

ANNA PLATTA, ANNA MIKULEC, MILLENA RUSZKOWSKA,
GRZEGORZ SUWAŁA

**EATING-RELATED HEALTH BEHAVIORS AND BODY PERCEPTION:
A STUDY OF YOUNG ADULTS IN POLAND**

S u m m a r y

Background. The time of studies and the change in the social environment resulting from taking up education at a university is a time of complex experiences for young people, during which they encounter factors that predispose them to change their eating habits and to increased susceptibility to mental disorders. The lifestyle of university students who aim to shape their health behaviors in their new environment is mediated by a multitude of factors. Therefore, in the present study, we seek to identify health behaviors (eating behaviors, the use of stimulants and addictive substances - tobacco) in terms of self-perception of an appearance among students at selected higher education institutions in Poland. This empirical study was conducted using a custom-designed questionnaire with an indirect interview technique via a web-based platform (CAWI) in the period from 1 February to 31 March 2023. The study covered 805 respondents, of which 461 were women and 344 men.

Results and conclusions. It has been shown that a high level of satisfaction with body parts and normal body weight are factors influencing the self-assessment of the quality of life, health and nutrition among young adults. An interesting phenomenon that has been observed is the influence of the level of satisfaction with body parts on the frequency of eating and preparing meals. In addition, all young people unequivocally believed that one's appearance is important in the life of a modern person. In their opinion, it plays a particularly important role in finding a well-paid job and a life partner. The results contribute to an understanding of potential pathways of healthy eating development, thereby highlighting possible intervention targets.

Keywords: quality of life, health behavior, eating behavior, body image, students

Dr inż. A. Platta ORCID: 0000-0002-7963-1889, Katedra Zarządzania Jakością, Wydział Zarządzania i Nauk o Jakości, Uniwersytet Morski w Gdyni, ul. Morska 81-87, 81-225 Gdynia; dr inż. A. Mikulec, ORCID: 0000-0002-2737-5967, Katedra Zarządzania i Inżynierii Produkcji, Wydział Nauk Inżynierskich, Akademia Nauk Stosowanych w Nowym Sączu, ul. Zamenhofa 1a, 33-300 Nowy Sącz; dr hab. inż. M. Ruszkowska ORCID: 0000-0002-4488-1087, Katedra Zarządzania Jakością, Wydział Zarządzania i Nauk o Jakości, Uniwersytet Morski w Gdyni, ul. Morska 81-87, 81-225 Gdynia; dr G. Suwała ORCID: 0000-0002-7857-2282, Katedra Jakości Produktów Żywnościowych, Uniwersytet Ekonomiczny w Krakowie ul. Rakowicka 27, 31-510 Kraków. Kontakt: a.platta@wzjn.umg.edu.pl

Introduction

The transition from adolescence to adulthood is an important period for establishing behavioral patterns that affect the quality of life, long-term health and chronic disease risk [8, 23, 25]. Sedentary behaviors, low levels of physical activity (PA) and low body image quality of life have been identified during college years in young adults and are associated with poor health outcomes [7].

The student period and the change in the social environment resulting from the choice of a university is a special time for changing eating habits that may increase the risk of obesity [2, 12, 15]. Overweight and obesity have become epidemic growth trends both in developed and developing countries. They are currently a huge challenge for healthcare [22]. Going through college is also a complex experience for young people, during which they encounter factors predisposing to increased susceptibility to mental disorders [6]. Chronic exposure to stress directly affects health and the secretion of cortisol responsible for increasing appetite and, consequently, the amount of food consumed. Population studies have shown that stress may also reduce food intake [30].

Another challenge for the protection of public health of the whole society, and in particular among young people, is the prevention of tobacco smoking [11]. University students are at high risk of engaging in risky behaviors such as smoking and using illicit substances [10]. Demographic factors such as gender, along with habits such as alcohol consumption and smoking, have been linked to caffeine consumption [20]. Research conducted on university students and young people of similar age showed a higher prevalence of caffeine consumption observed more often in women than men [20]. There is a lack of data in the literature relating to self-perception of an appearance among students at higher education institutions in Poland in terms of their declared frequency of using stimulants and addictive substances - tobacco.

The behavior of university students who aim to shape their health behaviors in their new environment is mediated by a multitude of factors. Therefore, in the present study, we seek to identify implemented health behaviors (eating behaviors, the use of stimulants and addictive substances - tobacco) in terms of self-perception of an appearance among students at selected higher education institutions in Poland.

Material and methods

The study used an author's questionnaire based on the works of Wójtowicz, 2008 [27] and Wójtowicz, 2014 [28]. The cross-sectional survey was carried out between February and March 2023, using the CAWI (Computer-Assisted Web Interview) technique for data collection. The research sample was recruited from among young people in Poland through advertisements in social media. Interested persons were directed to a

questionnaire, which they were asked to complete if they met the inclusion criteria. The inclusion criteria were as follows: adult students, up to 30 years of age. Respondents gave informed and voluntary consent to participate in the survey. They also confirmed that they were familiar with the risk factors associated with participation in the CAWI survey. A total of 810 respondents participated in the survey. Five people, or 0.6 % of the surveyed population, refused to specify their gender. Due to the fact that the gender of the respondents was a differentiating factor for the surveyed population, five questionnaires were rejected.

Our study does have some limitations. Despite a considerable sample size of 805 young adults, which was deliberately selected, there may be concerns about its representativeness. However, the results obtained are important and interesting and allow for their comparison with results obtained in other countries.

The survey questionnaire consisted of thematic blocks including: profiling information (5 questions), expressing the respondents' opinions on their quality of life (in general, the level of perceived stress, adherence to a pro-healthy dietary model and undertaking daily physical activity), health status, the frequency of smoking and drinking caffeinated beverages, the self-assessment of dietary recommendations implemented on a daily basis, learning about the respondents' individual opinions regarding the perception of body appearance as an important factor in the life of a modern person and the influence of appearance on finding a well-paid job, friends, life partner (30 questions).

The self-assessment of the respondents' health status and their quality of life were reported on a 5-point Likert scale (1 – no, 2 – not really, 3 – neither yes nor no, 4 – somewhat, 5 – yes). The frequency of use/consumption of stimulants such as traditional tobacco products and e-cigarettes, black and/or white, yellow, green, red tea, as well as coffee and/or caffeinated beverages was assessed based on 5 response categories: 1 – never; 2 – rarely; 3 – sometimes; 4 – often; 5 – daily. To systematize the answers given, the respondents answered: 1 – no, 2 – rather not, 3 – hard to say, don't know, 4 – rather yes, 5 – yes, for each given characteristic of the successive features of the implemented diet. The same categories of answers were used to find out the respondents' opinions on the role of appearance in a modern man's life and the influence of appearance on finding a well-paid job, friends and a life partner.

The degree of satisfaction with one's body was calculated from the scores given by the respondents for each body image criterion on a scale of 1 to 5, with "very low" being the lowest (1) and "very high" being the highest (5). Based on the answers given, the sums of the scores obtained for all the features analyzed were calculated for each participant. The higher the number of points obtained, the higher the respondent's degree of satisfaction with their body. Satisfaction was reported for the following specific aspects of appearance: body weight, height, waist circumference, hip circumference,

shoulder width (men)/shoulders (women), chest (men)/breasts (women), abdomen and face. Total scores (sums of the points) were divided into 3 levels of appearance satisfaction, with thresholds at 1/3 and 2/3 of the total score range (1 ÷ 5 point scale): low satisfaction level (<1/3 of the range: 1 ÷ 2.33 points), ambivalent satisfaction level (1/3 to 2/3 of the range: 2.34 ÷ 3.66 points), high satisfaction level (> 2/3 range: 3.67 ÷ 5 points). The resulting groups were cross-referenced with the subsequent questions on the form to determine the relationships about the research objective.

Body Mass Index (BMI) was calculated on the basis of the respondents' anthropometric indices (height and weight). The BMI was used to determine the percentage of respondents with normal body weight, underweight or overweight. Inference of the results was based on the adopted ranges of BMI, dividing the respondents into three groups: group 1 – respondents showing the signs of underweight or malnutrition (BMI ≤ 18.49), group 2 – respondents with normal body weight (BMI from 18.50 to 24.90), group 3 – respondents showing the signs of overweight or obesity (BMI ≥ 25.00).

Statistical analyses

The empirical data was statistically analyzed using Statistica 13.3 (Tibco Software, Palo Alto, USA). The results of the study were presented using the percentage distribution (percentage) of individual scores (% of indications) for the characteristics of the Respondents' group. Arithmetic means and standard deviation were calculated to determine the effect of gender, BMI and level of satisfaction with body parts on the frequency of using stimulants, eating habits, the respondents' opinions on the perception of body appearance as an important factor in the life of a modern person, and the respondents' opinions on factors behind being overweight or underweight in the study groups. The Mann-Whitney U test (gender was compared) and the Kruskal-Wallis test (BMI and satisfaction with one's body image were compared) were conducted. A Chi-square test with Yates correction was used to determine the relationship between gender, BMI and appearance satisfaction in the study groups on diet. For all the analyses, significance was established at $p \leq 0.05$.

Results and discussion

Respondents' Characteristics

The survey covered 805 respondents, including 461 women (representing 57.27 % of the surveyed population) and 344 men (representing 42.73 % of the surveyed population). The surveyed group consisted of undergraduate (90.43 % of the surveyed population) master's student (0.63 %) and unified master's (8.94 %) students. The BMI was calculated based on height and weight details given by the respondents, who were then categorized into the following three groups on the basis of the values obtained: those with a BMI under the norm, those with a normal BMI and those with a

BMI over the norm. For the majority, 74.04 % of the respondents, the value of this index was between 18.50 ÷ 24.99 (kg/m²), which indicates a normal body weight. Young people rated their health as good and very good (46.96 and 33.91 %, respectively). Similarly, the subjective assessment of the quality of life was dominated by those rating it as good and very good (42.73 and 24.72 %, respectively). When evaluating their diet, most people answered it was good 39.50 % or hard to say 36.40 %. In the breakdown of satisfaction with different parts of their bodies, more than half (57.02 %) was ambivalent, and a third (33.66 %) was highly satisfied (tab. 1). It is noteworthy that self-esteem is one of the most important psychic structures and helps a man to distinguish himself from his environment and to define his being. For every human being, their body is the basis to create one's identity, a sense of selfhood, continuity, coherence and inner content. It is a visible part of the Self and is subject to social evaluation [21].

Table 1. Characteristics of the study sample

Tabela 1. Charakterystyka badanej grupy

Parameters / Parametr	Number of Respondents [n] / Liczba respondentów [n]	Percentage [%] / Odsetek [%]
Gender/ Płeć		
Female / Kobiety	461	57.27
Male / Mężczyźni	344	42.73
Level of higher education / Stopień studiów		
Undergraduate / Studia pierwszego stopnia	728	90.43
Master's student / Studia drugiego stopnia	72	0.63
Unified master studies / Jednolite studia magisterskie	5	8.94
BMI [kg/m ²]		
< 18.50	52	6.46
18.50 ÷ 24.99	596	74.04
> 25.00	157	19.50
Subjective health assessment / Subiektywna ocena stanu zdrowia		
Very Bad / Bardzo zły	3	0.37
Bad / Zły	16	1.99
Neither good nor bad / Ani dobry, ani zły	135	16.77
Good / Dobry	378	46.96
Very good / Bardzo dobry	273	33.91
Subjective quality of life assessment / Subiektywna ocena jakości życia		
Very Bad / Bardzo zła	16	1.99
Bad / Zła	47	5.84
Neither good nor bad / Ani dobra, ani zła	199	24.72

Good / Dobra	344	42.73
Very good / Bardzo dobra	199	24.72
Subjective assessment of nutrition / Subiektywna ocena sposobu żywienia		
No / Nie	25	3.11
Rather not / Raczej nie	103	12.79
I don't know/ Trudno powiedzieć, nie wiem	293	36.40
Rather yes/ Raczej tak	318	39.50
Yes/ Tak	66	8.20
Subjective assessment of the level of satisfaction with body parts / Subiektywna ocena poziomu zadowolenia z poszczególnych części ciała		
Low/ Niska	75	9.32
Ambivalent/ Ambivalentna	459	57.02
High/ Wysoka	271	33.66

Quality of life and health condition

A socioeconomic position, weight perceptions, lifestyle risk and multimorbidity varied significantly across different economic countries. Higher morbidity and lifestyle risk scores were observed in those who saw themselves as overweight than those who perceived themselves either as being underweight or as being of normal weight [4]. The respondents were asked to make subjective assessments of their quality of life, understood as the level of stress experienced in their daily lives, diet or physical activity undertaken, and to evaluate their health and diet. In the assessment of quality of life and self-assessment of health, there were significant differences between men and women ($p < 0.01$) and between persons with different levels of satisfaction with their body image ($p < 0.01$). In the self-assessment of nutrition, people with different levels of satisfaction with their body image differed significantly. Men rated their quality of life and their health higher than women, with an average of 3.96 and 4.27 points (women averaged 3.72 and 4.01 points, respectively). Both men and women rated their diets identically, having an average score of 3.37 points. Those with high levels of satisfaction with their body image rated the following better, compared to those with low and ambivalent levels of satisfaction: quality of life, health status and diet (on average 4.00 points, 4.32 points and 3.58 points, respectively). Those with a BMI value indicating a normal weight also rated these parameters better (tab. 2). Ramón-Arbues et al. [18] assessed the quality of life (QOL) among Spanish students, which is understood as a complex and multifaceted concept including, among others, physical and mental well-being, social and personal relationships or a life situation. Similar to our study, they observed higher self-esteem and better physical health ratings for participants with a normal weight or moderate level of physical activity, compared to those

who were overweight or living alone. Craig et al. [4] emphasize in their studies that the risk of multiple morbidity is established early in life, and reducing modifiable risk factors, such as overweight or obesity, may partially solve the problem of multiple morbidity later in life.

Using stimulants

In the next question, the respondents were asked to indicate the frequency of using/consumption of stimulants such as traditional tobacco products and e-cigarettes, black and/or white, yellow, green and red tea, as well as coffee and/or caffeinated beverages. Significant gender differences were found in the prevalence of e-cigarette use (mean score of 1.65 for women and 1.48 for men), drinking white, green, yellow or red tea (mean score of 3.15 for women and 2.68 for men) and coffee and/or caffeinated drinks (mean score of 3.56 for women and 3.33 for men) (tab. 3). On a positive note, low averages were observed, indicating infrequent smoking/use, by the majority of the respondents, of tobacco products and whether traditional cigarettes, e-cigarettes or tobacco heating modules or nicotine pouches (tab. 3).

Individuals, by BMI, did not differ significantly in the prevalence of smoking traditional cigarettes, but did differ significantly in the prevalence of smoking/use of e-cigarettes or tobacco heating modules or nicotine pouches (mean 2.06 points, compared to a normative BMI of 1.55 points and an above-normative BMI of 1.52 points). Those with low levels of satisfaction with their body image were significantly more likely to report consuming coffee and/or caffeinated beverages (mean score of 3.61, indicating frequent consumption of this product group) (tab. 3). The results obtained for tobacco smoking are consistent with the trend observed in recent years, namely, a reduction by approximately 33 % over the past 30 years in smoking among young people at a global level [19]. In contrast, the results on the consumption of teas, coffee and caffeinated beverages among young adults differ slightly from those of other researchers. Mikołajczyk-Stecyna et al. [14], in a study on coffee and tea consumption patterns among 20 ÷ 40-year olds, observed higher coffee consumption and lower tea consumption in overweight or obese individuals. Meanwhile, in their own study, higher consumption of both coffee and tea was observed in underweight individuals. Nordestgaard et al. [17] observed in their study that higher coffee consumption was correlated with a higher body mass index (BMI), waist circumference and unfavorable lipid profile [17].

Table 2. Quality of life and health condition
Tabela 2. Jakość życia i stan zdrowia

Parameters / Parametr	Gender / Płeć			BMI				Satisfaction level with body parts / Poziom zadowolenia z części ciała			
	Men / Mężczyźni	Women / Kobiety	<i>p</i> *	Underweight / Niedowaga	Normal / Norma	Overweight / Nadwaga	<i>p</i> **	Low / Niski	Ambivalent / Ambiwalentny	High / Wysoki	<i>p</i> **
Quality of life related to stress level, diet, physical activity / Jakość życia odnosząca się do poziomu stresu, sposobu odżywiania, aktywności fizycznej											
Mean / Średnia	3.96***	3.72	< 0.01	3.79	3.85	3.73	0.09	3.13	3.83	4.00	< 0.01
SD	0.95	0.91		0.89	0.93	0.96		1.00	0.91	0.87	
Health condition / Stan zdrowia											
Mean / Średnia	4.27	4.01	< 0.01	3.94	4.15	4.06	0.23	3.64	4.08	4.32	< 0.01
SD	0.81	0.74		0.75	0.76	0.85		0.85	0.74	0.75	
Self-assessment of eating habits (proper nutrition) / Samoocena sposobu odżywiania (prawidłowe odżywianie się)											
Mean / Średnia	3.37	3.37	0.87	3.29	3.42	3.22	0.04	2.95	3.32	3.58	< 0.01
SD	0.95	0.89		0.96	0.91	0.93		0.96	0.85	0.96	

Explanatory notes / Objaśnienia:

*U-Manna Whitney, ** Kruskala-Wallis, *** Likert scale (1-no; 5 -yes)/ skala Likerta (1 – nie; 5 - tak)

Tabel 3. Using stimulants

Tabela 3. Stosowanie używek

Parameters / Parametr	Gender / Płeć			BMI				Satisfaction level with body parts / Poziom zadowolenia z części ciała			
	Men / Mężczyźni	Women / Kobiety	p^*	Underweight / Niedowaga	Normal / Norma	Overweight / Nadwaga	p^{**}	Low / Niski	Ambivalent / Ambiwalentny	High / Wysoki	p^{**}
Cigarette smoking frequency / Częstość palenia papierosów tradycyjnych											
Mean / Średnia	1.74***	1.74	0.68	1.81	1.74	1.79	0.73	1.95	1.74	1.72	0.61
SD	1.22	1.22		1.25	1.19	1.27		1.43	1.18	1.20	
Smoking frequency of e-cigarettes/tobacco heating modules / nicotine pouches / Częstość palenia e-papierosów / modułów do podgrzewania tytoniu / woreczków nikotynowych											
Mean / Średnia	1.48	1.65	0.03	2.06	1.55	1.52	0.04	1.95	1.54	1.54	0.13
SD	1.10	1.24		1.55	1.16	1.13		1.57	1.11	1.18	
Frequency of drinking black tea / Częstość picia czarnej herbaty											
Mean / Średnia	2.89	2.97	0.44	3.17	2.96	2.78	0.12	3.00	2.95	2.90	0.84
SD	1.25	1.35		1.34	1.31	1.26		1.32	1.31	1.30	
Frequency of white / green/ yellow / red tea drinking / Częstość picia białej / zielonej/ żółtej / czerwonej herbaty											
Mean / Średnia	2.68	3.15	< 0.01	3.10	2.98	2.82	0.29	3.12	2.93	2.95	0.54
SD	1.20	1.32		1.26	1.31	1.21		1.42	1.29	1.25	
Frequency of drinking coffee and/or caffeinated beverages / Częstość picia kawy i/lub napojów kofeinowych											
Mean / Średnia	3.33	3.56	0.01	3.73	3.44	3.47	0.30	3.61	3.55	3.28	0.03
SD	1.43	1.48		1.44	1.48	1.43		1.42	1.44	1.49	

Explanatory notes / Objasnienia:

*U-Manna Whitneya, ** Kruskala-Wallis, *** Likert scale (1-never; 5 – every day) / skala Likerta (1 – nigdy; 5 – codziennie)

Nutrition

In assessing nutrition, the declared type of diet and use of elimination diets, men and women differed significantly ($p = 0.05$ and $p = 0.03$, respectively). It is interesting to note that 97.15 % of all the respondents (54.91 % of women and 42.24 % of men) declared that they ate everything, with only 2.85 % following vegetarian or vegan and pescetarian diets. The use of elimination diets was declared by only 5.22 % of men and 11.8 % of women (tab. 4). In the self-assessment of diet, significant differences were observed in the group, where the criterion for the division was the level of satisfaction with body parts ($p < 0.01$). 25.46 % of those with an ambivalent level of satisfaction with body parts and 19.62 % of those with a high level of satisfaction with body parts rated their diet as correct, and only 2.61 % of those with a low level of satisfaction with body parts. What can be seen in all the groups is a large percentage of people who find it difficult to self-assess their diet (tab. 4). The obtained result regarding the type of a daily diet is interesting. As von Essen [29] shows, transitioning to a different type of diet, including a plant-based diet, is a process involving several dimensions related , among other things, to discovering new ways of living based on health fears; transforming traditional models into new alternatives; affirming new skills and abilities; and integrating experiences and emotions into the whole. Thus, a transition to a plant-based diet, among other things, is experienced both physically and emotionally. In addition, plant-based meals and ingredients used in a new diet are often full of symbols and conflicting emotions. Students represent a population experiencing tremendous psychological stress due to academic demands, sometimes financial problems or social pressures [13]. Self-perception and weight concerns play an important role in the health behaviors of young adults. Studies aimed at learning how body image concerns affect the perceived quality of life have found that people with negative perceptions of their bodies are more likely to go on diet, skip meals, develop eating disorders, avoid social gatherings and even avoid seeking medical care [24].

Eating habits

Subsequent questions addressed issues relating to young adults' eating habits. Significant differences, apart from snacking between main meals, were observed between men and women. Women (mean score of 4.18) were more likely than men (3.79) to prepare most meals themselves. Women were also more likely than men to pay attention to the calorie content and composition of the meals they consumed (mean 2.60 and 2.89 points, respectively, compared to men 2.26 and 2.68 points, respectively). In contrast, men (mean score of 2.76 points) were significantly more likely to report eating fast food compared to women (2.62 points). In the breakdown by BMI, overweight persons were significantly more likely than others to pay attention to the calorie content of their meals (mean 2.67 points, $p = 0.03$) (tab. 5).

Table 4. Nutrition
Tabela 4. Sposób odżywiania

Parameters / Parametr	Gender / Płeć			BMI				Satisfaction level with body parts / Poziom zadowolenia z części ciała			
	Men / Mężczyźni	Women / Kobiety	<i>p</i> *	Underweight / Niedowaga	Normal / Norma	Overweight / Nadwaga	<i>p</i> *	Low / Niski	Ambivalent / Ambiwalentny	High / Wysoki	<i>p</i> *
Type of diet / Rodzaj diety											
I eat everything / Jem wszystko	42.24**	54.91	0.05	6.09	71.92	19.13	0.38	8.70	55.52	32.92	0.44
Vegetarian/Vegan / Wegetariańska/ Wegańska	0.37	1.61		0.37	1.37	0.25		0.50	0.99	0.50	
Pescetarian / Pescetariańska	0.12	0.75		0.00	0.75	0.12		0.12	0.50	0.25	
Use of elimination diets (e.g. lactose-free, gluten-free, etc.) / Stosowanie diet eliminacyjnych (np. bezlaktozowa, bezglutenowa itp.)											
Not / Nie	20.25	22.98	0.03	3.06	31.80	8.43	0.20	4.10	22.98	16.15	0.19
Rather not / Raczej nie	6.83	9.32		1.12	11.43	3.60		1.49	10.31	4.35	
I don't know / Trudno powiedzieć	10.43	13.17		0.99	17.51	5.05		1.74	14.91	6.96	
Rather yes / Raczej tak	3.85	8.45		0.37	10.31	1.61		1.61	6.46	4.22	
Yes / Tak	1.37	3.35		0.37	3.60	0.75		0.37	2.36	1.99	

Explanatory notes/ objaśnienia:

*Chi2, ** percentage/ odsetek

Table 5. Implemented eating habits
Tabela 5. Realizowane nawyki żywieniowe

Parameters / Parametry	Gender / Płeć			BMI				Satisfaction level with body parts / Poziom zadowolenia z części ciała			
	Men / Mężczyźni	Women / Kobiety	<i>p</i> *	Underweight / Niedowaga	Normal / Norma	Overweight / Nadwaga	<i>p</i> **	Low / Niski	Ambivalent / Ambiwalentny	High / Wysoki	<i>p</i> **
Preparing meals alone at home / Samodzielne przygotowywanie posiłków w domu											
Mean / Średnia	3.79***	4.18	< 0.01	3.92	4.02	4.01	0.66	3.92	4.05	3.99	0.25
SD	1.28	1.09		1.20	1.19	1.22		1.14	1.21	1.18	
Paying attention to the caloric value of meals / Zwracanie uwagi na kaloryczność posiłków											
Mean / Średnia	2.26	2.60	< 0.01	2.19	2.42	2.67	0.03	2.72	2.46	2.38	0.10
SD	1.23	1.15		1.21	1.21	1.09		1.16	1.19	1.21	
Paying attention to the ingredients of the food you eat / Zwracanie uwagi na skład spożywanych posiłków											
Mean / Średnia	2.68	2.89	0.03	2.92	2.76	2.92	0.29	2.76	2.77	2.86	0.43
SD	1.19	1.07		1.03	1.15	1.06		1.02	1.14	1.14	
Snacking between main meals / Pojadanie przekąsek między głównymi posiłkami											
Mean / Średnia	3.24	3.21	0.65	3.21	3.25	3.13	0.18	3.21	3.24	3.21	0.75
SD	0.85	0.87		0.94	0.85	0.87		0.84	0.88	0.84	
Eating fast food / Spożywanie fast food											
Mean / Średnia	2.76	2.62	< 0.01	2.67	2.67	2.70	0.86	2.75	2.68	2.66	0.73
SD	0.78	0.81		0.90	0.80	0.79		0.84	0.76	0.86	

Explanatory notes/ objaśnienia: *U-Manna Whitneya, ** Kruskala-Wallisa, *** Likert scale (1-no; 4-yes)/ skala Likerta (1 – nie; 4 - tak)

Table 6. Way of eating
Tabela 6. Realizacja sposobu żywienia

Parameters / Parametry	Gender / Płeć		<i>p</i> *	BMI				Satisfaction level with body parts / Poziom zadowolenia z części ciała			
	Men / Mężczyźni	Women / Kobiety		Underweight / Niedowaga	Normal / Norma	Overweight / Nadwaga	<i>p</i> **	Low / Niski	Ambivalent / Ambiwalentny	High / Wysoki	<i>p</i> **
Eating breakfast daily / Codzienne spożywanie śniadania											
Mean / Średnia	3.45***	3.35	0.23	3.40	3.38	3.43	0.75	3.32	3.34	3.50	0.05
SD	0.94	1.02		0.85	1.01	0.96		0.92	1.04	0.91	
Daily preparation of breakfast at home / Codzienne sporządzanie w domu śniadania											
Mean / Średnia	3.57	3.48	0.25	3.44	3.52	3.53	0.47	3.48	3.49	3.59	0.27
SD	0.89	0.97		0.92	0.94	0.95		0.91	0.98	0.89	
Eating second breakfast every day / Codzienne spożywanie II śniadania											
Mean / Średnia	2.42	2.57	0.10	2.50	2.25	2.51	0.09	2.71	2.46	2.53	0.17
SD	1.12	1.16		1.13	1.52	1.12		1.10	1.15	1.14	
Daily preparation of second breakfast at home / Codzienne sporządzanie w domu II śniadania											
Mean / Średnia	2.31	2.43	0.24	2.35	2.35	2.51	0.32	2.49	2.39	2.33	0.58
SD	1.14	1.12		1.15	1.17	1.19		1.19	1.18	1.16	
Eating dinner every day / Codzienne spożywanie obiadu											
Mean / Średnia	3.80	3.74	0.29	3.83	3.75	3.80	0.79	3.60	3.74	3.85	< 0.01
SD	0.61	0.69		0.55	0.68	0.59		0.77	0.69	0.54	

Daily preparation of dinner at home / Codzienne sporządzanie w domu obiadu											
Mean / Średnia	3.60	3.59	0.73	3.35	3.64	3.52	0.01	3.45	3.58	3.66	0.02
SD	0.79	0.79		0.92	0.75	0.86		0.81	0.81	0.74	
Eating afternoon tea meal every day / Codzienne spożywanie podwieczorku											
Mean / Średnia	2.22	2.22	0.69	2.27	2.23	2.15	0.85	2.13	2.18	2.32	0.10
SD	0.99	1.09		1.07	1.07	0.93		1.03	1.06	1.03	
Daily preparation of afternoon tea meal at home / Codzienne sporządzanie w domu podwieczorku											
Mean / Średnia	2.31	2.45	0.26	2.42	2.39	2.39	0.94	2.32	2.36	2.47	0.34
SD	1.08	1.21		1.11	1.17	1.12		1.13	1.16	1.15	
Eating supper every day / Codzienne spożywanie kolacji											
Mean / Średnia	3.51	3.25	< 0.01	3.15	3.35	3.45	0.18	3.09	3.32	3.49	< 0.01
SD	0.89	1.08		1.09	1.02	0.92		0.91	0.97	0.91	
Daily preparation of supper at home / Codzienne sporządzanie w domu kolacji											
Mean / Średnia	3.60	3.50	0.28	3.19	3.54	3.66	0.01	3.41	3.51	3.64	0.02
SD	0.83	0.95		1.12	0.90	0.78		0.92	0.94	0.81	

Explanatory notes / objaśnienia:

*U-Manna Whitney, ** Kruskala-Wallis, *** Likert scale (1-no; 4-yes)/ skala Likerta (1 – nie; 4 - tak)

Health behaviors that were initiated during adolescence persist into adulthood. They can be influenced by many factors such as parental example, food preferences, peer opinions, personal and cultural beliefs, the mass media, food availability, cost and a perceived body image [5]. Inappropriate dietary habits can lead to several chronic diseases, including obesity and its consequences. Dietary factors contributing to development of obesity include meal frequency and distribution, snacking between main meals, skipping meals, the consumption of sweetened beverages, food portion sizes, eating out and fast food consumption [16]. Additionally, it has been observed in recent years that the mechanisms responsible for the higher prevalence of risky eating behaviors among adolescents and young adults may be related to the use of digital media, where they are exposed to food marketing or social media content showing peers on popular sites, such as those serving fast food [1].

Way of eating

Given the diets eaten by the respondents, it can be seen that the majority of them consumed 3 meals per day (breakfast, lunch and dinner), for which the mean scores are above 3 points, indicating that the majority of the respondents answered that they ate and made or rather ate and made these meals every day (tab. 6). Men were significantly more likely than women to eat supper (3.51 points and 3.25 points, respectively, $p < 0.01$), those with a normative BMI were more likely to make dinner at home (mean 3.64 points, $p = 0.01$), those who were overweight or obese were significantly more likely to make supper at home (mean 3.66 points, $p = 0.01$). Variability in eating competence and cognitive restraint was demonstrated in male students, whereas emotional eating and uncontrolled eating in female students [9]. The results of a study by other authors, which are in contrast to those obtained in our own study, showed that few college students in the United States lead a healthy lifestyle, taking into account diet and physical activity [25]. They observed, among other things, a decrease in daily fruit and vegetable intake and physical activity from semester to semester. In contrast, our own study found that students with high levels of satisfaction with their bodies were significantly more likely to eat breakfast (mean 3.50 points, $p = 0.05$), lunch (mean 3.85 points, $p < 0.01$) and dinner (mean 3.49 points, $p < 0.01$) daily and significantly more likely to prepare lunch and dinner at home (mean 3.66 and 3.64 points, respectively, $p = 0.02$) (tab. 6). This indicates that the regular consumption of meals and their quantity have an impact on the development of normal body weight values in young adults.

The role of appearance

Our current understanding of a positive body image demonstrates that it is: a distinct construct from a negative body image, multifaceted (with the facets including

body appreciation, body-acceptance and love, adaptive appearance investment, broadly conceptualizing beauty, inner positivity that radiates outward and manifests as adaptive behavior, and filtering information in a body-protective manner), holistic (in which internal experiences such as inner positivity and protective filtering are interwoven with external behaviors, interpersonal relationships, community, media, and culture to create attunement), stable but adjustable via intervention, likely protective, linked to unconditional body acceptance by others, and molded by individuals' multiple social identities [26]. In assessing the role of appearance in the life of a modern person, the average number of points in each of the groups surveyed, regardless of the criterion of division, was above 4 points, i.e. all young people believe that it is important in their lives (tab. 7).

Women (mean score of 3.51 points), men (mean score of 2.90 points, $p < 0.01$) and persons with low satisfaction with their body image (mean score of 3.88 points, $p < 0.01$) were significantly more likely to declare their willingness to participate in a specially designed program to improve their body image. The respondents also believed that one's appearance had an impact on finding a well-paid job (ranging from 3.31 for underweight people to 3.61 points for those with a normative BMI, 3.62 points for men and 3.66 points for those with a high level of satisfaction with body parts) to a greater extent than on finding friends, although the groups did not differ.

Women (mean score of 3.94) and men (mean score of 4.16) differed significantly ($p = 0.01$) in their perception of appearance as an important factor influencing finding a life partner. Although the groups by BMI and level of satisfaction with body parts did not differ with regard to this issue, it can be seen that those who were underweight and had low levels of satisfaction with their appearance were slightly more likely to indicate that one's appearance had an impact on finding a life partner (tab. 7). According to the literature data [3], sex and age had no significant impact on the self-esteem in young adults. Levels of self-esteem are strongly associated with the development of depression. Results suggest that early intervention for depression in young adults needs to focus on improving their levels of social support, resilience and positive domains of personality. The respondents were also asked to express their opinions on factors that might contribute to extreme body weight values, i.e. overweight and obesity (Fig. 1). Only the group in which gender was the dividing criterion differed significantly in indicating all the factors presented in the study that could determine overweight and most of them as contributing to being underweight. Women indicated that being overweight was mainly the result of disease ($p < 0.01$), overeating ($p = 0.02$), starvation ($p < 0.01$), inappropriate food preparation ($p < 0.01$), consumption of fast food ($p < 0.01$), poorly selected diets ($p < 0.01$), constant dieting ($p < 0.01$) lack of adequate physical activity ($p = 0.01$) and a lack of knowledge of proper nutrition ($p < 0.01$)

Table 7. Appearance in the life of a modern person

Tabela 7. Wygląd w życiu współczesnego człowieka

Parameters / Parametry	Gender / Płeć			BMI				Satisfaction level with body parts / Poziom zadowolenia z części ciała			
	Men / Mężczyźni	Women / Kobiety	<i>p</i> *	Underweight / Niedowaga	Normal / Norma	Overweight / Nadwaga	<i>p</i> **	Low / Niski	Ambivalent / Ambiwalentny	High / Wysoki	<i>p</i> **
The role of appearance in the life of a modern person (whether it is an important factor) / Rola wyglądu w życiu współczesnego człowieka (czy jest ważnym czynnikiem)											
Mean / Średnia	4.41***	4.44	0.86	4.08	4.46	4.41	0.10	4.48	4.46	4.36	0.35
SD	1.07	0.99		1.31	0.99	1.04		0.94	1.02	1.08	
Willingness to take part in a specially designed program of personal appearance improvement goals / Gotowość do wzięcia udziału w specjalnie przygotowanym programie celem poprawy wyglądu własnego ciała											
Mean / Średnia	2.90	3.51	< 0.01	3.33	3.23	3.31	0.87	3.88	3.43	2.77	< 0.01
SD	1.59	1.47		1.53	1.56	1.53		1.42	1.50	1.55	
The influence of appearance on finding a well-paid job / Wpływ wyglądu na znalezienie dobrze płatnej pracy											
Mean / Średnia	3.62	3.51	0.15	3.31	3.61	3.46	0.32	3.51	3.51	3.66	0.46
SD	1.59	1.54		1.70	1.55	1.55		1.38	1.61	1.51	
The influence of appearance on finding friends / Wpływ wyglądu na znalezienie przyjaciół											
Mean / Średnia	2.81	2.64	0.16	2.50	2.75	2.66	0.54	2.95	2.66	2.75	0.27
SD	1.68	1.59		1.61	1.65	1.58		1.54	1.65	1.64	
The influence of appearance on finding a life partner / Wpływ wyglądu na znalezienie życiowego partnera											
Mean / Średnia	4.16	3.94	0.01	4.42	4.03	4.01	0.51	4.09	4.07	3.95	0.31
SD	1.35	1.41		1.29	1.39	1.38		1.25	1.39	1.42	

Explanatory notes/ objaśnienia: *U-Manna Whitneya, ** Kruskala-Wallis

(Fig. 1). In addition, women were significantly more likely than men to indicate that being underweight was a result of an illness ($p = 0.01$), irregular meals ($p = 0.01$), starvation ($p < 0.01$), poorly chosen diets and constant dieting ($p < 0.01$) (Fig. 1). When broken down by BMI and level of satisfaction with body parts, there were no significant differences. According to the literature data [7], a better body image and quality of life was significantly associated with higher levels of light PA and lower sedentary time. Young adults who are overweight and obese and have a poorer body image and quality of life, when enrolled in weight loss interventions, may benefit from prescriptions of light PA in conjunction with decreasing sedentary behaviors.

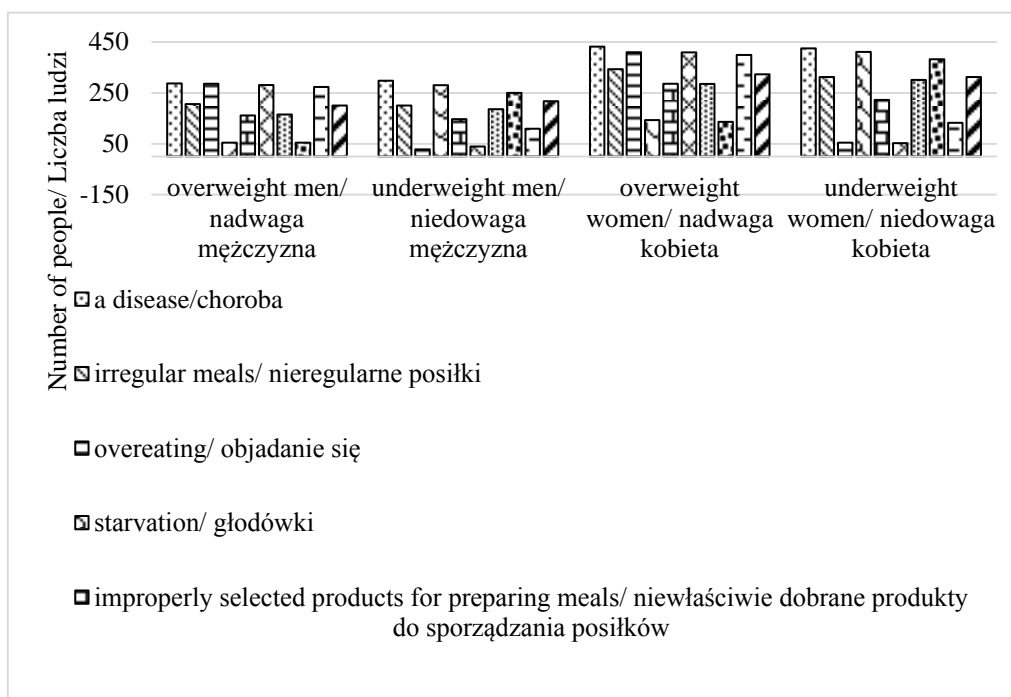


Fig. 1. Opinion on weight extremes

Rys. 1. Opinia na temat skrajnych wartości masy ciała

Conclusions

1. Despite the limitations, the current study has provided an important starting point for investigating a range of potential predictors and mechanisms for healthy eating development among young adults. It has been shown that a high level of satisfaction with one's body parts and normal body weight are factors influencing the self-assessment of quality of life, health and diet among young adults.

2. It is interesting to note that almost all respondents did not follow a special diet (such as a vegetarian, vegan or pescetarian diet) or elimination diet. Women were more likely than men to pay attention to the calorie content or composition of their meals and more likely to declare being involved in preparing them. Men, on the other hand, were more likely than women to admit consuming fast food. The dietary pattern of young adults can be considered normal, as most of them declared eating a minimum of 3 meals a day. Women are more likely than men to use stimulants, such as tobacco products, various types of tea, coffee or caffeinated drinks.
3. Another interesting phenomenon observed is the influence of the level of satisfaction with body parts on the frequency of eating and preparing meals. In addition, all young people believed that one's appearance was important in the life of a modern person. In their opinion, it plays a particularly important role in finding a well-paid job and a life partner.
4. Women were more likely than men to explicitly point to factors that could contribute to an extreme weight gain, i.e. overweight and obesity. It is, to some degree, worrying that many young adults found it difficult to assess their quality of life (24.72 %), health (16.77 %) or diet (36.40 %), as indicated by the frequency of respondents choosing the answer "don't know, hard to say".
5. In light of the research carried out, it seems important to take a range of measures to promote a healthy lifestyle among young adults to ensure optimum physical and mental health and minimize the risk of contracting, as commonly termed, social diseases.
6. The results contribute to an understanding of potential pathways of healthy eating development, thereby highlighting possible intervention targets.

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ZACHOWANIA ZDROWOTNE ZWIĄZANE Z ODŻYWIANIEM I POSTRZEGANIEM WYGLĄDU CIAŁA: BADANIA WŚRÓD MŁODYCH DOROSŁYCH W POLSCE

Streszczenie

Wprowadzenie. Czas studiów oraz zmiana otoczenia społecznego to dla młodych ludzi czas złożonych doświadczeń, w czasie którego napotykać czynniki predysponujące dla zmiany nawyków żywieniowych oraz do zwiększonej podatności na zaburzenia psychiczne. Styl życia studentów uniwersytetów, którzy chcą kształtować swoje zachowania zdrowotne w nowym środowisku, zależy od wielu czynników. Skłoniło to autorów do podjęcia badań w celu identyfikacji realizowanych zachowań zdrowotnych (zachowań żywieniowych, sięgania po substancje pobudzające i uzależniające - tytoń) w aspekcie postrzegania swojego wyglądu wśród studentów wybranych uczelni wyższych w Polsce. Niniejsze badanie empiryczne zostało przeprowadzone przy użyciu kwestionariusza techniką wywiadu pośredniego (CAWI) w okresie od 1 lutego do 31 marca 2023 r. W badaniu udział wzięło 805 respondentów, w tym 461 kobiet i 344 mężczyzn.

Wyniki i wnioski. Wykazano, że wysoki poziom zadowolenia z wyglądu własnego ciała i prawidłowa masa ciała są czynnikami wpływającymi na samoocenę jakości życia, stanu zdrowia i sposobu odżywiania wśród młodych dorosłych. Ciekawym, zaobserwowanym zjawiskiem jest wpływ poziomu zadowolenia z wyglądu własnego ciała na częstość spożywania i przygotowywania posiłków. Ponadto wszyscy młodzi ludzie jednoznacznie uważali, że wygląd jest ważny w życiu współczesnego człowieka. W ich opinii

odgrywa on szczególnie ważną rolę w znalezieniu dobrze płatnej pracy i życiowego partnera. Uzyskane wyniki przyczyniają się do zrozumienia potencjalnych ścieżek rozwoju prozdrowotnego odżywiania, podkreślając tym samym możliwe cele interwencji.

Słowa kluczowe: jakość życia, zachowania zdrowotne, studenci, zachowania żywieniowe, wygląd ciała

