Health behaviour of students versus a sense of self-efficacy

Zalewska-Puchała J[1], Majda A[2], Gałuszka A[1], Kolonko J[1]*

[1] Technical Humanistic Academy in Bielsko-Biała, the Department of Health Sciences, Poland
[2] Jagiellonian University, Medical College in Kraków, the Health Care Faculty, the Department of Theory and Basics of Nursing, Poland

Abstract

Purpose: A sense of self-efficacy has become such an important construct in recent years that it has been included in most behaviour theories. Self-efficacy turned out to be very strong conditioning for health in a lot of research. The general influence of self-efficacy on health behaviour exceeds the influence of any other single variable. The feeling of self-efficacy allows to predict the intentions of actions in different spheres of human activity, including health behaviour. A higher sense of self-efficacy increases motivation for action, it is related to greater achievements of an individual and his/her better health**.** The aim of the research was to diagnose health behaviour of college students, to evaluate their sense of self-efficacy and to specify the relation between health behaviour presented by the participants and their sense of self-efficacy.

Material and methods: The research was conducted using the method of diagnostic questionnaire with the following instruments: Generalized Self-Efficacy Scale – GSES R. Schwarzer, M. Jerusalem, the Questionnaire of Health Behaviour designed by one of the authors, and the measurement of BMI. The results from a group of 164 students enrolled in year 1 of bachelor of nursing programme from Kraków and Bielsko-Biała were statistically analyzed by using the chi-square test.

Results: The conducted study confirmed the hypothesis about the relation between self-efficacy and health behaviour only partly. A statistically significant influence of the sense of self-efficacy on such health behaviour as the consumption of fat in daily diet and drinking alcohol was revealed. Most students participating in the study achieved a high indicator of the sense of self-efficacy and presented both right and wrong health behaviour.

Conclusions: The sense of self-efficacy of the participants is a promising and positive indicator presaging the sustainability and change of health behaviour.

Key words: the sense of self-efficacy, health behaviour.

Introduction

The sense of self-efficacy has become such an important construct in recent years that it has been included in most behaviour theories. Self-efficacy turned out to be very strong conditioning for health in a lot of research. The general influence of self-efficacy on health behaviour exceeds the influence of any other single variable [1]. The sense of self-efficacy expresses the subjective belief that the means which are at one's disposal allow to conduct the planned actions. The sense of self-efficacy makes it possible to predict the intentions of actions in different spheres of human activity, including health behaviour. A higher sense of self-efficacy increases motivation for action and is related to greater achievements of an individual and his/her better health. In Schwarzer's model presenting the process attitude to health actions, the sense of self-efficacy as a 'positive indicator of health' plays the primary role in the prediction of preventive actions, in the change of harmful habits and in continuing behaviour which is beneficial to health [2]. People 'equipped with' a high sense of self-efficacy are able to make better use of their mental resources, which allows to meet their various needs actively and to take up different activities [3]. 'A characteristic feature of current changes in the sphere of health is emphasizing the importance of individual behaviour as a factor which decides about sustaining and reinforcing health' [4]. Sustainability of optimal health in the sense of physical and mental functioning requires right eating habits as well as

* CORRESPONDING AUTHOR:
Technical Humanistic Academy in Bielsko-Biała
The Department of Health Sciences
31-228 Kraków, ul. Pachońskiego 6a/54, Poland
Tel: +48 508158785
e-mail: joannapuch1@interia.pl (Joanna Zalewska-Puchała)

Received 08.03.2007 Accepted 13.03.2007

Figure 1. **The respondents' BMI**

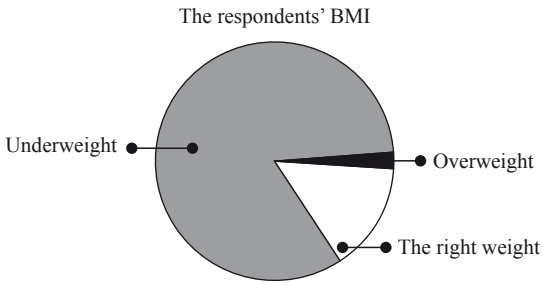
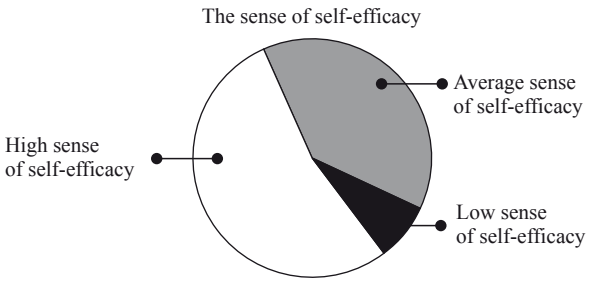


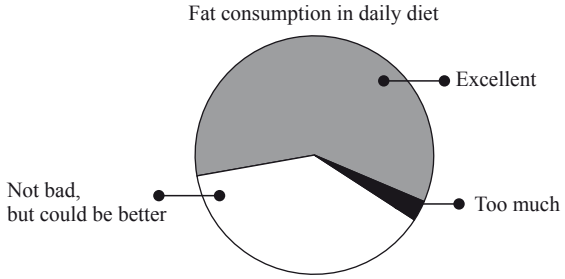
Figure 2. **The sense of self-efficacy of the students participating in the research**



regular and constant physical activity adequate to one's age and physical potential, life without addictions and the ability to manage stress successfully [5].

A good balanced diet is one of the most important factors from the group of environmental determinants which decide about a child's health, pace and level of his/her physical and mental development and perceptual abilities which in turn have a great significance for the pace and effects of learning [6]. The proper health behaviour is especially important for young people since it determines not only their own health but also health of the next generation. The aim of the research was to diagnose health behaviour of college students, to evaluate their sense of self-efficacy and to determine the relation between health behaviour of the participants and their sense of self-efficacy.

Figure 3. **Fat consumption in daily diet of the respondents**



Material and methods

The research was conducted using the method of diagnostic questionnaire with the following instruments: Generalized Self--Efficacy Scale – GSES R. Schwarzer, M. Jerusalem, adapted by Z. Juczyński [7], the Questionnaire of Health Behaviour designed by one of the authors and including questions, which related, among others, to diet, physical activity, drinking alcohol and smoking cigarettes; BMI was also measured. The results from a group of 164 students enrolled in year 1 of bachelor of nursing programme from Kraków and Bielsko-Biała were statistically analyzed by using the chi-square test. The respondents' age ranged from 19 to 33 (on average 21 years old, 153 women and 11 men). Most participants came from the country (39.6%), from boroughs (26.8%), province main cities (25%) and little towns (8.5%). During the studies 49.9% of the students lived at family home, 26.2% rented flats and 24.4% lived in students' houses and dormitories. A vast majority of the students finished general secondary school (86%). The respondents came from families of various levels of financial status: 64% declared that they came from an averagely rich family (income per capita 500-1 000 pln), 25.6% from moderately rich families (income per capita below 500 pln), 9.1% from rich families (income per capita 1 000-1 500 pln) and 1.2% from very rich families (income per capita over 1 500 pln). Only 14.7% of respondents had the right body weight according to the BMI, in most cases (82.5%) the respondents were underweight (BMI<20) and 2.5% were overweight (*Fig. 1*).

Results

The hypothesis made in the presented paper concerns the relation between self-efficacy and such health behaviour as fat consumption, fiber consumption, drinking alcohol, smoking cigarettes and physical activity. The collected data point to the fact that most students are characterized by high (53.7%) or average (38.4%) sense of self-efficacy, and only 7.9% of respondents have a low sense of self-efficacy (*Fig. 2*).

The statistical analysis of the data gathered in the research also showed that such variables as age of the respondents (p=0.297), mother's education (p=0.784), father's education (p=0.861), income per family member (p=0.848), place of residence of family (p=0.686), place of residence during the studies (p=0.454), and secondary school (p=0.709) had no influence on the level of sense of self-efficacy.

The analysis of the data gathered in the research showed that fat consumption among the respondents is at a good level, only 3% of the participants declare over consumption of fats in daily diet (*Fig. 3*).

It was shown that the sense of self-efficacy is related to the readiness to eat low-fat products because a statistically significant relation ($p<0.05$) was achieved between the level of self-efficacy and fat consumption by the respondents – the higher the self-efficacy indicator, the fewer fats consumed (*Tab. 1*). No significant relation was shown between the amount of fats in daily diet and BMI (p=0.233) and the place of residence during the studies (p=0.232).

Table 1. **The relation between the level of efficacy and fat consumption by the respondents**

The scale of efficacy	Fat consumption			χ^2 value p value
	too much fat	not bad, but it should be less	excellent	
Low self-efficacy (10-24)	0	9	4	χ^2=9.6369 p=0.047
Average self-efficacy (25-29)	4	20	39	
High efficacy (30-40)	1	33	54	

Table 2. **The relation between place of residence during the studies and fiber consumption by the respondents**

Place of residence during the studies	Fiber consumption			χ^2 value p value
	too few products high in fiber	not bad, but there could be more	excellent	
Family house	45	34	2	χ^2=12.5914, p=0.050
Students' house	15	16	1	
A rented flat	34	8	1	
Other	5	2	1	

Figure 4. **Fiber consumption in daily diet of the students**

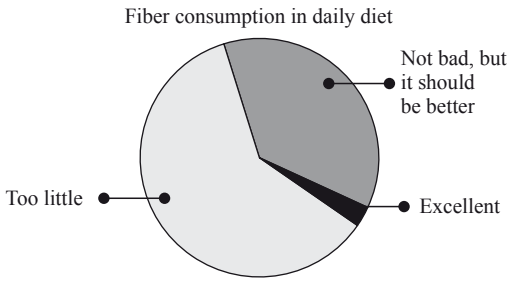


Table 3. **Smoking cigarettes by the respondents**

Smoking cigarettes	N	%
I have never smoked	116	70.7
I smoked, but I quit	13	7.9
I smoke occasionally	26	15.9
I smoke every day	9	5.5

Table 4. **Alcohol consumption by the respondents**

Alcohol consumption	N	%
Never	31	18.9
Once a month or more seldom	84	51.2
2-4 times a month	42	25.6
2-3 times a week	7	4.3

The results of the data gathered in the research show that only 3% of the students declare fiber consumption at the level of eating standards, unfortunately as many as 60.4% of students pay no attention to products including fiber in their daily diet and they eat too little of it (*Fig. 4*).

The statistical analysis did not confirm the hypothesis on the influence of sense of self-efficacy on fiber consumption (p=0.965) or about the influence of BMI (p=0.436), but a statistically significant relation was shown between the place of residence during the studies and fiber consumption (p=0.05), which indicates that living in a students' house is conducive to fiber consumption (*Tab. 2*).

Tab. 3-6 show risk behaviour among students including smoking cigarettes, drinking alcohol and lack of physical activity. The majority of respondents (70.7%) declare that they have never smoked cigarettes and only 5.5% admit that they smoke on daily basis. The presented research did not show any statistically significant relation (p=0.3) between the sense of self-efficacy and nicotine smoking or any relation between BMI (p=0.486) and place of residence during the studies (p=0.06) and smoking cigarettes (*Tab. 3*). As the respondents declare 18.9% of them have never drunk alcohol, 51.2% drink alcohol once a month or more seldom, 25.6% – two-four times a month and 4.3% two-three times a week (*Tab. 4*). The answers to the question about the number of standard alcohol units drunk at one occasion were: 1-2 units (75.9%), 3-4 units (19.6%), 5-6 units portions (3%), 10 units and more – 1.5% of the participants. The statistical analysis showed the relation (p=0.02) between drinking alcohol and the sense of self-efficacy (*Tab. 5*), people with high self-efficacy drink alcohol more often, in most cases once a month. No significant relation between BMI and drinking alcohol (p=0.231) was shown. In contrast to smoking cigarettes, no relation was observed between the place of residence and drinking alcohol (p=0.609). The answers of the participants show that the students' physical activity is kept at a very good level, the answer 'never' didn't appear even once whereas 79.9% of the respondents take up sport regularly (*Tab. 6*).

The statistical analysis did not confirm the hypothesis the influence of self-efficacy on the physical activity of young people (p=0.695), but it showed a statistically significant relation between physical activity and BMI (p=0.000) (*Tab. 7*). People with low BMI (<20) take up sport often or very often.

Discussion

Starting with the theory of self-efficacy which says that the sense of self-efficacy influences the determination and kind of

***Table 5*. The relation between the level of efficacy and alcohol consumption by the students**

The scale of efficacy	Alcohol consumption				χ^2 value p value
	never	once a month or more seldom	2-4 times a month	2-3 times a week	
Low self-efficacy (10-24)	7	4	2	0	χ^2=14.7762, p=0.022
Average self-efficacy (25-29)	14	29	17	3	
High self-efficacy (30-40)	10	51	23	4	

***Table 6.* Physical activity of the students**

Physical activity of the students	N	%
Every day	40	24.4
3-4 times a week	48	29.3
Once-twice a week	43	26.2
A few times per month	17	10.4
Seldom	16	9.7

***Table 7.* The relation between BMI and physical activity of the students**

BMI range according to WHO	Physical activity					χ^2 value p value
	every day	3-4 times a week	once-twice a week	a few times a month	seldom	
Underweight (<20)	34	44	33	14	10	χ^2=40.8843, p=0.000
The right weight (20-24.9)	6	4	9	4	2	
Overweight (25-30)	0	0	0	0	4	

activities undertaken including those related to personal development (educational), the authors assumed that students will be characterized by a high sense of self-efficacy. The hypothesis was confirmed in the research – more than a half of the students participating in the research are characterized by a high sense of self-efficacy, only every fourteenth respondent has a low sense of self-efficacy. The statistical analysis showed that such variables as: age, education of parents, financial status of family, place of residence of family, place of residence during the studies and the kind of secondary school finished by the participants do not influence the sense of self-efficacy.

The sense of self-efficacy is related to such health behaviour as: prevention of uncontrolled sexual behaviour, taking up physical activity regularly, controlling weight and eating habits, prevention and quitting smoking and other addictions [2]. Therefore, the study was based on the hypothesis about the relation between self-efficacy and health behaviour such as: fat consumption, fiber consumption, drinking alcohol, nicotine smoking and physical activity.

The hypothesis was confirmed only in relation to fat consumption and drinking alcohol by young people. Fat consumption is at a good level among the respondents, only 3% of the participants show wrong eating habits in this respect and over consume fats. It was shown that the sense of self-efficacy has a great influence on fat consumption – the higher level of self-efficacy the fewer fats consumed. The authors related fat consumption at the level recommended by dieticians directly to the cult of slim body.

Fat consumption in the understanding of the respondents directly influences their appearance and physical condition, whereas fiber consumption has influence mainly on health. Health reasons are less crucial for the respondents than appearance, which seems to be a typical preference of young people. That's why fiber is consumed in daily diet at the right level by 3% of the respondents. The statistical analysis did not confirm the hypothesis about the influence of the sense of self-efficacy on fiber consumption. It is surprising that a statistically significant relation was discovered between the place of residence during the studies and fiber consumption, which results in the conclusion that living in a students' house is conductive to fiber consumption. Thus, it is not family house (as one would expect) that is a carrier of the right eating behaviour in the case of the participants.

The so-called risk health behaviour such as cigarette smoking, drinking alcohol and lack of physical activity relate to the group of respondents to a small extent. About 3/4 of the respondents do not smoke cigarettes and every twentieth student admits that he/she smokes on daily basis (is addicted). It is difficult to predict if such tendency continues till the end of studies because as Jabłoński's research shows [8] 29% of male students and 18% of female students smoke in their first year at university, and those numbers increase to 42% and 28% respectively in the fifth year, whereas the number of smoking nurses is 45%.

The study conducted among Dutch young people by Kok and co-authors [1] prove that a high sense of self-efficacy has a positive influence on quitting smoking and persisting in this decision. However, the presented research does not show any

statistically significant relation between the sense of efficacy and cigarette smoking or between BMI and the place of residence during the studies and cigarette smoking. Nicotine abstinence among students of nursing who are future professionals in promoting a healthy lifestyle is not surprising ad seems to be something natural, but again the authors look for the reasons in fashion. Nicotine abstinence has become fashionable not only among adults who are aware of health dangers of the addiction, but also among young people. The authors merit here a great advertising campaign in all the media to quit smoking or not light the first cigarette. Unfortunately, it was also the influence of adverts and commercials which resulted in the conviction that drinking beer is not harmful. Beer has become more of a soft drink than alcohol. Research showed that more than 3/4 of the respondents drink alcohol more or less often (4% of the students often). One should pay attention to the fact that the group of respondents included only 6.7% of men, so the problem of drinking relates also to young women. The data gathered in the research seem to confirm the study by the State Agency to Solve Alcohol Problems, which shows that the problem of drinking women at the age of 18-29 is an increasing phenomenon. This may result from the misunderstood concept of equality of rights which unfortunately includes also risk behaviour as well as from the change of perception of drinking women (nobody ostracizes young girls drinking beer).

The statistical analysis showed the relation between drinking alcohol and the sense of self-efficacy, people with a high indicator of self-efficacy drink alcohol more often. The results of the available research is ambiguous, the data from the presented research confirm the results of the study by Okulicz-Kozaryn and Pisarska [3] and at the same time negate Taylor's research [9] who discovered an exactly opposite relation. The authors of this paper favour the opinion that high sense of self-efficacy of young people creates their conviction that they can control the consequences of drinking alcohol and that they demonstrate their independence and adulthood by drinking.

Physical activity of the respondents continues to be at a very good level, more than 3/4 of the respondents declare that they take up sport often and the answer 'I don't do sport at all' didn't appear even once. Fuchs and Schwarzer [1] found in their report a high correlation between the intention to take up physical exercise and physical actions and a sense of self-efficacy. The presented study did not reveal the influence of a sense of self-efficacy on physical activity, but it showed the statistically significant relation between physical activity and BMI. People with low BMI take up physical activity often or very often. Naturally, it is not eligible to draw conclusions like: does low weight influence increased physical activity or is it increased physical activity that results in low weight (the authors favour the latter opinion).

Conclusions

The conducted research confirmed the hypothesis about the relation between self-efficacy and health behaviour only partly. Self-efficacy turned out to be a good predictor of undertaking some health behaviour. The sense of self-efficacy of the respondents is a promising, positive indicator of health behavior. The presented results of research point to the need of discussion and further longitudinal research into the relationship between the sense of self-efficacy and health behavior of various groups of young people.

References

1. Schwarzer R. Poczucie własnej skuteczności w podejmowaniu i kontynuacji zachowań zdrowotnych. In: Heszen-Niejodek J, Sęk H. editors. Psychologia zdrowia. Warszawa: PWN; 1997: p. 175-205.
2. Juczyński Z. Poczucie własnej skuteczności jako wyznacznik zachowań zdrowotnych. Prom Zdr Nauk Społ Med, 1998; 14: 54-63.
3. Okulicz-Kozaryn K, Pisarska A. Poczucie własnej skuteczności a używanie substancji psychoaktywnych przez młodzież. Alkoh i Narkom, 2001; 4: 565-77.
4. Dolińska-Zygmunt G. Behawioralne wyznaczniki zdrowia – zachowania zdrowotne. In: Dolińska-Zygmunt G, editor. Elementy psychologii zdrowia. Wrocław: Wyd. Uniwersytetu Wrocławskiego; 1996. p. 31-68.
5. Carroll S, Smith T. Jak żyć zdrowo. Warszawa: Wyd. Muza; 1993.
6. Tuszyńska-Bogucka V. Nawyki żywieniowe uczniów szkół ponadpodstawowych w świetle założeń diet profilaktyki chorób cywilizacyjnych. Ann UMCS, 2005; suppl XVI: 82-6.
7. Juczyński Z. Narzędzia pomiaru w psychologii zdrowia. Prz Psychol, 1999; 4: 43-56.
8. Jabłoński L. Epidemiologia palenia tytoniu. In: Milanowski J, editor. Palenie tytoniu. Wpływ na zdrowie i program walki z nałogiem. Lublin: Wyd. BiFolium; 2001, p. 28-34.
9. Taylor M. The influence of self-efficacy on alcohol use among american indians. Cult Divers Ethnic Minor Psychol, 2000; 6/2: 1-16.