



# Is fad diet a quick fix? An observational study in a Croatian student group

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**Key words:** young adults, weight  
management, body perception, fad diets,  
media impact

## Abstract

**Objective:** To determine how young adults, especially females, perceive themselves and manage their body weight. Also, the aim was to observe the impact of media bombarding with different fad diets on body weight management.

**Type of study:** Observational research

**Participants:** 149 young adults, age 18–24

**Settings:** Short questionnaires regarding body image, dieting, dietary and lifestyle habits

**Results:** According to the BMI calculated from self-reported height and weight, 12.1 % of subjects were underweight and 16.1 % overweight. Yet, only 5.4 % of participating young adults perceived themselves as underweight, while even 21.5 % perceived themselves as overweight. For females, the issue seems to lie with their feeling fat (44.0 %) to a greater extent than being overweight (26.0 %). As expected, 42.0 % of females were trying to lose weight and were dieting. The influence of media on dieting was obvious, as well as peers influence. On the other hand, although BMI's showed that 33.3 % of males were overweight, only 16.7 % thought so, and 10.0 % of them were trying to lose weight and were dieting.

**Conclusions:** Body weight management by dieting is widely spread among females, but is not giving quick results. Media influence is high, and popular magazines are, unfortunately, the source of diet in many cases.

## INTRODUCTION

Headlines like »The fat fight«, »One-day Super Diet«, »Lose 5 kg in three days«, and many others like them screaming from covers of super popular fashion magazines, or the famous line »You can never be too rich or too slim« highlights today's priorities, especially among females. Weight management is the rising phenomenon in young people (1-4), but unfortunately not as a result of health concern but as a reaction to pervasive cult of slenderness largely perpetuated through the media (2, 5). Nowadays we are facing epidemic of fatness paralleled by well documented incidence of unhealthy weight control practices, dieting and eating disorders (1-3, 6-8). These are connected with increased risk for mortality and morbidity (1, 9) and related to a wide range of chronic diseases, including coronary heart disease, hypertension, dyslipidemia, diabetes mellitus, gallbladder disease, and some types of cancer (1, 10). Western culture glorifies thinness (12), and the way that women's ideal body weight has changed since the late 1950s is well doc-

umented (5). The ideal of feminine beauty for adolescent females living in developed countries is being young, tall and thin. Thinness has become synonymous with beauty, desirability and status (2, 11, 12, 45). Consequently, female adolescents are on diets to achieve ultra thin body, whether justified or not (2, 3, 11, 12). Girls seem very sensitive, and in many cases oversensitive, to the issue of fatness (2). Since girls make more social comparisons than boys across all targets and attributes, and body-size stigmatising or the distorted body image is clearly present in 3-year-olds and increases with age (5, 13), they are motivated to diet and seek the information they are looking for, which is obviously easy to find (5). Reasons for dieting are many and varied, but low self-esteem, dissatisfaction with body image and desire to be thinner are the motivating factors for the majority, whether they are overweight or not (4, 6, 11-15). Self-directed dieting may have the paradox effect and result in excess weight gain over time (7, 14, 16).

Dietary habits are established in early life and can have a considerable effect on the health of individuals in the long-term. Adolescence is one of the greatest periods of change throughout the lifespan with changes in body shape, cognitive processes, and personal autonomy. It is a period of development associated with striving for independence through making rebellious or non-conformist statements and adopting social causes (6, 11). College students often do not meet dietary recommendations for the consumption of nutrients (17). Dieting is often implemented on a short-term basis, and it is possible that dieting sets the scene for poorer eating and physical activity behaviors over time (3, 7, 11, 12, 16). Ironically, dieting and healthy eating may be perceived to be similar behaviors by adolescents (6). University (18–24 year-old adults) is an important time point in an individual's life,

representing a period of increased responsibility and autonomy (18, 19); it, however, results in poor health profile, including poor diets and eating habits as well as rapid reduction in physical activity (17, 19).

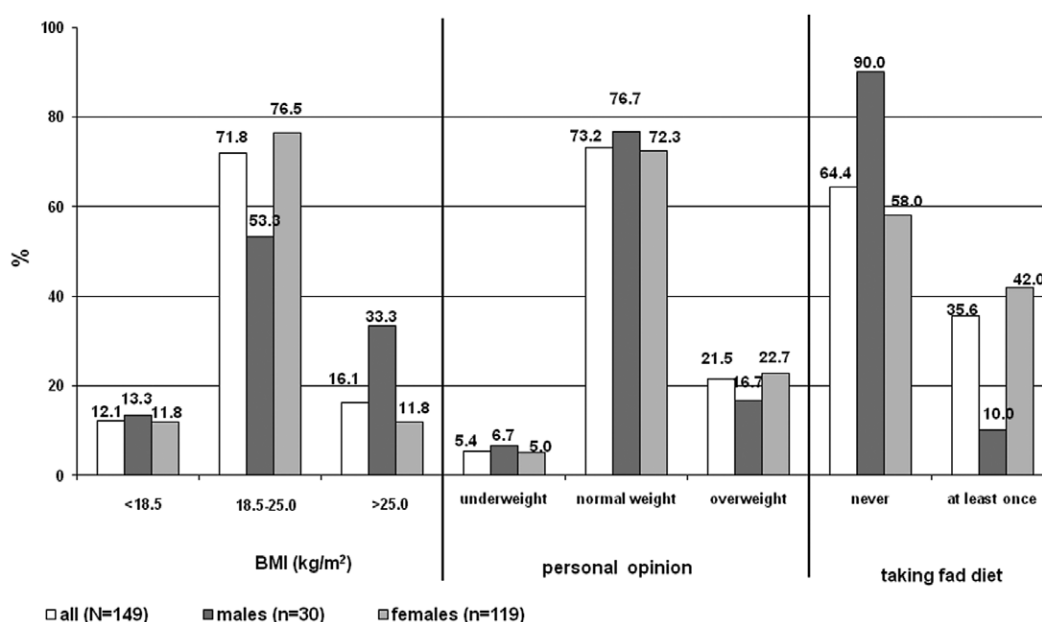
The aim of our research was to carry out an observational study and to find out if we can determine how students, especially females, perceive themselves and manage their body weight. Also, our intention was to observe impact of media on body weight management.

### METHODS

149 students, 119 females (79.9 %) and 30 males (20.1 %), age 18–24 years (mean age 20.2 yr), completed a simple anonymous questionnaire. Participation was fully voluntary; questionnaires were applied and completed at university Faculty.

Participants reported their height and weight that were used for the BMI calculation, and weight status classification was done in accordance to WHO standards (20).

The questionnaire included questions regarding their own perception of their body, on whether and how many times they practiced any fad diet and with what results, what the source was of the diet they had chosen, and whether they ever tried any weight management products. The next part of the questionnaire was related to their daily nutrition habits, such as the number of meals during day, how often they have breakfast and dinner and what the usual types are of meals they choose, whether fruits and vegetables are present in their daily nutrition. The last part was related to consumption of fast foods, sweets, coffee, water, and also to whether they take



**Figure 1.** Classification of all participating young adults, males and females in particular, according to their calculated BMI, personal opinion of their body image and dieting practices.

any supplements and practice any form of physical activity on a daily basis.

Data analysis was done using MS Excel 2007 (Microsoft Corp.) and Statistica 7.0 (StatSoft Inc.).

All participants were university students from the Faculty of Food Technology in Osijek and had some knowledge of food and nutrition. Distribution of males and females is representative for the gender population at the Faculty.

The research was approved by the Ethical committee of the Faculty of Food Technology in Osijek.

## RESULTS

According to BMI, 12.1 % of all students were underweight, while 16.1 % were overweight (Figure 1). Males were more overweight than females (11.8 vs. 33.3 %), but females tended to go on diets more than males (42.0 vs. 10.0 %). If personal opinion is considered, 5.4 % of all students considered themselves as underweight, while 21.5 % thought they were overweight. Differences between BMI and body image perception is most obvious among females where 11.8 % were overweight according to BMI but even 22.7 % considered themselves as overweight. On the other hand, only 16.7 % males thought they were overweight, although 33.3 % is overweight according to BMI. The share of students taking fad diets is 35.6 %.

61.7 % of all students had only 1 to 3 meals per day, and only 5.4 % 5 or more (Table 1). Comparing genders, results are in favor of males who in higher percentage than females had 5 meals or more (13.3 % over 3.4 %, respectively). Females had breakfast more often than males (Table 1); 49.6 % vs. 36.7 % having breakfast each day, and 2.5 % vs. 6.7 % never having breakfast, respectively. Females tended to skip dinner while, on the other hand, males were less prone to that and even 73.3 % had dinner each day. The consumption of fruits was higher in females (23.5 % females and 13.3 % males eating fruits once a day). If all participating students are taken together, the observation is that fast foods are mostly consumed weekly (73.2 %), and 14.8 % said they never ate fast foods. Males in much smaller percentage gave up fast foods (6.7 %) than females (16.8 %). 50.3 % of all students consumed sweets weekly, followed with 34.9 % of those eating sweets each day. Gender comparison for the sweets consumption shows that females tended to eat sweets each day in higher percentage (37.8 vs. 23.3 %, respectively). Daily intake of water for all students at first glance looks satisfying; 50.3 % drink 1.5–2 L per day, 13.4 % drink more than 3 L per day, but even 36.3 % drink only 0.5–1 L per day. The largest differences are visible among males and females drinking more than 3 L per day, 30.0 vs. only 9.2 %, respectively.

Among dieting females (Table 2), 72.0 % were of normal weight and 26.0 % overweight, according to their BMI. Their self perception was quite different, and even 44.0 % considered themselves as overweight. The fre-

**TABLE 1**

Nutritional habits of all participating young adults (N = 149), males and females in particular.

Frequency of consumption		all N = 149 %	males n = 30 %	females n = 119 %
meals per day	5 and more	5.4	13.3	3.4
	3–5 a day	32.9	36.7	31.9
	1–3 a day	61.7	50.0	64.7
breakfast	never	3.4	6.7	2.5
	each day	47.0	36.7	49.6
	weekly	49.6	56.7	47.9
dinner	never	4.7	0.0	5.9
	each day	46.3	73.3	39.5
	weekly	49.0	26.7	54.6
fruits	≥ 5 a day	6.0	6.7	5.9
	3–4 a day	14.1	10.0	15.1
	1 a day	21.5	13.3	23.5
fast foods	weekly	58.4	70.0	55.5
	never	14.8	6.7	16.8
	once a day	12.0	13.3	11.8
sweets	weekly	73.2	80.0	71.4
	never	0.7	0.0	0.8
	each day	34.9	23.3	37.8
water	weekly	50.3	60.0	47.9
	monthly	14.1	16.7	13.5
	0.5–1 L	36.3	23.3	39.5
	1.5–2 L	50.3	46.7	51.3
	> 3 L	13.4	30.0	9.2

quency of dieting showed that most of these females dieted less than four times (68.0 %), 22.0 % more than five times and 10.0 % even more than ten times. »Created on my own« and »it was recommended to me« were the answers of females who were dieting, while magazines have been used by 24.0 % of these females. Nevertheless, only 18.0 % said they trusted the recommendations that can be read in magazines. When the persistence in keeping the diet is in question, 54.0 % answered positively. Out of all dieting females, only 14.0 % said they have never gained back lost pounds. Not even one female declared eating 5 or more meals per day, only 28.0 % declared eating 3–5 meals, and even 72.0 % declared eating 1–3 meals per day. 26.0 % of dieting females were physically inactive.

## DISCUSSION

Our findings are in accordance with many others (1, 4, 17); females were less likely than males to be overweight, but more likely to be trying to lose weight (Figure 1) and this has been confirmed many times (1-4, 6, 7, 17). For females, the issue seems to lie in feeling fat to a

TABLE 2

State of nourishment, dieting and lifestyle habits of dieting females (n = 50).

		n	%
BMI	BMI < 18.5	1	2.0
	BMI 18.5–25	36	72.0
	BMI > 25	13	26.0
Self perceived state of nourishment	normal weight	28	56.0
	overweight	22	44.0
	< 4 times	34	68.0
Taking fad diet	> 5 times	11	22.0
	> 10 times	5	10.0
	own creation	21	42.0
Source of restriction diet	by recommendation	21	42.0
	from magazines	12	24.0
Persistence in keeping the diet	yes	27	54.0
	no	23	46.0
	never	7	14.0
Have you gained back lost pounds?	< 1 month	16	32.0
	1–6 months	16	32.0
	> 6 months	11	22.0
Trust in recommendations read in magazines	yes	9	18.0
	no	41	82.0
	5 and more	0	0.0
Meals per day	3–5 a day	14	28.0
	1–3 a day	36	72.0
Practicing any form of physical activity	yes	37	74.0
	no	13	26.0

greater extent than being fat (2). On the other hand, results are in accordance to findings that males fail to perceive their real state of nourishment (Figure 1) and the need to lose weight (21).

As observed in other studies (17–19), our study confirmed that eating habits were unfavorable. Meal skipping is a very common practice (7, 8, 19); gender comparison shows that males in higher percentage had 5 meals or more than females (Table 1). Like in other studies (8, 16, 22), we found that females had breakfast more often than males (Table 1).

These results bring to attention an interesting observation; although males tend to skip breakfast more often they still eat 5 or more meals per day. The question is posed by itself: when do they eat all these meals if we consider that they have lectures until the afternoon? Probably during late afternoon and evening, but that is something we did not analyze in depth. Females tend to skip dinner, while on the other hand, males are less prone to that and even 73.3 % have dinner each day. The consumption of fruits is higher in females (Table 1), which is in accordance with the findings of other authors (16, 17,

22). When genders are observed, males in much smaller percentage give up fast foods than females (Table 1) who are willing to give up »fatty« foods for the price of lower weight (2, 4, 19, 22). Things are different when sweets consumption is observed; females tend to eat sweets each day in higher percentage (Table 1). Females do not tend to give them up so easily, even if weight management is in question, because sweets are considered as rewarding food, as giving pleasant, fulfilling effect (6). Women show tendency towards restrained and emotional eating, show higher sensitivity, and react in dependence on mood (3, 5, 23).

Females are much more sensitive and diet more often than males (15) so we analyzed these 50 dieting females separately (Table 2).

Their state of nourishment and self perception is quite different (Table 2), and this is the evidence of over sensitive nature and susceptibility to social comparison, other people's opinion and personal dissatisfaction (4–6, 8, 11, 15, 23). It is devastating information because it opens up the doors to a wide variety of eating disorders (self-starvation, vomiting, binge eating, etc.) to which they succumb failing to fight them (2, 4, 10, 12, 16, 24). Frequency of dieting showed that most of these females dieted less than four times (Table 2), and some of them even more than ten times. This is of great concern if their age is considered. They had been dieting before, and they are quite young (mean age 20.2 yrs); and, since dieting has been considered as a risk factor for the development of eating disorders, this behaviour deserves attention (8). As sources of diets, females stated their »own creation« and »by recommendation«, and, in lower percentage, magazines. It would be interesting to analyze in depth if the diets that were modified (created on their own) or recommended had firstly been seen in magazines or on the internet to verify the real true impact of media on female's body image perception. This huge influence that magazines and all other media have has been proven before (5, 24) and is related to unhealthy weight control behaviors, such as fasting and vomiting. Besides that, influence of peers is obvious because a large number of them said they trusted recommendation of other persons, usually their friends. It has been proven that the weight control practices that were observed or used by others are more likely to be tried (5). In spite of that, only a small number of dieting females said that they trusted recommendations from magazines. This is probably due to disappointment, especially if they tried dieting many times unsuccessfully. When the persistence in keeping the diet is in question, almost half of them admitted to not being persistent (Table 2). This can be explained by lack of motivation after prolonged period of dieting. Weight loss is less obvious and they lose interest, get back to their old nutrition habits, or even accept unfavorable nutrition habits. Out of all dieting females, only 14.0 % said they have never gained back the lost pounds. This is evidence why people in general lose interest and motivation; after the period of dieting, weight maintenance period for most of them brings weight gain (3, 7, 9, 14, 16, 23).

Again it was confirmed that dieters tend to eat fewer meals per day than those who did not diet (1, 16, 17). Relation between physical activity and weight loss is well known, yet 26.0 % of dieting females did not practice any form of physical activity. They tried many different diets desiring fast results in quite a short time and, since being physically active requires persistence, discipline and commitment, they gave up before even started.

## Limitations

A number of limitations should be taken into account when observing the results. This study was at first thought out as a preliminary observational study which would be broadened, but the results we obtained motivated us to see if this was worth of broad in depth analysis. The results are relevant for the Faculty of Food Technology, but cannot be generalized for the whole university student population. A larger number of males should be included since we did not have the opportunity to analyse them separately on their dieting habits, which is in obvious rise. The same questionnaire should be used on a much larger student population and then at an even larger population level as the influence of media on dieting trends is of great public health concern.

*Acknowledgments: The study was conducted as a part of scientific project »Nutrition and lifestyle in health protection«, financed by the Ministry of Science, Education and Sports of Croatia. No other sources of financing were available used.*

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