Sociocritical model and physical activity management in university education students

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Abstract: The study adopted a quantitative, non-experimental and correlational approach, with a sample of 35 students selected in a non-probabilistic manner. Validated questionnaires were used to measure the sociocritical model and physical activity, with reliability checked by Cronbach's Alpha coefficient. The instruments consisted of a questionnaire of the sociocritical model, validated by experts, and a questionnaire adapted from the WHO GPAQ to measure physical activity. Data analysis was performed using Spearman's Rho correlation coefficient in SPSS software. The results showed positive, direct and significant correlations, highlighting a strong relationship between physical activity and free time (Rho = 0.934), suggesting that physical activity predicts free time with more than 50% certainty. The sociocritical model applied in physical education favors both motor development and critical reflection on well-being and the social context.
Keywords: sociocritical model, management, physical activity, education

Modelo sociocrítico y la gestión de actividad física en estudiantes de educación de una Universidad

Resumen: El estudio adoptó un enfoque cuantitativo, no experimental y correlacional, con una muestra de 35 estudiantes seleccionados de manera no probabilística. Se utilizaron cuestionarios validados para medir el modelo sociocrítico y la actividad física, con una confiabilidad comprobada mediante el coeficiente Alfa de Cronbach. Los instrumentos consistieron en un cuestionario del modelo sociocrítico, validado por expertos, y un cuestionario adaptado del GPAQ de la OMS para medir la actividad física. El análisis de datos se realizó mediante el coeficiente de correlación Rho de Spearman en el software SPSS. Los resultados mostraron correlaciones positivas, directas y significativas, destacando una fuerte relación entre la actividad física y el tiempo libre (Rho = 0.934), lo que sugiere que la actividad física predice el tiempo libre con más del 50% de certeza. El modelo sociocrítico aplicado en educación física favorece tanto el desarrollo motriz como la reflexión crítica sobre el bienestar y el contexto social.
Palabras clave: modelo sociocrítico, gestión, actividad física, educación

Modelo sociocrítico e a gestão da atividade física em estudantes de educação em uma universidade

Resumo: O estudo adotou uma abordagem quantitativa, não experimental e correlacional, com uma amostra de 35 alunos selecionados de forma não probabilística. Foram usados questionários validados para medir o modelo sociocrítico e a atividade física, com confiabilidade testada pelo coeficiente Alfa de Cronbach. Os instrumentos consistiam em um questionário de modelo sociocrítico validado por especialistas e um questionário adaptado do GPAQ da OMS para medir a atividade física. A análise dos dados foi realizada usando o coeficiente de correlação Spearman's Rho no software SPSS. Os resultados mostraram correlações positivas, diretas e significativas, destacando uma forte relação entre atividade física e tempo de lazer (Rho = 0,934), sugerindo que a atividade física prevê o tempo de lazer com mais de 50% de certeza. O modelo sociocrítico aplicado na educação física favorece tanto o desenvolvimento motor quanto a reflexão crítica sobre o bem-estar e o contexto social.
Palavras-chave: modelo sociocrítico, gestão, atividade física, educação.

I. Introduction:

Pedagogical approaches have evolved in response to the demands of the current educational and social context. The sociocritical model, derived from critical pedagogy, has been noted for fostering critical reflection and the integral development of students (Freire, 1997). In the In the field of physical education, this approach not only aims to improve motor skills, but also to incite critical awareness about the impact of social and economic factors on physical well-being (Giroux, 2004; Díaz-Romero, 2015).

Research such as that of Tueros (2020) highlights that the implementation of sociocritical approaches in educational workshops not only improves academic performance, but also strengthens writing and critical thinking in students. For his part, Huallpa (2021) highlights that teacher training under this model promotes key social skills for effective teaching. These ideas reinforce the importance of the sociocritical model in diverse educational contexts, including its application in physical activity.

Management in educational and health contexts, particularly in areas such as psychomotor skills, highlights the importance of integrating multidimensional approaches to promote the comprehensive development of students. According to Mendizábal Antícona et al. (2022), the COVID-19 pandemic left significant lessons about the correlation between motor creativity and satisfaction in the physical environment, highlighting the critical role of adequate management in psychomotor development. Ignoring these aspects can result in high social costs, especially in vulnerable contexts.

This study focuses on the influence of the sociocritical model on the physical activity of students at a Peruvian university, seeking to identify whether this approach can promote positive changes in their physical activity habits.

The information mentioned is in line with the Research Objective: To determine the level of correlation between dimensions of the sociocritical model with the management of physical activity.

1.1. Theoretical Framework:

Fundamentals of Critical Pedagogy

Critical pedagogy argues that education should empower students to be agents of social change. This approach, supported by authors such as Freire (1997) and Giroux (2004), suggests that students should be actively involved in their learning, developing skills to question and transform their environment. In the field of physical education, the sociocritical model promotes critical reflection on physical activity as a means of resistance to a sedentary lifestyle and as a tool for comprehensive well-being (Flórez Ochoa, 1994; Artigas et al., 2017).

Fundamental Theories of the Sociocritical Model. The sociocritical model is based on three key theories:

Critical Theory of Society : This approach, influenced by the Frankfurt School, considers that education should train students to critically analyze social structures.

Autonomy Theory : Proposed by Freire (1997), it states that students must make informed decisions about their health and well-being.

Critical Consciousness Theory : This theory holds that students should be able to question and act upon oppressive conditions in their environment.

Application of the Sociocritical Model in Physical Education

In a Peruvian university, a certain subject incorporated the sociocritical model, allowing students to reflect on physical activity in their daily lives. Teachers act as facilitators, promoting discussions on how social factors influence physical health, thus encouraging critical and reflective learning (Moya et al., 2017; Rodríguez, 2022); from whose information the following dimensions emerge: *Intellectual work, mobility or displacement of the person and free time*

Management in the Educational Context and Physical Activity

Educational management is understood as the set of organizational and administrative processes that seek to optimize the resources available in educational institutions to achieve academic and training objectives. In the context of the sociocritical model, management not only involves the planning of physical activities, but also the incorporation of critical approaches that promote reflection and the integral development of students (Gairín, 2013).

Physical activity management requires a comprehensive approach that combines pedagogical and administrative elements. According to Murillo (2010), effective management in physical education should:

Design programs consistent with educational objectives and student needs. Foster an institutional culture that values physical activity as an essential component of student well-being. Continually evaluate results to adjust strategies and maximize learning impact.

Relationship between Management and the Sociocritical Model

Management based on the socio-critical model involves strategic planning that prioritizes critical reflection and equity in access to educational resources. For example, Artigas et al. (2017) argue that management tools should be designed under a critical approach, allowing students to actively participate in the creation of their own learning process.

In terms of physical activity, this translates to:

- The creation of programs that include reflective activities on the effects of a sedentary lifestyle and the benefits of an active lifestyle.
- The integration of participatory methodologies that allow students to be co-managers of their physical learning experiences.

Critical Management for Educational Transformation

The sociocritical model is complemented by a transformative management approach, which seeks to generate a significant change in students' perception of physical activity. According to Rodríguez (2022), this type of management fosters autonomy, critical thinking, and social commitment in students, key elements for their comprehensive development.

Practical Implications of Physical Activity Management

Strategic Planning: Design educational programs that combine physical skills with reflective activities, promoting critical thinking.

Teacher Training: Train teachers in critical management approaches to ensure effective implementation of the socio-critical model.

Evaluation and Monitoring: Implement monitoring systems to measure the impact of physical activities on student well-being and learning.

II. Methodology

The study follows a quantitative, non-experimental and correlational approach. The sample included 35 students from a Peruvian university, selected by convenience in a non-probabilistic manner. Validated questionnaires were used to measure both the sociocritical model and physical activity, although pilot studies were carried out to determine reliability, with results in all cases greater than 0.80 determined through Cronbach's alpha coefficient.

Tools:

Sociocritical model questionnaire: Validated by experts, with high reliability. Physical activity questionnaire: Adapted from the WHO Global Physical Activity Questionnaire (GPAQ).

Data analysis was performed using SPSS software, applying Spearman's Rho correlation coefficient.

III. Results:

The findings of the study indicate a significant correlation between the sociocritical model and the different dimensions of physical activity. The results are summarized in the following Table:

Table 1. Relationships between dimensions of the sociocritical model with physical activity management

Physical Activity Dimension	Correlation Coefficient (Rho)	Level of Significance	Coefficient of Determination (R^2)
Work-Related Physical Activity	0.785	0.008	0.612
Physical Activity Related to Movement	0.781	0.004	0.598
Physical Activity Related to Leisure Time	0.934	0.000	0.783

Source: Prepared based on the data collected.

Interpretation: In Table 1 it can be observed that all correlations are positive, direct and significant; the highest level of correlation between: Physical Activity Related to Leisure Time, with a high Rho correlation of 0.934, was also significant at 0.000 and $R^{2\ coefficient}$ of 0.783 (i.e. Physical Activity predicts Leisure Time with more than 50% certainty); the other two correlations perceived in Table 1 are also high and have approximately the same value between them (0.78).

IV. Discussion

These results are in line with previous research showing the positive impact of the sociocritical model on students' physical activity and critical development (Tueros, 2020; Huallpa, 2021). The positive correlation between the model and the various dimensions of physical activity highlights the effectiveness of the approach in fostering healthy habits. The findings suggest that this model not only improves academic performance, but also promotes an active lifestyle, mitigating sedentary lifestyle.

According to Tueros (2020), workshops with a socio-critical approach significantly improve academic performance and critical reflection skills. Other studies, such as those by Chávez Taipe et al. (2022) focus on the relationship between recreational activities and job performance in the educational field. Compared to the text, their research highlights a significant positive correlation between recreational activities and job performance, similar to the strong correlation found in the aforementioned study on physical activity and free time. Both approaches underline how variables related to free time significantly influence the performance and well-being of individuals; considering the importance of also developing research skills to promote interest in the study Garcia, PP (2017)

The study is also linked to the research by Rojas Fernández (2021) who addresses administrative management and teaching practice, with a focus on public educational institutions. His analysis of administrative correlations is parallel to the study that mentions the high correlations between physical activity and free time. Both studies suggest that proper resource management, whether in recreational activities or in teaching practices, has a significant impact on the productivity or well-being of those involved, highlighting the importance of optimizing time and resources; likewise, with the studies by Alcas Zapata et al. (2021) on public management for health emergencies, it underlines the importance of planning and the use of technological tools such as artificial intelligence. Unlike the text that mentions physical activity as a prediction of free time, the work by Alcas Zapata et al. (2021) highlights how efficient management, with the support of technology, can better predict and manage emergencies, showing another form of significant correlation, this time in the field of public health.

For their part, Caján Villanueva et al. (2021) explore metadata, the health system, and pension schemes in the context of Covid-19; although their focus is more specific to the health and pensions sector, the idea of correlation is also applied in their study. Like physical activity and leisure time in the first text, metadata and health systems have strong predictive relationships, which underlines the importance of managing data effectively to improve systems and outcomes, both in health and in other contexts.

The inclusion of the sociocritical model in physical activity aligns with the findings of Mendizábal Antícona et al. (2022), who highlight that creativity and effective management of educational resources are essential to maximize post-pandemic learning. This approach complements the need for reflective programs that not only develop motor skills, but also promote emotional and social well-being.

The sociocritical model highlights how social and economic barriers affect access to essential resources, such as medical care and physical activity; even organized and systematized physical activity can prevent cases of oncology, it is suggested that policies should prioritize equitable access to the necessary care and resources, which can also be applied to the management of physical activity in universities, creating spaces that promote health for all students, regardless of their social or economic situation (Commission on Cancer, 2020). The Quality Oncology Practice Initiative emphasizes the need to improve health services through quality-based practices. By adopting this approach within the sociocritical model, universities can reflect on how their institutional structures affect student participation in physical activities, ensuring that barriers that may limit certain groups' access to these healthy practices are addressed (American Society of Clinical Oncology, 2020).

Kayser et al.'s (2020) analysis highlights how structural barriers can affect the quality of psychosocial care in oncology programs. A sociocritical approach suggests that in higher education, especially in physical activities, it is crucial to identify and eliminate social barriers that prevent equitable access to healthy programs for all students.

Henderson et al. (2019) highlight that team-based approaches can significantly improve the quality of care in the context of palliative care. This approach could also be applied to the management of physical activities in universities, promoting collaboration between diverse professionals to design inclusive and accessible programs for all students.

Wells-Di Gregorio (2020) highlights the importance of developing service models that not only offer physical care, but also emotional well-being, something that could be applied to university physical activity programs, creating a comprehensive approach that promotes both the physical health and mental well-being of students.

Pedron et al. (2019) highlight how chronic health conditions, such as diabetes, affect labor market participation. In the university context, a sociocritical model could involve designing physical activity programs that consider these limitations and offer support so that all students, including those with health conditions, can fully participate in physical activities.

According to Reuters (2020), the post-pandemic global economic recovery will be a long process, which could impact students' ability to access health and wellness resources, including physical activity. The sociocritical model suggests that universities should address these economic inequalities through policies that ensure equitable access to physical activity programs for all students.

Sasso and Ritzen (2019) examine the relationship between cognitive skills and productivity, which could be applied to how universities can integrate physical activity into educational programs, promoting a comprehensive approach that also enhances students' cognitive skills through physical exercise.

Santesmases (2021) analyses how physical education content can be integrated transversally into university curricula. Applying a socio-critical approach, it could be suggested that physical education should include a consideration of the social and economic inequalities that limit the participation of certain groups of students, and propose inclusive solutions that promote the physical and emotional well-being of all.

V. Conclusions

The sociocritical model, applied in the educational field, has proven to be an effective tool linked to physical activity, promoting not only motor skills, but also critical reflection on the relationship between movement, well-being and the social context. This approach allows students to take an active role in their learning, developing key skills such as autonomy and responsible decision-making, aligned with contemporary challenges in education.

The incorporation of educational management strategies that favor this model amplifies its benefits, creating spaces where physical activity is addressed in a comprehensive manner. The evidence obtained in this study supports that effective management can enhance the impact of the sociocritical model, optimizing resources and connecting pedagogical experiences with the formation of critical and conscious citizens.

In the post-pandemic context, these initiatives become even more relevant, given that they integrate physical, mental and social health in a critical learning framework. It is crucial to explore new applications of the model in various disciplines and educational contexts to maximize its reach and impact, as well as to evaluate its long-term effects on students and their communities. This approach has the potential to be a fundamental pillar for the transformation of education towards more inclusive, reflective and integral development-oriented models.

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