement.

Research indicates that students who learn in a performance-oriented climate experience negative emotional outcomes, such as anxiety, reduced enjoyment, and lower interest in learning (Duda & Whitehead, 1998, cited in Ada et al., 2019). The competitive and comparison elements may discourage students from participating in physical activity, particularly those who do not see themselves as competent.

Additionally, performance-oriented climates have been associated with unhealthy behaviors and reduced intrinsic motivation (Chacón-Cuberos et al., 2018).

Although performance-oriented climates are often found in competitive environments, an excessive emphasis on performance may diminish the benefits of a learning-oriented approach. While some research supports using a blend of performance and mastery climates to achieve positive learning outcomes, teachers should use mastery-oriented strategies as the foundation of their teaching practices to facilitate optimal student outcomes and long-lasting engagement in learning opportunities (Hogue et al., 2019).

Student engagement is a multidimensional construct that represents the degree to which students are involved in their learning activities (Fredricks et al., 2004, cited in Salas-Pilco, 2022). Student engagement has been established as a key contributor to students' academic success. Students who are engaged in their learning have higher academic achievement, greater persistence to completion, and more positive academic behavior (Bond et al., 2020).

Various factors, including teaching strategies, classroom environment, and student motivation, influence engagement. It is considered a dynamic process shaped by interactions within the learning context, including sociocultural, structural, and psychosocial influences (Kahu, 2013, as cited in Bond & Bedenlier, 2019). Educational practices that promote interaction, collaboration, and meaningful learning experiences have been shown to enhance student engagement and improve learning outcomes (Barlow & Brown, 2020).

Furthermore, research highlights that student engagement is closely linked to positive outcomes such as self-regulated learning, academic achievement, and well-being (Lin et al.). Understanding the different dimensions of engagement allows

educators to design effective instructional strategies that foster active participation and enhance the overall learning experience (Martin & Bolliger, 2018).

Cognitive engagement refers to the extent to which students invest effort in understanding and mastering learning tasks. It involves strategies such as critical thinking, self-regulation, and problem-solving to achieve deeper comprehension (Wehlage & Smith, 1992). Students who are cognitively engaged are more likely to persist in challenging tasks and demonstrate higher levels of academic achievement (Chi et al., 2018).

Cognitive engagement is strongly linked to motivation and self-regulation, according to research. Students who proactively plan, monitor, and evaluate their learning experience have greater academic success and show a higher degree of commitment to the learning process than those who do not (Greene, 2015). This type of cognitive engagement pushes learners beyond surface-level understanding of concepts toward a deeper understanding of how concepts relate to one another (Chi et al., 2018). Cognitive engagement is not easy to define or measure because it is often not observable; thus, it is usually measured indirectly through self-reports, reflections, or performance outcomes. Regardless, cognitive engagement remains a vital component of effective learning because it contributes significantly to student success in school and to the retention of knowledge over time (Sinatra et al., 2015, as cited in Dubovi & Tabak, 2021).

Behavioral engagement refers to students' participation in observable academic behaviors (e.g., attending class, putting forth effort, paying attention to the instructor, following classroom rules). Behavioral engagement is a visible dimension of engagement and typically reflects involvement in learning. Research has shown a strong relationship between behavioral engagement and student achievement in

school. Students who have high levels of behavioral engagement tend to be more successful than those who engage to a lesser extent (Marks, 2000, as cited in Chi et al., 2018).

Behavioral engagement is influenced by the context in which learning occurs, including the strategies teachers use, the classroom environment, and peer interactions. In particular, supportive and structured learning environments are shown to increase student participation and effort; therefore, behavioral engagement is a significant factor in achieving positive educational outcomes (Appleton et al., 2008; Fredricks et al., 2004).

Affective engagement describes students' emotional reactions to their school experiences (e.g., interest, enjoyment, sense of belonging); therefore, it speaks to how students feel about their experiences. Affective engagement is critical to a student's motivation and attitudes about school (Kahu, 2013, as cited in Schindler et al., 2017). Research indicates a strong relationship between positive affective engagement and greater levels of motivation, participation, and student achievement. Students who are interested in and enjoy the learning process are more likely to engage in their studies (Lin et al., 2019).

Furthermore, affective engagement is influenced by relationships within the learning environment, particularly interactions with teachers and peers. Supportive and inclusive classroom environments foster positive emotional experiences, which contribute to improved well-being and academic success. These findings emphasize the importance of addressing students' emotional needs to enhance overall engagement (Quin, 2017).

The Self-determination Theory serves as a foundation for this study. According to Fisher (2015), SDT is a motivational theory that focuses on personality,

development, social processes, and how social contexts and individual differences create and support different types of motivation (especially autonomous and controlled motivation), which in turn predicts an individual's ability to learn, perform, experience, and be engaged in their tasks. SDT also identifies the three basic psychological needs of all human beings – competence, autonomy, and relatedness – as essential nutrients for effective functioning and good health. When these three basic psychological needs are satisfied, they support the development of optimal motivation (i.e., autonomous motivation) and intrinsic aspiration, and consequently, support psychological well-being and effective engagement in all cognitive and physical tasks.

The theoretical framework for this study focuses on SDT's examination of human motivation and its applicability across a wide range of populations by gender, culture, age, and socioeconomic status. With this, SDT focuses on the factors that energize people to engage in different forms of behavior and on how their behavior is regulated across different domains of their lives. Rather, SDT is focused on the psychological factors (perceptions, cognitive processes, emotions, and needs) that influence regulatory, behavioral, developmental, and experiential outcomes.

According to Chacón-Cuberos et al. (2018), although motivational climate has been linked to physical activity and positive behaviors, there is limited research examining its direct relationship with the multidimensional aspects of student engagement. Similarly, Bond et al. (2020) emphasized that most studies on student engagement focus on general educational contexts and often treat engagement as a broad construct without integrating specific influencing variables such as motivational climate. Furthermore, Suguis & Belleza (2022) identified a research gap in understanding how perceived motivational climate affects students' levels of

engagement in the sports and physical activity sphere, particularly among high school students in the Pantukan District. Although motivation and overall physical activity have been well documented as indicators of student engagement, the effects of mastery and performance motivational climates (i.e., perceived motivational climate) on cognitive, behavioral, and affective engagement remain poorly documented.

The independent variable in this study is perceived motivational climate (see Figure 1), with mastery and performance climates used as indicators. The mastery climate focuses on effort, learning, cooperation, and self-improvement, while the performance climate concentrates on competition, comparison, and achievement. Student engagement in sports and physical activity serves as the dependent variable in this study and includes three types of engagement: cognitive, behavioral, and affective. Cognitive engagement is defined as the amount of effort put into learning and the use of strategies to acquire understanding. Behavioral engagement is defined as the amount of participation, effort, and involvement demonstrated by the student during activities, and affective engagement is defined using the student's emotional responses (interest, enjoyment, and sense of belonging) during the activity. Arrows in the figure represent the direct effect(s) perceived motivational climate has on student engagement in sports and physical activities among high school students in the Pantukan District.

The Department of Education (DepEd) has worked to improve the implementation of the physical education curriculum by employing effective teaching methodologies and fostering an optimal motivational climate, aiming to ensure that high school students in Pantukan District participate in sports and physical activities. These initiatives showcase the impact of establishing supportive, welcoming learning

environments in physical education classes. This is because student motivation to take part and student participation depend on the child's level of engagement. In addition, past studies in the Philippine context have shown that physical activity, along with student motivation, affects student engagement; as such, educational interventions will need to improve both the motivational climate and student participation in physical education.

However, there have been limited studies investigating the direct relationship and predictive capability of perceived motivational climate on student engagement in sports and physical activity among high school students, especially in localized settings such as Pantukan District. The majority of existing research has treated physical activity, motivation, and engagement as separate constructs, without investigating the influence of mastery and performance climates on the cognitive, behavioral, and affective dimensions of engagement. Thus, there is a need for further investigation into how perceived motivational climate supports student engagement to create a more holistic understanding of students' experiences in physical education.

With that being stated, the purpose of this research was to investigate the relationship between the perceived motivational climate and student engagement in sports and physical activity among high school students in the Pantukan District. The objective of the research, in particular, is to evaluate the perceived motivational climate's levels of mastery and performance. Second, to establish the level of student engagement through cognitive, behavioral, and affective aspects. Third, to determine whether a relationship exists between perceived motivational climate and student engagement. Lastly, to highlight whether the dimension(s) of perceived motivational climate significantly predict student engagement.

Hypotheses in this study were tested at a significance level of 0.05, which means that there is no significant relationship between perceived motivational climate and student engagement in sports and other physical activity, and that no domain of perceived motivational climate significantly affects student engagement.

The purpose of this research is to contribute to the accumulation of knowledge in the field of education (to help develop educational assistance), and to support the improvement of teaching practice(s) toward the global educational goals established, specifically Sustainable Development Goal (SDG) 4 to promote inclusive and equitable quality education. The examination of the relationship between perceived motivational climate and student engagement in sports/physical activity sends a clear message about the need to create supportive, task-oriented learning environments that foster increased student motivation to participate. Additionally, this study's results illustrate the effectiveness of motivational climates, particularly those that provide opportunities for mastery and promote positive student outcomes, thereby enhancing their cognitive, behavioral, and affective engagement across the required playing fields.

Consequently, this study will be of value to teachers, school administrators, educational policymakers, stakeholders, and future researchers. Educators, specifically those teaching Physical Education, will use the gathered information to enhance their instructional approach and create an environment conducive to mastery, ultimately fostering students' cognitive, behavioral, and affective engagement. In turn, school administrators, along with the Department of Education, will use the findings to develop programs/policies that promote effective teaching methods and create motivating learning environments. Stakeholders, such as parents/community members, will also benefit from insights into how they can

support programs/initiatives that promote student engagement and participation. Lastly, the information provided in this study can serve as a basis for future researchers to build on, helping close existing gaps and providing additional data for further exploration.

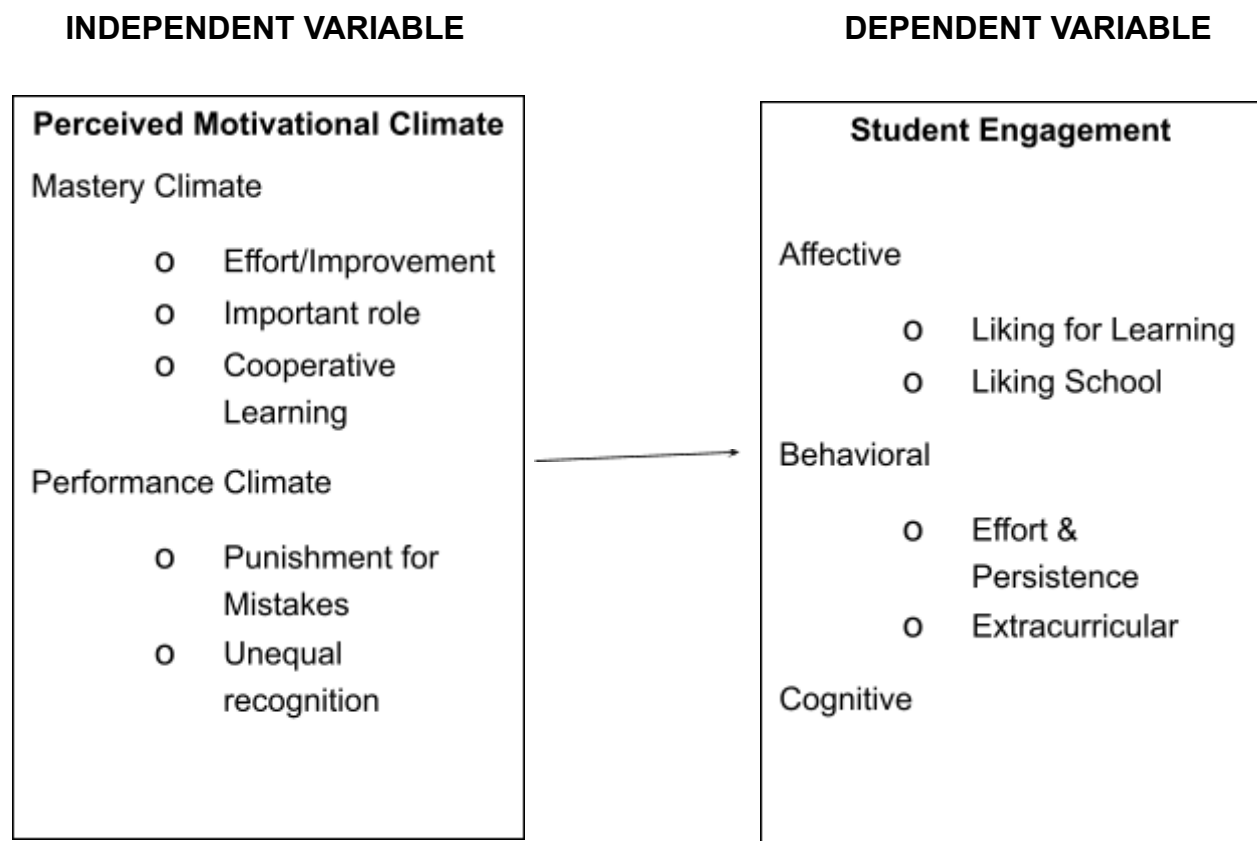


Figure 1. The Conceptual Framework Presenting the Research Variable

METHOD

This section presents the data sources, the instruments used for quantitative and qualitative analyses, and the overall methodology.

Respondents

The study was conducted among high school students in Pantukan District, Davao de Oro, who participated in sports and physical activities, and collected data through a survey to determine their levels of motivation and engagement. The procedure for selecting respondents included using a proper sampling method to recruit participants, ensuring they represented the target population of high school students in the area. In addition to completing a survey designed to measure their level of motivation (mastery or performance climate) and level of engagement (cognitive, behavioral, and affective), they were also asked about their general well-being.

To ensure that fair inclusion and exclusion criteria were used in recruiting respondents, participants had to be actively enrolled as high school students at one of the selected schools in the Pantukan District and willing to participate. Students meeting neither of those criteria would be excluded from consideration to be included as a subject in this research study. Participation in this research study was strictly voluntary; therefore, participants could withdraw at any time, particularly if they felt

uncomfortable or unwilling to continue. Because ethical concerns regarding confidentiality, informed consent, and participants' general well-being were observed during data collection, there were no issues with participants failing to meet the inclusion criteria.

Materials and Instruments

In the present study, a structured survey questionnaire was developed and used as the primary data-collection instrument to measure the independent variable, perceived motivational climate, and the dependent variable, student engagement. The items in the questionnaire used to assess perceived motivational climate were adapted from existing sources and included indicators of mastery and performance climates to assess how students view the physical education learning environment. The dependent variable, student engagement, was assessed by measuring its cognitive, behavioral, and affective dimensions. The cognitive dimension referred to students' investment in learning and their use of strategies; the behavioral dimension referred to the effort and participation students exert in their activities; and the affective dimension referred to the level of interest or enjoyment students express in response to their activities. The purpose of the questionnaire was to gather information about students' experiences with sports and physical activities.

The questionnaire comprised two main components corresponding to the independent and dependent variables. The first component included items assessing the independent variable, perceived motivational climate. In contrast, the second component included items assessing the dependent variable, student engagement, across the three dimensions of this construct. A five-point Likert-type scale was used to evaluate students' responses to the survey items. The following scale values and their corresponding descriptors were: 4.20 - 5.00 = very high (always); 3.40 - 4.19 =

high (often); 2.60 - 3.39 = moderate (sometimes); 1.80 - 2.59 = low (rarely); and 1.00 - 1.79 = very low (never). The use of this scale enabled respondents to calculate the overall levels of perceived motivational climate and student engagement.

Before conducting the present research study, the research instrument was validated to provide evidence that it was appropriate and accurate in measuring the independent variable, perceived motivational climate, and the dependent variable, student engagement. The instrument was reviewed twice by specialists in the field, and both the independent and dependent variables received very high validity ratings from all evaluators, indicating that the items were appropriate and relevant to the study's objectives. This process ensured that the instrument adequately captured both mastery and performance climates, as well as the cognitive, behavioral, and affective dimensions of student engagement.

After completing the validation process, a pilot study was conducted to evaluate the clarity and effectiveness of the questionnaire from the perspective of a group of respondents who were not included in the actual study. The questionnaire's reliability was assessed using Cronbach's alpha, which demonstrated high internal consistency across all variables. These results support the questionnaire's reliability and confirm that it can measure the independent variable, perceived motivational climate, and the dependent variable, student engagement, among high school students. Therefore, the questionnaire is suitable for data collection in the present study.

Research Design and Procedure

The research study used a quantitative (non-experimental) design to examine relationships among naturally occurring variables; therefore, it did not manipulate variables through an experimental design. The study employed a

descriptive-correlational research design to investigate the relationship between perceived motivation and student engagement in sports and physical activity. Descriptive-correlational designs are also appropriate for establishing relationships among naturally occurring variables and for describing the conditions at a given time. By employing this design, the researcher was able to obtain data from students on their perceptions of motivation and levels of engagement, while maintaining the integrity of the academic setting in which the data were collected.

The correlational nature of this study enabled the researcher to determine whether a statistically significant relationship exists between the four dimensions of motivation studied (mastery and performance) and student engagement as measured by three dimensions (cognitive, emotional, and behavioral). Statistical tools used in the analysis of the research data include measures of central tendency (mean) and measure of association (Pearson's r) to determine the level of each of the independent and dependent variables; Pearson's r was used to determine the relationship between the independent and dependent variables; and regression analysis was used to determine whether a statistically significant relationship exists between the motivational domain and student engagement. The level of significance used for all null hypothesis tests was .05.

To collect the required data for the study, the researcher sought and obtained approval from the administrations of the selected high schools in the Pantukan District before conducting the study. After obtaining permission, the researcher arranged to conduct the study by administering the survey directly to participants and providing questionnaires to all students who agreed to participate. The researcher collected the completed questionnaires, organized them, and prepared them for statistical analysis. After the data were collected, the researcher analyzed and

interpreted them, drew conclusions, and made recommendations concerning the study's purpose. Throughout the research process, the researcher took all reasonable steps to ensure the integrity of the data and the confidentiality and privacy of all respondents, thereby ensuring that the documented results of this research were valid.

The statistical tools used in this research study were the mean, Pearson's r , and regression analysis. The mean score was calculated to determine whether a direct relationship existed between the perceived motivational climate and engagement. Pearson's r was also calculated to determine the strength of the relationship between these two variables. Finally, the regression analysis was conducted to examine whether the four dimensions of the motivational climate would be statistically significant predictors of student engagement. The use of these statistical tools provides an objective, systematic means to analyze the data necessary to determine whether the results reported in this research were statistically significant.

The study adhered to the ethical guidelines and standards established for educational research. Participation in the study was voluntary, and all participants were informed of their right to withdraw at any time without penalty. The researcher maintained the confidentiality and anonymity of all research participants, and the data collected for this study were used solely for the research outlined in the study. The researcher obtained informed consent from the participants after providing a complete description of the study's purpose. All authors and contributors were acknowledged and properly credited in accordance with ethical guidelines for conducting research in the academic community and standards of integrity.

RESULTS AND DISCUSSION

Assessing the level of student engagement in sports and physical activity based on the perceived motivational climate, and identifying the dominant domain in predicting student engagement in sports and physical activity, as indicated by data gathered from the research instruments used in this study, was completed and presented in this chapter.

Perceived Motivational Climate

Table 1 shows the level of perceived motivational climate, classifying the data into mastery or performance climates.

Table 1

Level of Perceived Motivational Climate

Indicator	Mean	SD	Description
Mastery Climate	4.10	0.46	High
Performance Climate	4.09	0.41	High
Overall	4.10	0.36	High

The results indicate that perceptions of the motivational climate that favors or supports mastery and/or performance were high. Both types of climate were also expected to exist in the classroom, with mastery climate having the highest mean of 4.10 (SD = 0.46), indicating that supportive and cooperative learning experiences occurred frequently. The item on students feeling important members of their class had the highest mean and indicates a sense of inclusion/belonging among students. In contrast, performance climate reported a mean of 4.09 (SD = 0.41), which remained classified as high but slightly lower than the mastery climate. Within the

performance climate, the item on teachers identifying top-performing students had the highest mean; however, the item on favoritism had the lowest mean and is still classified as a high-ranking response.

These results indicate that students experience both mastery- and performance-oriented classroom environments on average. The high levels of mastery-oriented climate reported indicate that students experience supports such as encouragement, cooperation, and opportunities for improvement, which are critical to promoting positive learning behaviors and engagement. Previous research supports the idea that mastery-focused environments promote increased motivation, satisfaction, and collaborative learning among students (Avci, Çepikkurt & Kale, 2018). Furthermore, a supportive climate in which students feel valued fosters greater involvement and positive classroom experiences (Granero-Gallegos et al., 2017).

In contrast, the reported high levels of performance-oriented climates indicate that competitiveness and comparisons among peers occur, which may affect motivation and students' classroom experiences. Recognition of high achievers may facilitate achievement; however, other elements within performance-oriented environments, such as favoritism and inequities in attention, may create significant pressure and/or anxiety for students. Excessive emphasis on performance and/or competition can ultimately decrease pleasure from the task and may have negative effects on a student's well-being (Hogue, Fry & Iwasaki, 2019). Thus, increasing mastery-oriented environments while maintaining performance-oriented classroom resources may enhance students' engagement and improve overall learning outcomes.

Student Engagement in Sports and Other Physical Activities

The mean scores of each student individually on all dependent variables are presented in Table 2. These mean scores correspond to Student Engagement in Sports and Other Physical Activities, including the total mean value for the same category of measure.

Table2*Level of Student Engagement*

Indicator	Mean	SD	Description
Affective	4.05	0.52	High
Behavioral	3.95	0.56	High
Cognitive	4.02	0.54	High
Overall	4.01	0.41	High

The high mean score of 4.01 (+/- 0.41) indicates that, overall, participating students engage in sports and physical activities. Affective engagement yielded the highest mean of 4.05 (+/- 0.52), indicating that students experience positive feelings (interest/enjoyment) in a variety of ways, frequently as part of the activity. Cognitive engagement is 4.02 (+/- 0.54), suggesting that students are mentally engaged as they learn and apply the skills. Behavioral engagement is the lowest, with a mean of 3.95 (+/- 0.56); however, it is still interpreted as high, indicating that students actively engage in school-related physical activity.

The conclusion of this study suggests that learners are engaged across all three levels: emotions, cognition, and behavior. They are highly motivated to participate in sports and group activities and enjoy them. Nevertheless, because the mean of behavioral engagement is lower than that of the other two engagement types, additional motivation to participate in physical activities at a consistent rate is

warranted (e.g., through school programs, extracurricular activities, and parental attendance as spectators), allowing for more sustained participation. In conclusion, the data indicate that physical education students exhibit strong engagement through the emotional connection with physical education and through active participation.

In addition to the emotional engagement, the high mean score for affective engagement indicates that students' emotional response to physical education (such as interest, enjoyment, and happiness) has a significant impact on their continued participation in learning activities (Fredricks et al., 2004; cited in Chi et al., 2018). Students who experience positive emotional involvement in learning are generally more engaged and achieve better academic outcomes (Broughton, Sinatra, & Nussbaum, 2013; cited in Chi et al., 2018; Heddy & Sinatra, 2013; cited in Chi et al., 2018). Additionally, cognitive engagement indicates the mental investment and effort the student expends during learning. Cognitive engagement is highly dependent upon the student's ability to relate existing knowledge to new content (Sinatra et al., 2015; cited in Dubovi & Tabak, 2021).

Lastly, behavioral engagement can be observed in student participation. "Observable behavior (e.g., effort, attention, and involvement) is highly correlated with academic achievement" (Wang & Eccles, 2012; cited in Dubovi & Tabak, 2021; Skinner & Belmont, 1993; cited in Chi et al., 2018). The conclusion of this research underscores the need for educators to promote balanced engagement across all three levels of emotional, cognitive, and behavioral engagement, which will provide enriching and long-lasting learning experiences.

Significance of the Relationship Between The Domains of Perceived Motivational Climate and Student Engagement

Presented in Table 3 are the two indicators that reveal the significant relationship between Perceived Motivational Climate and Student Engagement in Sports and Other Physical Activities.

Table 3

Significant Relationship Between the Domains of Perceived Motivational Climate and Student Engagement

Perceived Motivational Climate	Student Engagement			
	r-value	r-squared	p-value	Decision
Mastery Climate	0.185*	0.342	0.001	Reject Ho
Performance Climate	0.335*	0.1122	0.001	Reject Ho

Data in Table 3 show the correlation between indicators of the perceived motivational climate and student engagement in sports and physical activities. The results indicate that both mastery and performance climates are positively associated with student engagement. This means that when mastery climate increases, student engagement also increases. Similarly, when performance climate increases, student engagement likewise increases. Therefore, the null hypothesis is rejected.

In the classroom, even though students (un)consciously choose whether to engage or disengage in lessons, teachers can still have a significant impact on students' involvement (Quin, Hemphill, and Heerde 2017; Shernoff et al. 2016). Within SDT, it is considered that teachers who support students' autonomy, give structure, and participate in warm interactions (relatedness support) with them increase student engagement, and that students would feel more need satisfaction as a result (Jang, Reeve, and Halusic 2016; Niemiec and Ryan 2009; Reeve 2002).

Meanwhile, motivation is also recognized as one of the most essential characteristics associated with physical activity involvement during childhood and adolescence, according to Soini et al. (2014). (Hagger and Chatzisarantis, 2007). Because it has the capacity to provide positive physical activity experiences to the entire student population, school physical education (PE) plays a vital part in the socialization process to inspire kids towards a physically active lifestyle (O'Sullivan, 2004). Furthermore, via the use of various pedagogical and didactical methods, PE teachers play a significant role in the development of motivation toward PA by creating and maintaining the social and psychological atmosphere seen by students.

On the other hand, Curran et al. (2015) investigated the concept of engagement to understand adolescents' positive experiences in sports. A variety of engagement strategies have been offered (see Appleton, Christenson & Furlong, 2008). Lonsdale and colleagues propose a sport-specific conception of athlete involvement based on Schaufeli and colleagues' (Schaufeli, Salanova, Gonzalez-Roma & Bakker, 2002) work engagement model (Lonsdale, Hodge & Jackson, 2007a; Lonsdale, Hodge & Raedeke, 2007b). Athlete engagement, according to these writers, is a long-lasting and relatively consistent experiential state characterized by widespread positive cognitions and affects about one's sport. Lonsdale and colleagues define athlete involvement in four interrelated dimensions based on interview content and factor analyses utilizing data from elite adult athletes: vigor, dedication, confidence, and enthusiasm.

Regression Analysis on the Influence of the Domains of Perceived Motivational Climate and Student Engagement

Presented in Table 4 is the regression analysis of the influence of the domains of the influence of the domains of Perceived Motivational Climate on Student

Engagement. The table reveals an F-ratio of 18.159 and a p-value of 0.001, which was far less than the 0.05 significance level. This enabled the researcher to reject the null hypothesis, which states that no domain of Perceived Motivational Climate significantly predicts Student Engagement.

Table 4

Regression Analysis on the influence of the domains of Perceived Motivational Climate and Student Engagement

Independent Variable	Unstandardized Coefficients		Standardized Coefficients	t-value	P-value	Decision
	B	Std. error	Beta			
(Constant)	2.466	0.270				
Mastery Climate	0.064	0.055	0.070	1.151	0.251	Do not Reject Ho
Performance Climate	0.313	0.062	0.309	5.064	5.064	Reject Ho
Dependent Variable: Student Engagement						
R = 0.341* F-ratio = 18.159			R ² = 0.116 P-value = 0.001			

The study's findings indicate that there is a weak positive relationship between the perceived motivational climate and student engagement based on the r-value of 0.341. The r^2 (coefficient of determination) value of 0.116 indicates that the motivational climate only accounts for 11.6% of the variability in student engagement, while the remaining 88.4% is attributable to other variables not examined in the current study. Additionally, mastery motivational climate has no statistically significant impact on student engagement, as is evidenced by a p-value greater than the 0.05 level of significance; thus, indicating no significant prediction of students' levels of engagement.

On the other hand, performance motivational climate significantly predicts student engagement according to the regression analysis used in this study; therefore, competitive and performance-based learning environments may affect students' participation levels in various activities. Lombardi et al. (2019) support these findings by noting the importance of school climate in positively affecting students' well-being and consequently enhancing student engagement. However, these results are contrary to various other studies, which suggest that performance motivational climates may produce negative outcomes such as disengagement from school and decreased enjoyment of school activities due to competitive pressures (Bevans et al., as cited in Chorney & Stecyk, 2015; Chen et al., 2012, as cited in Chorney & Steinbeck, 2015).

Furthermore, the results indicate that although perceived motivational climate plays a role in determining student engagement, it is not the only factor affecting student engagement; therefore, there are many other factors which must also be considered, such as teaching practices, student motivation, and learning environments, because these variables may also affect students' level of engagement. Consequently, this suggests that teachers should be balanced with their approach by creating both large positive aspects of mastery and performance while decreasing some potential negatives associated with competition. Additionally, creating supportive and inclusive practices in the classroom may also help to increase students' engagement and have a more positive impact on their participation levels in sports and physical activity.

CONCLUSION AND RECOMMENDATION

The study showed that there was a high level of perceived motivation among the students, with a high performance and mastery mean score, thus having a high

level of overall perceived motivation. Students were active in sports and/or physical activity based on the three engagement measures (cognitive, behavioral, affective), which produced high rates of engagement. There was also some relationship found between the perceived motivational climate of the students and the level to which they were engaged. However, that relationship was weak. The results of the regression analysis showed that the performance motivational climate could be used to predict engagement; however, the mastery could not.

The null hypothesis has been rejected, as the perceived motivational climate related to performance was a predictor of engagement.

As stated above, the findings of this study suggest that educators need to focus more on establishing master-oriented practices in the classroom so that they may provide more opportunities for cooperation, inclusion, and improvement. Schools need to focus on developing the type of performance motivational climate that would help students feel less pressure and anxiety about competing. Teachers can create a more balanced environment for competition and support for learning. Additionally, schools should provide students with additional opportunities for participation in physical activity and/or other programming to assist in the development of all three engagement measures.

The results of the study can assist teachers in developing instructional strategies to create more positive motivational climate in their physical education setting in order to increase student engagement. In addition, students will be able to receive greater support in a more interactive and enjoyable learning environment that will assist them in their ability to participate in sports and physical activity. The results of this study can be used by school administrators to create and implement programs and policies that will enhance the quality of physical education

programming and increase student participation. Future researchers can use the results to investigate additional variables that impact student engagement and establish interventions that develop positive motivational climates and student engagement in various educational settings.

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