Relationship between health, lifestyle, psychosocial factors and academic performance: a cross-sectional study at the University of Salerno

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ABSTRACT

Background: The relationship between health indicators and quality of life is significantly important in clinical decisions. Health policy and an individual's quality of life are important factors contributing to an individual's decisions and preferences. University students constitute a large part of the country's young population, so a healthy lifestyle is of crucial importance for this group. The aim of the present study was to investigate healthy lifestyle habits and its relationship with academic performance in undergraduate students of the University of Salerno.
Methods: A cross-sectional study was conducted among undergraduate students of the University of Salerno. Data were collected by a self-report anonymous questionnaire. The field research was conducted among students of the University of Salerno in the academic years 2014/2015, from October to March. Descriptive statistics were used to describe sample characteristics. Test of proportions was used to test the differences between blocked and regular students. Analysis were conducted using STATA software.
Results: A total of 519 students formed the sample. In total, 248 (47.78%) claimed to have blocks in their studies and among them 214 (86.29%) were out of course. The status of blocked students' health promotion behaviors was significantly favorable compared to that of regular students. General health perception of the regular students yielded worse results than of the blocked students. Anxiety and depression were greater in regular students than blocked students.
Conclusion: Results from the present study support our hypothesis of a relationship between health, lifestyle, psychosocial factors and academic performance: students with blocked had better health and lifestyle than regular students. Their attitude to resilience emerged from the ability to overcome difficult situations, but also from an attitude of arrogance despite being aware of the ability to study successfully. Probably the blocked in the studies was due to low self-esteem.

Key words: university life, lifestyle, health, psychosocial factors, academic performance

INTRODUCTION

The goals of a nation include promoting longevity and a good quality of life for its people. The World Health Organization stated that "health is determined by physical, social, cultural and economic environment where people live and work" [1, 2].

A health-promoting lifestyle can help individuals attain positive health outcomes [3]. Therefore, understanding this type of lifestyle can help us identify health problems and develop interventions to promote health [4]. In addition, improving the academic performance of university students is a fundamental objective for any university.

The promotion of health in undergraduate students has not always been considered a priority in preventive policies and actions because, erroneously, students were considered to be in a relatively healthy phase of life [5]. There is even less mutual dependence between the concept of health, quality of life and academic performance in university students. On the other hand, universities have been recognized as appropriate settings for establishing a healthy lifestyle among young people and the period of studying as the 'last chance' for the development and adoption of healthy lifestyle habits [6, 7].

Various national and international scientific research has shown that there are many factors that influence the academic performance of university students, such as psychosocial factors [8,9], factors of academic motivation (intrinsic and extrinsic motivation towards studies) [10, 11] , factors related to lifestyle [12-14], factors related to eating behavior [15-18], and factors related to smoking prevalence [19-21] but the literature review has revealed the substantial absence, with some exceptions [22] of the use of a multivariate approach to grasp the dynamics that interconnect the various multidimensional factors that operate on health and on success or failure in the studies [23, 24].

The ability to predict the academic performance of a student has important implications for all universities and university students [25]. Institutions' need, above all, to address the gradually increasing problem of university students abandoning their curricular paths. Universities have the task of guiding students to achieve high-quality objectives in a context of intellectual freedom, autonomy and internationalization.

With this study, we aimed to investigate healthy lifestyle habits and its relationship with academic performance.

METHODS

A field research study was conducted among students of the University of Salerno in the academic year 2014/2015, from October to March. Participation in the study was voluntary. The study sample comprised of 519 undergraduate students that agreed to participate in the study and completed the questionnaire.

Data were collected by self-administered anonymous questionnaire. A secure, web-based application was used to create and manage surveys and online databases. The study received approval from the relevant Ethics Committee, "Comitato Etico Campania Sud, paper n. 21 of 14/03/2019.

The questionnaire was divided into six sections. The first included socio-demographic information and problems in student life; the second focused on the HPLP-II lifestyle (Health Promoting Lifestyle); the third on the somatoform disorders PHQ-15 (Person Health Questionnaire); the fourth on eating behavior disorders EAT-26 (Eating Attitude test); the fifth on quality of life related to health EQ-5D and the sixth on the manner in which the respondent arrived at the questionnaire.

Of the six sections, only the items that could clarify our hypothesis were used. In particular, these items concerned problems in the student's life, some of them related to lifestyle, psychosomatic disorders and quality of life in relation to health. The questionnaire consisted of four tests validated by the medical-scientific community and currently used at national levels to perform surveys on the lifestyle and well-being of university students. Respondents were classified into two groups according to the academic performance, defined as the ability or difficulty to complete a study cycle on time in undergraduate students. "Blocked" and "regular" students are terms that we used to indicate whether students were on track or not to complete their undergraduate training on time. To ensure the feasibility of the study, a pilot survey was conducted on a sample of 100 students from the University of Salerno.

Statistical analysis

Descriptive statistics were conducted to describe the population included in the analysis. Comparison between the participants characteristics between two groups were conducted by two-side test of proportions. All data were analyzed using STATA (StataCorp. 2013. Stata Statistical Software: Re- lease 15. College Station, TX: StataCorp LP). Significance was defined at $p< 0.05$.

RESULTS

The sample consisted of 519 students, including 194 men (37.37%), 325 women (62.62%). The age ranged from a minimum of 18 years to a maximum of 35 years, with an average of 22.93 and a standard deviation of 3.10 (data not shown).

In Table 1 we reported the characteristics of the healthy lifestyle profile among blocked and regular students. In total, 248 (47.78%) were classified as blocked students and 271 (52.22%) were classified

TABLE 1. Differences in Health-Promoting Lifestyle Profile between university students with blocked and regular studies

Healthy lifestyle profile	Blocked students (n= 248)		Regular students (n = 271)		P
	Frequencies n.	Percentage %	Frequencies n.	Percentage %	
Socio-demographic characteristic					
Students out of course	214	86.29	150	56.35	<0.0001
No study method	117	47.18	72	26.57	<0.01
No family relationship	207	83.47	183	67.53	<0.001
No family expectations	171	68.95	124	45.76	<0.001
Personal expectations	166	66.94	217	80.07	<0.01
Satisfied with the experience as undergraduate	234	94.35	199	73.43	<0.001
Relationship with teachers	215	86.69	199	73.43	<0.001
Good student 0 - 100	229	73.31	242	60.92	0.0014
HPLP-II item					
Changing in a positive way	151	60.89	133	49.08	0.0457
Purpose in life	196	79.03	165	60.89	<0.001
Pleased and in peace with oneself	114	45.97	74	27.31	0.0103
Looking for new challenges	146	58.87	128	47.23	0.0540
PHQ-15 item					
Backache	152	61.29	178	65.68	0.4086
Headache	160	64.52	192	70.85	0.2050
EQ-5D item					
Anxiety and depression	140	56.45	207	76.38	<0.001
EQVAS total					
Perception of health 0 - 100	232	76.31	249	67.54	0.0146

Note: n = total observations students sampling; frequencies n. = number of students; p = level of significance

as regular students. Among the blocked students, 214 (86.29%) were out of course ompared to 150 out of 271 (55.35%) of regular students; the statistical test denoted a significant result ($p < 0.0001$).

For a better reading and understanding of the results, we indicated the students with a block in their studies with the acronym B (blocked) and those who have a regular path with R (regular). In total, 117 out of 248 (47.18%) of B students said they had no study method compared to 72 out of 271 (26.57%) of R students ($p < 0.01$). Overall, 207 out of 248 (83.47%) of B students did not attribute difficulties in family relationship to their studies compared to 183 (67.53%) ($p < 0.001$). 171 out of 248 (68.95%) did not consider family expectations as relevant compared to 124 out of 271 (45.76%) ($p<0.001$). Personal expectations were more important for group R compared to group B ($p < 0.01$). The university experience was more satisfactory for B students (94.35%) than for R students (73.43%) ($p = 0.001$). Relationship with teachers were good for 215 out of 248 (86.69%) of the B students compared to 199 out of 217 (73.43%) of R students ($p < 0.001$). A self-assessment was requested (from zero to 100) from those considered to be "good students"; the highest and lowest frequencies belonged for B students (average of 73.31) and for R students (average of 60.92), respectively ($p = 0.0014$).

With regard to lifestyle items (HPLP-II), 151 out of 248 (60.89%) of B students believe they were positively changing compared to 133 out of 271 (49.08%) of R students ($p = 0.0457$). Overall, 196 out of 248 (79.03%) of B students had a life purpose compared to 165 out of 271 (60.89%) of R students ($p < 0.001$). Furthermore, B students were happier and at peace with themselves than R students ($p = 0.0103$), and 146 out of 248 (58.87%) of group B were looking for new challenges compared to 128 out of 271 (47.23%) of group R ($p = 0.0540$).

With regard to psychosomatic items (PHQ-15), there was no difference between the two groups of undergraduate students in suffering from back pain ($p = 0.4086$) and from headache ($p = 0.2050$).

With regard to quality of life related to health items (EQ-5D), regular students suffered more (76.38%) from anxiety and depression than those blocked (56.45%) in their studies ($p < 0.001$).

Regarding students' perceived health, evaluated on a scale of 100 (the best state of health imaginable) to 0 (worst state of health imaginable), the results showed an average of 76.31 for B students and an average of 67.54 for R students ($p = 0.0146$).

DISCUSSION

We hypothesized that there was a relationship between health, lifestyle, psychosocial factors and academic performance, with a significant difference between blocked and regular students. The corresponding null hypothesis was that health, lifestyle, psychosocial factors were the same in blocked students and in regular students. The results from the present study support our hypothesis. The significant findings are that blocked students enjoy better health and lifestyle than regular students.

Significant differences between perceived health status and quality of life was found in our study. Data analysis shows that blocked students have a better self-perception of their health status. For students, the perception of their state of health proves to be a relevant issue because there is a consistent pattern between health perception and with the presence or absence of symptoms of anxiety and depression, and with living the university experience positively or not. Blocked students show good resilience. Despite the difficulties that emerge during the course of study, they have a better view of their life than normal students do. The blocked undergraduate students feel happy and at peace with themselves, they look for new challenges and they have a purpose in life.

In the evaluation of perceived self-efficacy and the extent to which you are a "good student" [26], both groups respond positively, with a greater value for blocked students compared to the regular ones. These blocked students are aware that they have the required skills, but difficulties and / or failures in their academic path reduce their motivation towards this goal, resulting in arrogant and expectant behavior. Consequentially, this "prolonged moratorium" [27] entails a dis-habit in their choices and a de-motivation of responsibility for blocked students. This finding confirms that in the blocked group, narcissistic omnipotence of desire is privileged without inhibitions of a moral nature and feelings of guilt [28]. According to Smith, Wallston, and Smith [29] self-efficacy or perceived competence is an important construction in predicting how individuals take care of their own health. The Perceived Health Competence Scale [29] was proposed to evaluate individuals' self-efficacy beliefs regarding health behaviors and results.

Salyer et al. [30] and Rueda and Perez-Garcia [31] studied the relationship between different aspects, including perceived health competence and quality of life in clinical samples. The results of both studies corroborate our findings that individuals who perceive themselves to be more competent in managing their own health had a better quality of life.

Regarding other characteristics that influenced significantly in the students' quality of life, the academic ones stand out. It was observed that university students who were satisfied with the university experience, who had a better relationship with teachers, and who self-assessed as good students, had a better quality of life.

The significant relationship between good academic performance and better quality of life was also reported by Shareef et al. [32] in university students in Saudi Arabia. This result informs us that academic performance is an important characteristic in students' lives, and should be considered in the research/intervention protocols.

The literature suggests that the pressures in university can have a significant impact on students' quality of life. However, through analysis of the factors related to the difficulties encountered during the university course, it emerges that blocked students assess their personal expectations and completely ignore the expectations of family in accordance with an asymmetrical waiting logic. Parents do not expect anything from their children but to be loved [33]. On the other hand, the children expect to be accepted, loved, protected and encouraged to grow for the people they are, regardless of what they do and will do.

Overall, we can state that there is a close relationship between health, lifestyle, psychosocial factors and academic performance. This finding has been repeated in different studies with different target groups. Mašina et al. [34] found a relationship between health-promoting lifestyle, gender and year of study. There was a significant relationship between academic performance with physical, psychosocial, lifestyle, and sociodemographic factors in female undergraduate students in Dubuc's study [22].

There are limitations in the present study. We used a cross-sectional approach, which does not allow us to conclude to any causal associations between health, lifestyle, psychosocial factors and academic performance in our cohort. Nonetheless, our results are strengthened by studying a homogeneous population, which includes a wide range of measurements. Finally, the results of the present study may be considered preliminary, but they may stimulate interest in a greater characterization of university students from different programs in both genders.

The present investigation may give a better understanding of the interrelationship between academic performance, health, lifestyle and psychosocial factors for university educators and social and health policy makers, helping to guide them in the development of effective intervention programs. Furthermore, this information reinforces the importance of encouraging individuals to identify any health problems and find viable and effective solutions to manage their own health. Still, the evaluation of the perceived competence in health behaviors is important,

because it aids in the identification of individuals who need additional support to deal with their own health statuses. Ultimately, a better academic performance in university students has the potential of increasing the probability of being accepted in a graduate studies program or in a professional health program, obtain a bursary or an award as well as develop greater self-satisfaction.

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