

The Relationship between strength and academic performance: A new reason to promote physical activity

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Background:

Experimental studies have determined that higher strength values are associated with more efficient cognitive function and better academic performance. In spite of this, the universities in Colombia are decreasing the time available for physical activity in favour of increasing the time devoted to theoretical subjects. This is one of the reasons why in Colombia, only 18% of young people complied with the world recommendations of physical activity. To examine this problem, the objective of this research was to establish the relationship between strength and academic performance in university students.

Methods:

A cross-sectional study was developed in 135 (21.8 ± 4.5 yr; 78.69 ± 9.1 kg) students of the fifth semester of the Areandina University in Bogota, Colombia. Each participant developed incremental protocols to determine the maximum weight that he or she could move in six different exercises: squat in smith machine, leg press, leg extension, bench press, pull down and military press. The average of the results of these tests was taken as the value of maximum strength. To determine academic performance, the average of the scores accumulated in the five semesters of their university studies was evaluated. Pearson correlation coefficient was used to find the linear relationship between strength and academic performance.

Results:

Overall, 70.3 % of the participants were men and 29.7% were women. The results of the maximum strength tests were significantly higher in the male group than in the female group ($P < 0.05$). Academic performance was similar in both genders ($P > 0.05$). A positive correlation was established between maximum strength and academic performance. ($r = 0.64$ $P < 0.05$).

Conclusions:

The conclusion of this research was that there is a significant relationship between strength and academic performance. These results are fundamental to justify the inclusion of spaces for the promotion of physical activity in public and private universities.

Key messages:

- Universities are institutions that only focus on academic training and generate contexts in which sedentary behaviours are promoted.

- Sedentary lifestyles are a public health problem in Colombia.