

PA 2007-009

Lifestyle and Academic Performance

Highlights



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Cégep de Lévis-Lauzon

2008

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Correct citation :

Chiasson, L. and P. Aubé (2008). Lifestyle and Academic Performance – Highlights
(PA 2007 - 009).

The contents of this article engage only the responsibility of the Cégep de Lévis-Lauzon and the authors.

Descriptors :

Academic success, Lifestyle, Physical activity, Physical fitness

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INTRODUCTION

Can we establish a relation between some lifestyle components — physical activity, diet, drinking, smoking — and academic success? This is an interesting and complex question not covered much by research, but for which we have tried to find an answer during the 2004 and 2005 winter semesters. Besides these behaviors, we analyzed the participant's body dimensions, body composition and physical fitness, as well as their feeling of personal efficiency regarding the lifestyle components we have retained for the study. This study was made possible thanks to the collaboration of 1 467 eager students (56 % girls and 44 % boys), aged between 17 and 20, from Cégep Lévis-Lauzon.

We realize that our study (Chiasson and Aubé, 2008)¹ does not answer all the questions, but we believe it will be useful to the decision-makers, planners and stakeholders who know that academic success is a multifactorial issue.

*Regular physical activity promotes concentration,
a factor associated with academic success.*

Ministère de l'Éducation, du Loisir et du Sport, Framework Policy on Healthy Eating and Active Living, 2007.

Studies on academic success give little or no importance neither to individual health characteristics nor to lifestyle. Nonetheless, there is increased recognition that lifestyle components have a major influence on the physical and psychological well being and that they can influence, positively or negatively, attention, class attendance, vigilance, and learning (Bandura, 1997).

For several years, health has become a topic of current interest in countries where physical inactivity brings up major public health problems: obesity, type II diabetes and heart diseases, to name a few. Our study is part of this new niche, that of health.

We have thus tried to identify health variables that, when considered from a certain perspective, are good indicators to explain academic success. This is a modest but innovative contribution compared to the other ways already explored.

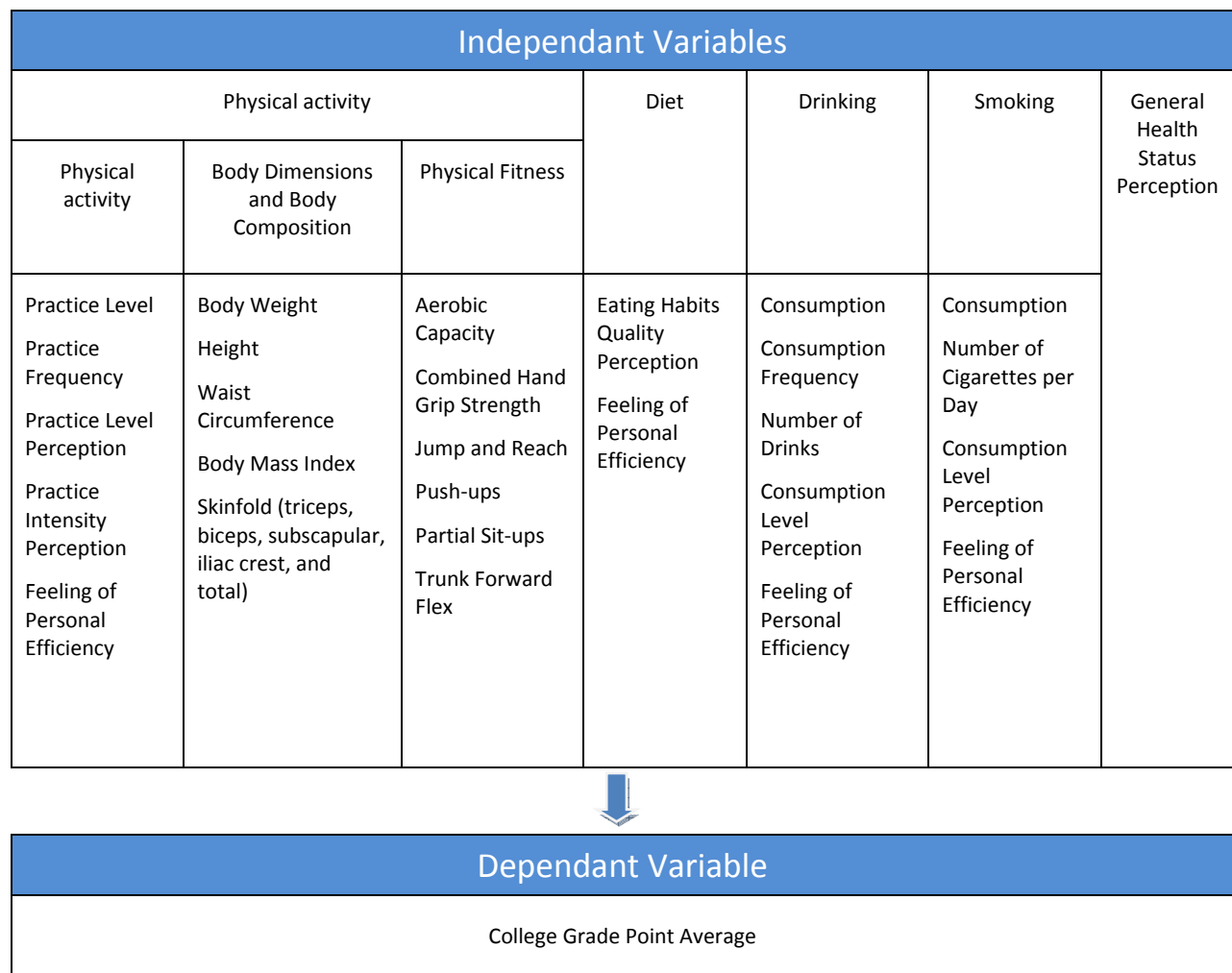
¹ Our study was realized with the financial support of the ministère de l'Éducation, du Loisir et du Sport through the Programme d'aide à la recherche sur l'enseignement et l'apprentissage (Teaching and Learning Research Support Program).

At the Cégep Lévis-Lauzon, only 38% of women and 49 % of men, aged 17 to 20, say they are regularly physically active.

Chiasson L. (2004) *Sentiment d'efficacité personnelle, habitudes de vie et niveau de condition physique*. Lévis, Cégep de Lévis-Lauzon.

The model we have developed in order to link health factors to success factors is a grouping of two ecological approaches: that of Health Canada, which is said to be socio-environmental, and that of academic success from Larose and Roy (1993), which is based on social logics.

RESEARCH PLAN



A total of 32 independent variables were linked with the participants' grade point average. We also verified all the possible combined effects (496) between two variables that would allow rendering the averages' differences.

RÉSULTS

Factors and Variables Linked to Academic Results, Depending on Gender

Factors**Men****Women****Physical Activity**

- Frequency of Physical Activity +
- Physical Activity Intensity Perception +

Body Dimensions and Measurements of Physical Fitness

- Weight -
- Height -
- Subscapular skinfold -
- Combined Hand Grip Strength +
- Trunk Forward Flex +

Diet

- | | |
|--|---|
| <ul style="list-style-type: none"> • Eating Habits Quality Perception + | <ul style="list-style-type: none"> • Eating Habits Quality Perception + • Feeling of Personal Efficiency with Regards to Diet + |
|--|---|

Drinking

- | | |
|--|---|
| <ul style="list-style-type: none"> • Consumption Frequency - • Number of Drinks - • Consumption Level Perception - • Feeling of Personal Efficiency with Regards to Drinking + | <ul style="list-style-type: none"> • Consumption Frequency - • Number of Drinks - |
|--|---|

+ : Positive Link

- : Negative Link

The results for men and women are presented separately. This was particularly revealing with regards to, notably, the variables linked to physical activity, body dimensions and measurements of physical fitness.

SOMETIMES SURPRISING RESULTS

The data analysis reveals that the lifestyles we have studied can be useful to predict college grade point average. If some variables differ depending on gender, it is interesting to see that diet and drinking are significantly related (positive link and negative link respectively) to men and women's academic success.

PHYSICAL ACTIVITY, BODY DIMENSIONS AND MEASUREMENTS OF PHYSICAL FITNESS

Many researchers have found a relation between physical activity and good academic results. For some Quebec researchers, physical activity is a determining factor which promotes learning (Kino-Québec, 1998), concentration (Laberge et al., 2007), success (Tremblay, 2006) and academic integration (Degranpré and Paquet, 2006).

- *Women who are physically active 6 or more times per month and women who perceive their physical activity level as being intense have a higher grade point average.*

Very few researchers have tried to link body dimensions to academic results. Concerning physical fitness measurements, most studies focused on the effect of obesity on academic success, an indicator that is significantly correlated with lower grades.

Nonetheless, it is surprising that in this study, physical activity is not linked to the academic success of men, particularly as the study shows a link between physical fitness measurements and their academic success. However, the BMI, waist circumference (except when combined to the frequency of physical activity), and aerobic capacity (except when combined to the jump and reach test result) have no significant effect.

In the women group, it is also surprising to see that some physical activity variables are linked to academic success and that body dimensions, physical composition and physical fitness, which can be perceived as indicators of physical activity, are not. In contrast, we have to highlight the significant effect of the combination of aerobic capacity and the feeling of personal efficiency with regards to physical activity.

DIET AND DRINKING

Even though studies have shown links between a healthy diet, eating breakfast and academic results, it is rather with undernourishment and food insecurity that significant links were found. In the present study, women and men perceiving that they have good dietary habits have higher averages. Moreover, women with a strong feeling of personal efficiency concerning their dietary habits have higher grades.

The situation is different if we focus on drinking. In fact, in several studies, the level of consumption was considered as a factor that could result in academic failure or dropping out. In addition, academic failure was identified as a factor that could result in excessive alcohol consumption. That is why we were not surprised by the results of our study.

- *Men and women who drink four or more times per week and those who drink four or more alcohol beverages per week have grades lower than the average. The same observation stands for men who perceive their intake as high and those who have a low feeling of personal efficiency with regards to their drinking.*

SMOKING

There seems to be no link between smoking and academic success, both for men and women. This observation goes against our hypothesis based on other studies where the use of tobacco products was linked to lower academic results.

GENERAL HEALTH STATUS PERCEPTION

Again, we have not observed any significant link with the students' grade point average. Yet, the HBSC survey² (Boyce, 2004), done with youths aged 11 to 15, indicates that there is a positive link between academic success and a positive perception of health and life in general.

² The *HBSC Health Behaviour in School-Aged Children* is an international study supported by the World Health Organization on the behaviours of youths between 11 and 15 years of age regarding health. The study was done by teams of researchers from 35 countries of Europe and North America.

INTERACTIONS

The two-dimension variance analysis reveals that there are some models where two independent variables help us predict the college grade point average and provides more information about academic success. However, they are sometimes difficult to analyze or incomplete.

- *It seems that men and women who are more physically active and who drink alcoholic beverages with moderation have higher or equal grade point averages compared with those with not as healthy lifestyles.*

The combination of physical activities with some body dimensions, body composition and physical fitness measurements influences their academic performance, both for men and women. Therefore, the most important interaction for us to “explain” students’ performance is the one between weight and physical activity frequency.

Here are some of the combinations studied that seem particularly interesting.

WOMEN

- All the variables that interact with those of the “physical activity” factor are physical fitness measurements: Flexibility based on the trunk forward flex, jump and reach, push-ups, sit-ups and aerobic capacity.
- Those who drink alcoholic beverages 2 to 6 times a week and who have a bad perception of their health status have a lower grade average than the other students.
- Those who drink four or more alcoholic beverages per week and have a low feeling of personal efficiency with regards to smoking habits have lower than average grades.
- The combined effects of drinking frequency and the “biceps skinfold’s thickness”, “general health perception”, “flexibility based on the trunk forward flex”, “jump and reach” and “feeling of personal efficiency with regards to smoking habits” is correlated to their average.

MEN

- Among men who perceive themselves as physically active, consuming alcoholic beverages has no effect on grade point average. However, those who perceive themselves as sedentary and consume alcohol have lower averages.
- Among men who have an insufficient practice of physical activities, those who have a good perception of their dietary habits have a higher average.
- Men who have an insufficient weight (according to their BMI) and a bad perception of their general state of health have a lower average.

CONCLUSION

HYPOTHESIS

Our research has demonstrated links that are not easily interpreted. For instance, why men who are physically active 12 or more times per month and who have a waist circumference of over 79 cm have lower than average grades? Readers will probably be surprised that the study did not allow us to establish a stronger link between physical activity and academic performance at the collegial level. In fact, there are many academic success indicators, so much so that the exact evaluation of the specific effect of each lifestyle component could require a much broader sample. In addition, with the importance that students attach to their academic success, it is possible that those who do not have a healthy lifestyle compensate the related disadvantage with a better effort, so much so that it becomes particularly difficult to establish how the fact of having a healthy lifestyle contributes to academic success.

REQUIRED ACTIONS

We suggest that the various stakeholders act on the main motivation sources that encourage students to adopt and keep a healthy lifestyle: their active mastering or success experiences, social learning, and persuasion from others as well as psychological and emotional state (Lecompte, 2004). In addition, other studies would allow determining some directions for action to push forward healthy lifestyles concerning, notably, diet and lower cigarette consumption. Finally, since there is a lack of studies on body dimensions and physical fitness measurements, a permanent monitoring of the evolution of those measurements on youths from all academic levels would be required.

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