

# Attitude to health as an indicator of basic needs satisfaction among overweight female teachers

*Albina Minakhmetova*<sup>1</sup>, *Ekaterina Pyanova*<sup>1</sup>, and *Victoria Martynova*<sup>2</sup>

<sup>1</sup> Yelabuga Institute of Kazan (Volga Region) Federal University, Yelabuga, Russian Federation

<sup>2</sup> Kuban State University of Physical Education, Sport and Tourism, Krasnodar, Russian Federation.

**Abstract.** In modern conditions, the study of self-attitude and attitude to health among middle-aged overweight women is relevant in practical terms, since it is an important condition for full psychological health. This paper aims to study attitude to health as an indicator of basic needs satisfaction among overweight teachers. Body mass index, attitude to health, and satisfaction of needs were taken as the major parameters for the analysis of empirical materials. The study involved fifty female teachers aged from 31 to 34. It was revealed that the system-forming component of overweight women is “the need for safety”. The research results can be used by psychologists and fitness instructors in the development of correctional approaches, educational programs on a healthy lifestyle, training sessions, weight management programs, as well as during the consulting of female teachers.

## 1 Introduction

Female beauty standards dominating in modern culture, according to which a thin figure is considered ideal, cause a feeling of inadequacy in most women, who are more or less prone to put on weight. This is largely facilitated by the media, which not only promotes slimness and various methods of losing weight but also uses women as an object of advertising much more often. This emphasizes the higher importance of appearance in the hierarchy of values among women, especially those of a “man-to-man” job group [1]. Facebook and Instagram, promoting the ideal image of beauty and physical body, significantly affect a person’s self-consciousness [2]. With an increase in the number of overweight and obese people, the issues of body size and lifestyle are increasingly attracting attention in the health sector. Since this problem is difficult to hide from others, excess weight leads to a significant psychological risk due to the negative attitudes towards overweight people in society. Obese people often face discrimination at work, in educational and medical institutions. Teachers represent one of the most important, large and growing sectors of the workforce in many countries around the world [3, 4]. Female teachers’ overloaded work schedule, insufficient physical activity, increased stress, poor nutrition affect psychological and physical health, which necessitates the study of these factors, as well as psychological and medical education.

Nowadays, the value of social success, the importance of appearance, both for men and women, is gaining special significance. There is evidence that overweight people (especially women) experience discrimination both at school and in the workplace, earn

less than those with the same intelligence level and qualifications, but, fortunately, being of normal weight [5]. Recently, there has also been an increase in the number of works devoted to the study of borderline mental illnesses with eating disorders [6-8].

Slight changes in the state of mind are reflected in the external body ego signals, which are posture, gait, gestures, facial expressions. The way of taking care of the body shows inner harmony or conflicts, i.e. the prevailing background of a person's state of mind [9, 10]. Bodily sensations, feelings of comfort or discomfort signal the well-being or ill-being of the whole organism.

Every second connection of the inner self with the external environment is carried out through the body. Through bodily sensations, a person receives primary signals of the harmful and beneficial effects of the environment. One can certainly state that vital external impressions come through the body. The body is a valuable mediator between the psychic world and physical reality. State of health and self-satisfaction largely depend on the effectiveness of this connection [11-13]. Attitude to the body shows how harmonious a person is.

This work aims to study the attitude to health as an indicator of basic needs satisfaction among overweight teachers. The problem of obesity was mainly studied for medical purposes using psychodiagnostic methods in combination with psychophysiological methods or in addition to clinical observations [14-17]. Therefore, the possibilities of mathematical methods when interpreting the data of psychological studies, as well as the possibilities of a comparative approach, in particular, a comparative analysis of the psychological characteristics of women who are (are not) worried about the problem of overweight in the absence of mental pathology, have not been sufficiently used. The methodology for studying the general psychological state of women with excess weight and normal body mass index (BMI), presented in this article, makes it possible to comprehend and correctly adjust the process of correcting the weight of female teachers.

## 2 Materials and Methods

To obtain the empirical material, the authors used a battery of tests, which includes: 1) a methodology "Study of teachers' satisfaction with their profession and work" (N.V. Zhurin, E.P. Ilyin) [18], which reveals the degree of teachers' satisfaction with their profession and work; 2) a test "Attitude to health" (Berezovskaya A.R.) [19], which makes it possible to determine the system of individual, selective links of a person with the phenomena of the surrounding reality, contributing or, on the contrary, threatening a person's health, as well as determining the assessment of his physical and mental state; The test includes answers to ten questions, one of which involves an open answer ("What is health?"). All test questions are distributed between four blocks (scales): cognitive, emotional, behavioral or value-motivational ones; 3) a test "Diagnostics of the degree of basic needs satisfaction" was used to identify a range of women's satisfied and unsatisfied needs (material, social needs, needs for social recognition, safety, self-expression).

The research methodology included the following stages: 1) selection of respondents based on their profession (teacher), questionnaire on satisfaction/dissatisfaction with the profession and work, calculation of the body mass index (BMI); 2) obtaining quantitative data using the tests "Attitude to health", "Diagnostics of the degree of basic needs satisfaction", 3) processing of the obtained indicators; 4) data interpretation; 5) formulation of the main conclusions of the comparative-correlation study.

These stages are the first step in the study of overweight female teachers. In this article, the authors provide only the results of a correlation analysis, without interrupting work with overweight female teachers.

The main criteria for selecting respondents to participate in the study were the following: a teacher’s satisfaction/dissatisfaction with the profession and work, calculation of body mass index, which makes it possible to find out a predetermined range, where a woman’s weight currently is: deficiency, normal weight or obesity. BMI is calculated using a formula that involves the initial values of height in meters and weight in kilograms,  $BMI = \text{weight in kilograms} / (\text{height in meters})^2$ .

Testing is the major method for studying this problem. The testing purpose is to examine the attitude to health, satisfaction of needs of a respondent. The diagnostic results were submitted to a thorough qualitative analysis: 128 answer sheets were processed.

The study involved female teachers living in urban areas with a population over 533 thousand people. All study participants received reliable data on the purposes, timing, and stages of the study. To take part in the study, all respondents gave their voluntary written consent and consent to the publication of BMI and diagnostic data within the scope of this study. Data collection lasted 9 months. This is explained by the fact that the tests were presented in stages, since there was an orientation towards obtaining high reliable results. In this regard, women’s BMI was monitored every month. All results were recorded on checklists with the date of BMI calculation. As a result, only 50 people continued to participate in the study, while the initial number of volunteers was 128. The reasons for a decrease in the number of the participants included voluntary refusal to participate in the study, pregnancy, changes in BMI, and other reasons.

### 2.1 Experimental research base

The study involved 50 overweight female teachers with the body mass index from 27.0 to 29.5 kg/m<sup>2</sup>, i.e. a group of women with excess BMI but not included in the obesity group. The age range of the respondents was 31-34 years. Respondents worked with one test for an average of 47 minutes.

The data obtained as a result of the experimental work were mathematically and statistically processed (Pearson correlation:  $r=0.21, p \leq 0.05$ ;  $r=0.27, p \leq 0.05$ ). Statistical calculations were performed using Microsoft Excel and SPSS Statistics software package for unified tabular data processing. The calculations were based on the average values and the percentage of the studied phenomena.

## 3 Results

When analyzing the research results, the issues related to the value-motivational block were initially considered.

The results of studying women’s values are presented in Table 1.

**Table 1.** Results of studying women’s values using the test “Attitude to health”

	1	2	3	4	5	6	7
Women with weight problems	5.2	5.4	4.5	5.9	4.5	4.1	4.1
Rank	5	6	3.5	7	3.5	1.5	1.5

Note: 1 – happy family life; 2 – material well-being; 3 – loyal friends; 4 – health; 5 – interesting work; 6 – recognition and respect from others; 7 – independence.

Health is the most important value for the respondents (5.9 points). Any woman, regardless of how she feels about her body, takes care of her health, because beauty is first and foremost health.

The next value for women is material well-being (5.4 points). This can be explained by the fact that, in many cases, it is possible for a person to cope with body imperfections only if he/she is well off.

The third important sphere of activity is happy family life (5.2 points). Interesting work occupies the fourth place (4.5 points). Thus, an overweight woman is in greater need of social contacts, since she needs support from others to feel needed.

Overweight women equally value independence (4.1 points), recognition and respect from others (4.1 points). Thus, it can be concluded that social interaction is more important for an overweight woman, which is confirmed by the assignment of high ranks to the values related to communication.

Table 2 presents the studied components necessary to achieve success in women using the "Attitude to Health" test. Analyzing the results, it can be concluded that 28% of women who consider their weight problematic, highlight perseverance and hard work as the main thing in achieving success. 8% respondents choose health as the main way of striving for achievement. Perhaps, the fact that health is not the main way to success leads to weight problems, as it is somewhat neglected.

**Table 2.** Results of studying the components necessary to achieve success among women using the test "Attitude to health" (%)

	1	2	3	4	5	6	7
Women with weight problems	12	4	20	12	8	28	20

Note: 1 – good education, 2 – material wealth, 3 – skills, 4 – luck, 5 – health, 6 – perseverance, hard work, 7 – quality of contacts (support from friends, acquaintances).

For 12% of the respondents, good education is the main thing in achieving the goal.

It should be noted that 4% of women with weight problems consider it necessary to have material wealth in order to achieve success in life. 20% of women rely on their skills and contacts to achieve the desired results. 12% of women consider luck necessary to achieve success.

The results obtained made it possible to identify factors that interfere with taking care of health. Three important components can be distinguished: the lack of conditions (20%), having more important things to do (20%) and the unwillingness to limit oneself in anything (20%).

For women, "nobody to go with" is not a barrier to health-related success. 12% of women sometimes do not find time to take care of their health, 4% of women do not know what it takes.

Further, the respondents were asked to write what it means to be healthy. Among the answers of women, the following ones were recorded (answers are given in descending order): health is life; wellness and good mood; proper body functioning; what money cannot buy; harmony of soul and body; lifestyle and nutrition.

To receive basic information, they choose consultations with specialists as a source of information about health issues (24%); media (4%), conversations with friends (36%), etc.

Among the key factors influencing the occurrence of weight problems, women identified the following aspects: eating habits (36%); lifestyle (28%); bad habits (12%); insufficient care of one's own health (12%).

The results of women's sense of self upon an increase/decrease in body weight are presented in Table 3.

**Table 3.** Results of studying the sense of self upon an increase/decrease in body weight in women (%)

	1	2	3	4	5	6	7	8	9	10

Women with weight problems	0	12	32	4	28	0	8	8	8	0
----------------------------	---	----	----	---	----	---	---	---	---	---

Note: 1 – I am calm, 2 – I feel regret, 3 – I am anxious, 4 – I feel guilty, 5 – I am upset, 6 – I am scared, 7 – I am annoyed, 8 – I feel depressed, 9 – I am anxious and very nervous, 10 – I am ashamed.

The results for women’s sense of self show that when an overweight woman puts on (loses) weight due to some circumstances, she feels anxious. This is the opinion of 32% of the respondents. These women least of all feel guilty (4%) and do not tend to be calm, scared and ashamed.

12% of the women feel regret when body weight changes. 8% of them feel depressed and anxious. In this state, women get nervous, which cannot but affect their relationships with others.

When asked “Are you doing anything to maintain the body weight you want?” women answered that attend sports clubs (32%), avoid bad habits (24%).

When asked “What will you do if you feel unwell?” women chose to take independent measures using personal experience.

The obtained results of “Diagnostics of the degree of basic needs satisfaction” (Table 4) indicate that women have unmet material needs (22.7%), safety needs (20.64%), social needs (19.5%).

**Table 4.** Overall results of the degree of basic needs satisfaction in women (%)

	Material needs	Safety needs	Social needs	Social recognition	Self-expression
Women with weight problems	22.7	20.64	19.5	17.5	24.3

Consequently, an overweight woman is more committed to material needs, safety need and has a greater need in interpersonal contacts [20, 21].

Further research is aimed at determining the relationship between the scales of diagnostic tools using Pearson’s correlation analysis. When analyzing correlations, the critical values  $r=0.21, p\leq 0.05$ ;  $r=0.27, p\leq 0.05$  were taken into account.

The performed correlation analysis showed that the safety need is a system-forming component in the results of the study of women. The following correlations were found: the safety need and health in the individual hierarchy of values ( $r=-0.29$ ); interesting work in the individual hierarchy of values ( $r=-0.28$ ). The obtained connections show that the safety need is not satisfied, although health (5.9 points) and work (4.5 points) occupy a central and fundamental position in the hierarchy of overweight women’s values. Satisfaction of material needs contributes to health care ( $r=0.29$ ), but does not give independence ( $r=-0.32$ ). Dissatisfaction with the needs of a lower level – material needs ( $r=-0.50$ ), safety need ( $r=-0.33$ ), does not allow satisfying the needs of a higher level, such as the need for social recognition and self-expression.

## 4 Discussion

The results obtained show that a woman who feels discomfort in weight is satisfied with her family life, health and material well-being. These women have loyal friends, appreciate their work, but do not feel recognition and respect from others and their independence, but rely on their own strength, not on good luck. Instrumental values are compensatory in

nature, the respondents choose what they lack. Overweight women lack perseverance and hard work, as well as the support of friends and acquaintances to take care of their health.

For overweight female teachers, the value of health is central in the individual value hierarchy. The achievement of “health” requires perseverance and hard work. Comparison of individual answers to the question of a diagnostic psychologist showed the predominance of instrumental values among the respondents of this group and the formation of a consumer attitude toward their health. Among the reasons for insufficient health care, the respondents identified the lack of conditions, having more important things to do and the unwillingness to limit themselves in anything, as well as the lack of perseverance and hard work. Overweight women do not take responsibility for their health. They are anxious, fearful, insecure, and often lazy.

The analysis of the cognitive questions showed that women distinguish features related to both physical and mental health as the essential health characteristics. Consultations with specialists and doctors are important for women with normal BMI in the awareness of health issues, whereas overweight women consult with friends and acquaintances in matters of health maintenance. The respondents are quite well aware of the factors that influence human health. However, weight women pay more attention to their health, as they are interested in the influence of ecology on a person’s state of health.

Women do not use such methods as cold water treatment, visiting a bathhouse and consulting a doctor for preventive purposes. Overweight respondents do not follow a sleep and rest regimen to maintain their weight. Respondents do not practice various health systems.

The analysis of the questions included in the behavioral block shows that they are focused on independent measures in case of health deterioration.

These conclusions indicate that the safety need is a system-forming component in the results of the study of overweight female teachers.

## **5 Conclusion**

This study examined the features of the psychological sense of self in middle-aged female teachers with excess and normal weight. For this purpose, the results of studying 50 overweight female teachers are presented. The results obtained made it possible to determine several specific features of the psychological sense of self in women with a BMI above normal.

The data obtained makes it possible to develop corrective approaches, training courses on women’s health issues related to weight problems and will also help to improve the process of consulting women, taking into account the specifics of their professional activity.

Prospects for the study of overweight women include the study of changes in indicators towards the normal value [23] under the influence of training in a fitness club with an instructor, consultations with a nutritionist and sessions with a psychologist over a period of time. The second phase of this research involves training with a trainer. The training program will include circuit training, since the study involves newcomers, i.e. women visiting the gym for the first time, their body is not yet prepared for training with the separation of muscle groups; the brain is not able to use the necessary neural connections to engage certain muscles in workouts. Sessions should be carried out twice a week in a fitness club, once a week with a psychologist (psychological education), and every three months with a nutritionist once (health education, interventional measures). The duration of one session with a trainer and a psychologist is 60 minutes.

Sport exercises’ effectiveness is a proven and well-known fact, but the number of people who exercise is still small.

## References

1. J. Fardoulya, R.T. Pinkus, L.R.Lenny. Vartaniana *The impact of appearance comparisons made through social media traditional media, and in person in women's everyday live*. *Body Image* 20 (2017) 31–39. DOI: 10.1016/j.bodyim.2016.11.002.
2. M. Sherlock, D. L. Wagstaff. *Exploring the relationship between frequency of Instagram use, exposure to idealized images, and psychological well-being in women*. *Psychology of Popular Media Culture*, 8(4), 482–490 (2019). DOI: 10.1037/ppm0000182.
3. S. Jane Monica, S. John, R. Madhanagopal. Risk of Obesity Among Female School Teachers and its Associated Health Problems. *Current Research in Nutrition and Food Science Journal* 6(2):404-411(2018). DOI: <http://dx.doi.org/10.12944/CRNFSJ.6.2.15>.
4. S. E. Jackson, A. Steptoe, R. J. Beeken, M. Kivimaki, J. Wardle. Psychological Changes following Weight Loss in Overweight and Obese Adults: A Prospective Cohort Study. August 6, (2014). DOI: [org/10.1371/journal.pone.0104552](https://doi.org/10.1371/journal.pone.0104552).
5. J. Tyrrell, S.E Jones, R. Beaumont, C. M. Astley, R. Lovell, H. Yaghootkar, M. Tuke, K.S. Ruth, R.M. Freathy, J.N. Hirschhorn, A.R. Wood, A. Murray, M. N. Weedon, T. M. Frayling. *Height, body mass index, and socioeconomic status: mendelian randomisation study in UK Biobank*. *BMJ*; 352 (2016) DOI: [org/10.1136/bmj.i582](https://doi.org/10.1136/bmj.i582).
6. B. Mulders-Jones, D. Mitchison, F. Girosi, P. Hay. Socioeconomic Correlates of Eating Disorder Symptoms in an Australian Population-Based Sample. *PLoS One.*; 12(1): e0170603. DOI: 10.1371/journal.pone.0170603 (2017).
7. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders: DSM-5 (5th ed.)*. Arlington: American Psychiatric Publishing Inc. (2013).
8. M. Khosravi. Eating disorders among patients with borderline personality disorder: understanding the prevalence and psychopathology. *Journal of Eating Disorders* volume 8, Article number: 38 (2020).
9. F.U. Jung, C. Luck-Sikorski Overweight and Lonely. A Representative Study on Loneliness in Obese People and Its Determinants. 12:440–447. Vol.12, No. 4. (2019) DOI: [org/10.1159/00050009](https://doi.org/10.1159/00050009).
10. C. Duarte, M. Matos, R. J. Stubbs, C. Gale, L. Morris, P. Gouveia, P. Gilbert. The Impact of Shame, Self-Criticism and Social Rank on Eating Behaviours in Overweight and Obese Women Participating in a Weight Management Program. (2017) DOI: [org/10.1371/journal.pone.0167571](https://doi.org/10.1371/journal.pone.0167571).
11. A.-S. Sand, N. Emaus, O. Lian. Overweight and obesity in young adult women: A matter of health or appearance? The Tromsø study: Fit futures. *Int J Qual Stud Health Well-being*; 10 (2015). DOI: 10.3402/qhw.v10.29026.
12. Kashef N. Zayed, Md. D. Ahmed, R. L. Van Niekerk, W.K. Yan Ho. The mediating role of exercise behaviour on satisfaction with life, mental well-being and BMI among university employees. 1430716, 22 Jan (2018).
13. D. Lemes, S Gonçalves Câmara, G. Guimarães A. Body image satisfaction and subjective wellbeing among ninth-grade students attending state schools in Canoas, Brazil, *Ciência&SaúdeColetiva*, 23(12):4289-4298 (2018). DOI: 10.1590/1413-812320182312.14742016.
14. D.B. Sarwer, H.M. Polonsky, The Psychosocial Burden of Obesity. *Endocrinol Metab Clin North Am*. 2016 Sep; 45(3): 677–688. doi: 10.1016/j.ecl.2016.04.016.
15. P. Agrawal, K. Gupta, V. Mishra, S. Agrawal. The Psychosocial Factors Related to Obesity: A Study Among Overweight, Obese, and Morbidly Obese Women in India. *Women Health*. (2015) Aug 18; 55(6): 623–645, DOI: 10.1080/03630242.2015.1039180.

16. M. Rasmussen, M. Trab Damsgaard, C. Schmidt Morgen, L. Kierkegaard, M. Toftager, S. Vork Rosenwein, R. Fredenslund Krølner, P. Due, B. Holstein. Trends in social inequality in overweight and obesity among adolescents in Denmark 1998–2018, *International Journal of Public Health* volume 65, pages 607–616 (2020).

17. K. D. Hall, S. Kahan, Maintenance of lost weight and long-term management of obesity. 102(1): 183–197 (2018). DOI: 10.1016/j.mcna.2017.08.012.

18. E. P. Ilyin Motivation and motives. St. Petersburg: Peter. pp.466-467 (2002)

19. R. A. Berezovskaya, G. S. Nikiforov Attitude to health. *Psychology of Health*. SPb. pp. 275-291 (2003)

20. K. Joseph Okop, F. C. Mukumbang, T. Mathole, N. Levitt, T. Puoane. Perceptions of body size, obesity threat and the willingness to lose weight among black South African adults: a qualitative study. *BMC Public Health* volume 16, Article number: 365 (2016).

21. T. van der Merwe. Psychological correlates of obesity in women. *International Journal of Obesity* 31 Suppl 2: S14-8; discussion S31-2. DOI: 10.1038/sj.ijo.0803731 (2007).

22. S. Shahyad, S. Pakdaman, O. Shokri. Prediction of body Image dissatisfaction from self-esteem, thin-ideal internalization and appearance-related social Comparison. *Int Travel Med Glob Health*. (2015); 3(2):65-9. DOI: 10.20286/ijtmgh-030299 (2015).

23. Jackson SE, Steptoe A, Beeken RJ, Kivimaki M, Wardle J. Psychological changes following weight loss in overweight and obese adults: a prospective cohort study. *PLoS One*. 2014 Aug 6;9(8):e104552. doi: 10.1371/journal.pone.0104552.