

CONCISE SCALE OF EATING ATTITUDES: TOOL DEVELOPMENT, INTERNAL STRUCTURE, PSYCHOMETRIC PROPERTIES, AND APPLICATION

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Abstract: *The article presents the procedure for the construction of the Concise Scale of Eating Attitudes, which is intended for the study of attitudes towards nutrition in the social sciences. This novel tool is the result of research work on diagnosing eating attitudes, the source of which is an individual's world view. The six-component structure of the scale was verified using confirmatory factor analysis (RMSEA = 0.059; CMIN/DF = 1.629; CFI = 0.929). Internal reliability of sub-scales was tested by calculating Cronbach's Alpha coefficients: Factor 1 (anorectic attitude) - $\alpha = 0.779$; Factor 2 (religious attitude) - $\alpha = 0.844$; Factor 3 (vegetarian attitude) - $\alpha = 0.890$; Factor 4 (hedonistic attitude) - $\alpha = 0.654$; Factor 5 (orthorectic attitude) - $\alpha = 0.655$; Factor 6 (experimental attitude) - $\alpha = 0.842$. The result is a concise scale made up of six factors built using a total of 16 items. Criterion relevance was established on the basis of correlation with other tools measuring similar structures, including the Three-Factor Eating Questionnaire (Polish adaptation of TFEQ-13), the Eating Behaviour Questionnaire (KZZJ), the Eating Preoccupation Scale (SZJ), and the Diet Self-Efficacy Scale (Polish adaptation of DIET-SE). Satisfactory psychometric properties were obtained based on a study involving 184 adults aged 18-35 years.*

Keywords: *nutrition; food choice; healthy eating; nutritional education*

Introduction

Over the last decade, there has been a significant increase in interest in examining nutrition and eating issues from a social science perspective. The psychology of nutrition (Ogden, 2010), sociology of nutrition (Germov and Williams, 2017), psychodietetics (Jaworski 2016, de Vet et al., 2013), and nutritional education (Contento, 2010; Shepherd and Raats, 2006; Amahmid et al., 2020) are some of the key areas linking nutritional and food science with psychology, sociology, or pedagogy. So far, few studies have used proven tools to measure diet in the context of social sciences. The search for new opportunities to build reliable scientific knowledge in this area is very important from the point of view of promoting healthy eating and implementing health education.

Theoretical and methodological basis for building the Concise Scale of Eating Attitudes

The Concise Scale of Eating Attitudes (SSPŻ) was created on the basis of an extended version of the tool used to study attitudes towards one's own diet (attitude towards oneself) and the diet of others (attitude towards people) (Buczak, 2018, 128-141). The experimental version of the Eating Attitudes Scale (SPŻ) was built on the basis of a theoretical model, assuming that the source of healthy attitudes and behaviours is part of an individual's world view (Kagee and Dixon, 2000). Eating attitudes may be based on religious, hedonistic consumption, or vegetarian and ecological world views, as well as those related to healthy lifestyle trends (also known as the ideology of healthism), readiness to experiment with diets (also known as nutritionism), or the pursuit of

maintaining a slim figure through reduction diets (Buczak, 2018: 110-117).

Each individual typically presents a personal world view with a specific system of attitudes towards different objects, which may occur in different intensities. For example, a person who declares his or her attachment to a religion is likely to have a positive attitude towards religious practices such as praying, participating in services, and observing rules related to food. At the same time, religiousness is associated with paying attention to a healthy diet (for example, respect for health is inscribed in the commandment “thou shalt not kill”), as well as feasting on the occasion of religious holidays (Berkman 2004; Mariański, 2004). Attitudes towards nutrition are not mutually exclusive - a religious attitude may correlate with orthorectic and hedonistic ones.

The questionnaire used to build the SSPZ is based on a psychological attitude theory. Accord-

ing to the lenticular attitude model (Wojciszke, 2002: 182), factors such as beliefs, emotions, and behaviours play a role in explaining eating habits (Macht, 2005: 304). Each sub-scale is made up of statements explaining the respondents’ dietary habits in terms of beliefs about nutrition, emotions accompanying eating behaviour, or those resulting from eating and other relatively persistent eating behaviours.

After factorial and discriminatory analyses, the original version of the tool consisted of 104 items. Although the SPŻ had obtained satisfactory psychometric properties, it is a lengthy survey that can be quite cumbersome for the respondents. Hence, the decision was made to reduce the number of items and to exclude sub-scales from studies related to attitudes towards the diet of others. Therefore, the SSPŻ was developed as a tool aimed at studying attitudes towards one’s own diet.

Table 1. *Internal structure of the Concise Scale of Eating Attitudes*

FACTORS	ITEMS	Item No.
Factor 1 (ANO)	I am on a diet	i 1
	I must control my weight	i 5
	I am satisfied with the effects of weight loss	i 16
Factor 2 (REL)	I am satisfied with religious fasting	i 4
	I always follow the religious orders concerning eating	i 6
	As a Catholic, I should avoid eating meat every Friday	i 10
Factor 3 (VEGE)	There are no meat products on my menu out of respect for animals	i 7
	I avoid eating meat - I am a vegetarian	i 12
	I am convinced that by limiting animal products in our diet we can contribute to improving health and protecting the environment	i 15
Factor 4 (HEDO)	I happen to eat without moderation	i 3
	Eating is a source of pleasure for me	i 14
	Eating alone is more important to me than the effects of overeating	i 17
Factor 5 (ORTO)	I buy organic and healthy products	i 8
	I am satisfied with a healthy diet	i 9
	I believe that the most important thing for maintaining good health is to eat properly	i 13
Factor 6 (EKSP)	I believe that a diversified diet will give me a long life	i 2
	I enjoy my culinary experiments	i 11
	I am looking for inspiration to prepare and try new dishes	i 18

ANO, anorectic attitude; EKSP, experimental attitude; HEDO, hedonistic attitude; ORTO, orthorectic attitude; REL, religious attitude; VEGE, vegetarian attitude

Internal structure of the Concise Scale of Eating Attitudes

In accordance with the theoretical model, the questionnaire structure was maintained and consisted of six sub-scales, which are described by statements related to six different eating habits. Each sub-scale is made up of three items that explain diets in terms of beliefs, emotions, or eating habits. The main criterion used for the selection of items included in the sub-scale of the new version of the tool (the SSPŽ) was, on the one hand, a comprehensive explanation of attitudes towards nutrition (related to the cognitive, emotional, and behavioural sphere), and on the other hand, the selection of those with the highest factor loads from the sub-scale of the older version of the tool (SPŽ).

Psychometric analysis was carried out using the Concise Scale of Eating Attitudes, which consisted of six factors, each of which included three items to make a total of 18 items (cf. Table 1).

In order to confirm the structure of the analysed scale presented in Table 1, a confirmation analysis was carried out using the AMOS statistical package in SPSS (IBM, Armonk, NY, US). In October 2019, we conducted a study based on data collected from 184 students in different fields of teaching (pedagogy, special pedagogy, modern languages, history) between the ages of 18 and 35 years ($M = 21.73$; $SD = 3.006$). Most of the respondents (112 students) were women. The results of the confirmation factor analysis (CFA "fit model") are presented in Table 2.

Analysis of the data analysed in Table 2 allows for a satisfactory assessment of the model's compliance with the data. The significance level of p for the coefficient χ^2 (CMIN) in the model allowing for the correlation of factors makes it possible to adopt a null hypothesis about the absence of differences between the assumed and the actual model (reconstituted and input matrix). The χ^2 statistic converted to 120 degrees of freedom is 1.629, which confirms that the alignment of the model with the data is good. The fact that this alignment is good is also confirmed by the analysis of the RMSEA factor, which is significantly lower for the model allowing for factor correlations (0.059) compared to the independence model (0.194). The measures relating to the discrepancy of the model tested to analogous measures of the independence model (including the comparative alignment index $CFI = 0.929$) confirm that the model is true. In summary, it is concluded that the CFA makes it possible to satisfactorily assess the reliability of the adopted structure of the sub-scales identified in the SSPŽ tool used to study eating habits.

Reliability of the sub-scales of the Concise Scale of Eating Attitudes

In order to check the reliability of the sub-scales of the analysed tool, the Cronbach's Alpha coefficient was calculated. In addition, we checked the correlation values of each of the questionnaire items with the sub-scales to which they were assigned to, as well as the Cronbach's Alpha coefficient in case of the deletion of items (see Table 3).

Table 2. Indicators for matching the theoretical model to data collected

Discrepancy statistics					
Model	NPAR	CMIN	DF	P	CMIN/DF
Measures relating to the independence model					
Default model	51	195.439	120	<0.001	1.629
Model	NFI	RFI	IFI	TLI	CFI
	Delta1	rho1	Delta2	rho2	
Default model	0.838	0.794	0.931	0.909	0.929
Measures based on population disparity					
Model	RMSEA	LO 90	HI 90		PCLOSE
Default model	0.059	0.043	0.073		0.168
Independence model	0.194	0.184	0.205		0.000

Table 3. Internal consistency of the Concise Scale of Eating Attitudes - coefficients of Cronbach's Alpha reliability and item correlation with the scale

Cronbach's Alpha for the sub-scales	Item No.	Correlation of items with the scale	Cronbach's Alpha after removing an item
Factor 1 (ANO) $\alpha = 0.779$, for 3 items	i 1	0.670	0.665
	i 5	0.556	0.764
	i 16	0.651	0.670
Factor 2 (REL) $\alpha = 0.844$, for 3 items	i 4	0.696	0.797
	i 6	0.690	0.807
	i 16	0.758	0.738
Factor 3 (VEGE) $\alpha = 0.760$, for 3 items	i 7	0.697	0.572
	i 12	0.689	0.596
	i 15	0.456	0.890
Factor 4 (HEDO) $\alpha = 0.654$, for 3 items	i 3	0.495	0.518
	i 14	0.464	0.562
	i 17	0.443	0.587
Factor 5 (ORTO) $\alpha = 0.655$, for 3 items	i 8	0.467	0.557
	i 9	0.568	0.404
	i 13	0.376	0.669
Factor 6 (EKSP) $\alpha = 0.663$, for 3 items	i 2	0.238	0.842
	i 11	0.627	0.339
	i 18	0.606	0.382

On the basis of the analysis of the data in Table 3, it was decided to remove two items (i2 and i15) from the analysed tool, since they had a low correlation with the sub-scale and they significantly reduced the Alpha reliability coefficient. As a result, satisfactory reliability indicators were obtained for the Concise Scale of Eating Attitudes that included a total of 16 items.

Criterion validity of the Concise Scale of Eating Attitudes

The criterion validity of the Concise Scale of Eating Attitudes was established on the basis of correlation with other tools measuring similar structures:

- Eating Behaviour Questionnaire (KZZJ) and its subscales: habitual overeating (KZZJ-NO), emotional overeating (KZZJ-EO), and dietary restrictions (KZZJ-RD);

- Polish adaptation of the Three-Factor Eating Questionnaire-13 (TFEQ-13) and its subscales: cognitive restraint of eating (TFEQ-R), uncontrolled eating (TFEQ-U), and emotional eating (TFEQ-E);
- Polish version of the Diet Self-Efficacy Scale (DIET-SE) and its subscales: high-calorie food DIET-SE (HCF), negative emotional events DIET-SE (NEE), and social factors and internal DIET-SE (SIF);
- Eating Preoccupation Scale (SZJ) and its subscales: preoccupation and concentration on the activities of eating (SZJ-1), providing yourself with pleasure and improving your mood (SZJ-2), feeling compelled to eat and loss of control (SZJ-3).

Based on the assumption that one's diet is largely determined by self-regulatory mechanisms (Obara-Gołębiewska, 2016; Nastaskin and

Fiocco, 2015; Hardcastle, Thøgersen-Ntoumani and Chatzisarantis, 2015; Hall, Chai, Koszewski and Albrecht, 2015; Papies, Stroebe and Aarts, 2008), we developed hypotheses regarding the relationships between the intensity of anorectic (ANO), orthorectic (ORTO), religious (REL), or vegetarian (VEGE) attitudes, as well as the intensity of self-efficacy in diet (DIET-SE). It was assumed that a positive attitude towards weight loss, healthy eating, adherence to religious principles related to food, or taking up vegetarian diets will be related to the resistance of people taking up certain diets and to factors such as high-calorie food (HCF), negative emotional events, and social and internal factors (SIF) (Obara-Gołębiowska and Michałek-Kwiecień, 2018).

At the same time, a significant negative correlation was expected between self-efficiency in following diets and a hedonistic attitude, which is a denial of dietary restrictions. In addition, a statistically significant positive correlation was assumed between anorectic and hedonistic attitudes and the overall indicator of the Eating Behaviour Questionnaire (KZZJ). Ogińska-Bulik (2016, 40-41) suggested that the higher the overall score on the KZZJ, the worse the eating behaviour. At the same time, differences in correlation should also be expected between eating habits and the individual sub-scales of the KZZJ. The anorectic attitude is likely to be associated with the subscale dietary restrictions (RD) and the hedonistic attitude with the subscale habitual overeating (NO) and emotional overeating (EO). Similar correlations can be expected with the subscales of the Three-Factor Eating Questionnaire (Polish adaptation of TFEQ-13) (Dzielska, Mazur, Małkowska-Szcutnik, Nałęcz, 2009). A reduction in food (TFEQ-R) is likely to correlate positively with an anorectic attitude, while lack of control over eating (TFEQ-U) and emotional eating (TFEQ-E) will correlate positively with a hedonistic attitude. Significant relationships were also expected between the hedonistic attitude and the Eating Preoccupation Scale (SZJ), which is used to assess the risk of food dependence and measures compulsive overeating tendencies (Ogińska-Bulik, 2016: 39-41). It should be noted, however, that preoccu-

pation with eating can be associated not only with excessive eating as a result of a loss of control, but also to a desire to improve one's mood or provide pleasure. Preoccupation with and focus on eating activities (SZJ-1) may intensify in the case of orthorectic attitudes, taking the form of focus on a healthy diet, as well as a vegetarian attitude (preoccupation with vegetarian diets), or an experimental attitude (preoccupation with searching for the right/perfect diet) (Brytek-Matera, 2019).

A correlation analysis using Pearson's r-factor was carried out to confirm the relationship between eating attitudes and self-efficacy in dietary compliance, preoccupation with eating, and the results obtained using the Eating Behaviour Questionnaire and the Three-Factor Eating Questionnaire-13.

The assumptions aiming to establish the theoretical accuracy of the subscale corresponding to isolated eating habits were partially confirmed. There is a statistically significant positive correlation between the intensity of *anorectic attitudes* and eating behaviours, expressed by limiting the amount of food being eaten in order to reduce body weight (TFEQ-R: $r = 0.735$; $p < 0.001$), as well as other dietary restrictions (KZZJ-RD: $r = 0.735$; $p < 0.001$). There was no correlation between anorectic attitude and self-efficacy in following a diet (DIET-SE: $r = -0.050$; $p = 0.503$). We observed a statistically significant negative correlation between the anorectic attitudes and the sub-scale of the DIET-SE questionnaire, indicating that social and internal factors play a role in determining the sense of self-efficacy in following diets (DIET-SE(SIF): $r = -0.145$; $p = 0.05$). At the same time, it is worth noting the statistically significant negative correlation between dietary restrictions (KZZJ-RD) and the DIET-SE sub-scale, suggesting a resistance to social and internal factors with respect to self-efficacy in following diets. This means that people who are willing to lose weight and choose a reduced diet resist the temptation to reach for food in situations of tension and conflict in personal, social, and professional contacts, as well as in situations of nervousness, anxiety, tiredness, and so on. There is also a statistically significant positive correlation between anorectic

attitudes and preoccupation with and focus on eating activities (SZJ-1: $r = 0.469$; $p < 0.001$) and eating under the influence of emotions (TFEQ-E: $r = 0.253$; $p = 0.001$).

These results allowed us to conclude that the anorectic attitude does not have to be associated with unjustified weight loss, but results from the conscious problem of eating under the influence of emotions. At the same time, preoccupation with eating and focus on eating activities can accompany not only overeating, but also weight loss. Correlation analysis between the anorectic attitude and the results obtained using tools to diagnose structures related to beliefs, behaviours, and eating attitudes allows us to conclude that the anorectic attitude is highly complex and that it should not be equated with anorexia in a clinical sense. It is difficult to assess this attitude in terms of its pro- vs anti-healthy aspect. It cannot be ruled out that the high intensity of this attitude may lead to eating disorders, while at the same time, it may be an expression of efforts to reduce excessive body weight or an attempt to overcome unwanted eating habits. Such actions do not always have the desired effect and their effectiveness is sometimes limited by the lack of resistance of individuals who lose weight to subjective and social factors that interfere with consistent weight loss. Attention should be paid to the correlation between anorectic, orthorectic, and vegetarian attitudes. This means that individuals seeking to lose weight simultaneously focus on healthy eating and show an interest in a vegetarian diet.

The *religious attitude* showed a statistically significant positive correlation with both the orthorectic ($r = 0.207$; $p = 0.01$) and the experimental attitude ($r = 0.149$; $p = 0.046$). This could indicate that people who declare themselves ready to follow religious principles associated with food are willing to eat in a healthy and varied way. The correlation analysis did not reveal the expected relationship between religious and anorectic attitudes, which would suggest a constraint in eating associated with fasting. Religious fasting and moderation does not necessarily mean a radical reduction in the amount of food. Taking care of one's health and healthy eating can be seen as one

of the manifestations of being religious (cf. Bilek et al., 2014, 40). When analysing correlations of religious attitudes with the Eating Preoccupation Scale, Eating Behaviour Questionnaire, and TFEQ-13, statistically significant positive correlations were observed with sub-scales indicating the emotional nature of the diet (SZJ-2: $r = 0.178$; $p = 0.016$ / KZZJ-EO: $r = 0.160$; $p = 0.025$)/ TFEQ-E: $r = 0.215$; $p = 0.003$). Such dependence may be related to the emotional approach to the everyday life of those involved in religion. Moreover, an integral part of traditional religious festivities is a common feast, which in some way explains the emotional approach to eating. Although there is a noticeable correlation between the religious attitude and the lack of control over eating (TFEQ-U: $r = 0.145$; $p = 0.05$), it is difficult to conclude that this is due to consumerism, as evidenced by the lack of correlation between religious and hedonistic attitudes. It should be noted that there is a significant correlation between negative religious attitudes and self-efficacy when it comes to following diets (DIET-SE: $r = -0.146$; $p = 0.048$). This may suggest a lack of focus on diets in individuals for whom religion and being religious permeates into various areas of everyday life, including matters relating to nutrition.

The *vegetarian attitude* showed a statistically significant correlation to anorectic ($r = 0.170$; $p = 0.025$) and orthorectic ($r = 0.163$; $p = 0.028$) attitudes. Those who take up vegetarian diets, i.e., those who give up on meat and meat products out of respect for animals, show a willingness to reduce body weight and care for a healthy diet. It is worth noting that the vegetarian attitude is statistically significantly correlated with a preoccupation and focus on eating activities (SZJ-1: $r = 0.147$; $p = 0.016$), dietary restrictions (KZZJ-RD: $r = 0.203$; $p = 0.003$) and the overall results of the Eating Behaviour Questionnaire ($r = 0.192$; $p = 0.012$). Considering the fact that the high scores of the Eating Behaviour Questionnaire show unfavourable eating behaviour, it can be assumed that the high intensification of the vegetarian attitude and the practice of radical types of vegetarian diets may have negative consequences on one's health (Ogińska-Bulik, 2016). The vegetarian at-

titude in conjunction with the negative aspects of the orthorectic view, i.e., focusing on eating activities may favour orthorexia, understood as a new eating disorder (cf. Brytek-Matera, 2019; Barrada and Roncero, 2018).

The *hedonistic attitude* showed a statistically significant positive correlation with the experimental attitude ($r = 0.217$; $p = 0.002$), indicating that the pleasure of eating is not only about the quantity, but also about the quality of the food consumed. Culinary experiments and a varied diet can lead to positive emotions, and they can also be a manifestation of a consumer's lifestyle and approach to eating. As expected, the hedonistic attitude showed a positive correlation with eating under the influence of emotions (SZJ-2: $r = 0.710$; $p < 0.001$, KZZJ-EO: $r = 0.423$; $p < 0.001$ and TFEQ-E: $r = 0.316$; $p < 0.001$), as well as with habitual overeating, preoccupation with eating, and compulsion and loss of control (SZJ-3: $r = 0.597$; $p < 0.001$, KZZJ-NO: $r = 0.640$; $p < 0.001$ and subscale TFEQ-U: $r = 0.543$; $p < 0.001$). It should be added that these correlations are highly statistically significant ($p < 0.001$), similar to the statistically significant negative correlations with self-efficacy while following a diet (both the overall score and all three DIET-SE subscales).

The *orthorectic attitude* showed statistically significant correlations with all other eating attitudes, except for the hedonistic one. This means that a healthy diet can be associated with both readiness to lose weight, adherence to religious principles of eating (moderation, periodic fasting), as well as taking up a vegetarian diet, and culinary and dietary experiments. When analysing statistically significant correlations with results obtained using tools for diagnosing eating-related beliefs, attitudes, and behaviours, only statistically significant positive correlations with subscales measuring food restriction (TFEQ- R: $r = 0.173$; $p = 0.047$) and dietary restrictions (KZZJ-RD: $r = 0.216$; $p = 0.003$) were observed. Considering the fact that the significant results obtained using the Eating Behaviour Questionnaire and the Preoccupation with Eating Scale indicate unhealthy dietary behaviours, it can be concluded that the orthorectic attitude meets the criteri-

on of "pro-healthiness". It may seem somewhat surprising that there is no significant correlation between the orthorectic attitude and the sense of self-efficacy while following diets. Individuals who declare this attitude do not show consistency in following a diet, but rather seek the most beneficial diet for themselves. They also tend to experiment, are open to new dietary and culinary experiences, and do not treat healthy eating as a peculiar ideology.

The *experimental attitude* showed a statistically significant correlation with many other eating attitudes: religious, hedonistic, and orthorectic. There were no significant relationships with vegetarian and anorectic attitudes. In addition, it should be noted that the correlation analysis with the results obtained from questionnaires diagnosing selected nutrition-related phenomena did not show statistically significant correlations with the scales measuring dietary behaviours associated with overeating or excessive weight loss. Similarly, there was no statistically significant correlation with the sense of self-efficacy while following a diet. The interdependence of the experimental attitude with other attitudes can be considered as a sign of a balanced diet. People who experiment with diets, those who are open to dietary and culinary novelties, those who consume a healthy and varied diet, and those who show an attachment to the traditional diet based on religious principles of moderation and periodic abstinence from meat products tend to enjoy eating. The lack of correlation between self-efficacy while following a diet and the intensification of experimental eating attitudes can be explained not by focusing on a single diet, but by an intuitive approach to nutrition, critical dietetics, sustainable eating, readiness for varied food, consumer innovation, openness to culinary and dietary novelties, or so-called nutritional neophilia (cf. e.g. Carlsson, Mehta and Pettinger, 2019; Hawks, Merrill and Madanat, 2004; Tylka and Kroon Van Diest, 2013).

Summary and conclusions

The Concise Scale of Eating Attitudes achieved satisfactory psychometric properties. Its factor structure, established on the basis of theo-

retical foundations and research on the construction and parameterisation of the earlier version of the tool, was confirmed by the results of the confirmation analysis. The reliability of the sub-scale was demonstrated on the basis of the analysis of the Cronbach's Alpha coefficient. The theoretical accuracy was established using a correlation analysis with scales measuring similar structures.

The Concise Scale of Eating Attitudes is used to diagnose the structure of attitudes towards adult nutrition. The limitations of the scale is related to the fact that is in not feasible to unequivocally determine whether the attitudes of respondents are pro-healthy or anti-healthy. The attitudes were not distinguishable from each other, so we were only able to diagnose the degree of severity of each of the attitudes and we could not determine the over-

all result. Furthermore, the psychometric properties of the scale have not been tested for school children and seniors.

The analysis of eating attitudes is an important area of research in social pedagogy and health sciences in the broadest sense. In view of the growing interest in the issue of nutrition, an important issue is not only its health aspect, but also its cultural, psychosocial, ecological, economic, and ethical aspects. Eating attitudes, which are based on individual world views, can be diagnosed in the broad social context of prevention, health promotion, education, politics, and the media.

Declaration of interest statement

The author declares no potential conflicts of interest.

REFERENCES

- Amahmid, O., Guamri, Y. E., Rakibi, Y., Mohamed, Y., Bouchra, R., Rassou K., Boukaoui, S., Izerg, O. & Belghyti, D. (2020). Nutrition education in school curriculum: impact on adolescents' attitudes and dietary behaviours. *International Journal of Health Promotion and Education*, 58(5), 242-258. doi:10.1080/14635240.2019.1685399.
- Contento, I.R. (2008). Nutrition education: linking research, theory, and practice. *Asia Pacific Journal of Clinical Nutrition*, 17(1), 176-179.
- Barrada, J.R. & Roncero, M. (2018). Bidimensional structure of the orthorexia: development and initial validation of a new instrument. *Anales de Psicología*, 34 (2), 283–291. doi: 10.6018/analesps.34.2.29967 1.
- Berkman, J.R. (2004). The Consumption of Animals and the Catholic Tradition. *Logos - Journal of Catholic Thought and Culture*, 7(1), 177-193. doi: 10.1353/log.2004.0002.
- Bilek, M., Pasternakiewicz, A. & Typek, J. (2014). *Dietetyka. Wybrane zagadnienia* [Dietetics. Selected Issues]. Rzeszów, Poland: Wydawnictwo Uniwersytetu Rzeszowskiego.
- BrytekMatera, A. (2019). Vegetarian diet and orthorexia nervosa: a review of the literature. *Eating and Weight Disorders - Studies on Anorexia, Bulimia and Obesity* Nov 29 doi: 10.1007/s40519-019-00816-3.
- Buczak, A. (2018). *Postawy żywieniowe studentów kierunków nauczycielskich. Struktura i uwarunkowania* [Nutritional attitudes of students of teaching faculties. Structure and conditions]. Lublin, Poland: Wydawnictwo UMCS.
- Carlsson, L., Mehta, K. & Pettinger, C. (2019). Critical Dietetics and Sustainable Food Systems. In J. Coveney & S. Booth (Eds.), *Critical Dietetics and Critical Nutrition Studies* (Chap. 7). Cham, Switzerland: Springer Nature
- Contento, I. R. (2010). *Nutrition Education: Linking Research, Theory, and Practice*. 2nd ed. Burlington, USA: Jones & Bartlett Learning.
- de Vet, E., de Wit, J.B.F., Luszczynska, A., Stok, F. M., Gaspar, T., Pratt, M., Wardle, J., & de Ridder, D. T. D. (2013). Access to excess: How do adolescents deal with unhealthy foods in their environment? *The European Journal of Public Health*, 23, 752-756. doi: 10.1093/eurpub/cks185.
- Dzielska, A., Mazur, J., Małkowska-Szkutnik, A., & Nałęcz, H. (2009). Adaptacja polskiej wersji kwestionariusza Three-Factor Eating Questionnaire (TFEQ-13) wśród młodzieży szkolnej w badaniach populacyjnych. [Adaptation of the Three-Factor Eating Questionnaire (TFEQ-13) for school-aged adolescents in a population study]. *Problemy Higieniczno – Epidemiologiczne*, 90(3), 362-369.
- Germov, J. & Williams, L. (2017). *A Sociology of Food and Nutrition: The Social Appetite*. Oxford, UK: University Press.
- Hall, E., Chai, W., Koszewski, W., & Albrecht, J. (2015). Development and validation of a social cognitive theory-based survey for elementary nutrition education program. *International Journal of Behavioral Nutrition and Physical Activity*. 12, 47. doi: 10.1186/s12966-015-0206-4.
- Hardcastle, S. J., Thøgersen-Ntoumani, C., & Chatzisarantis, N. (2015). Food Choice and Nutrition: A Social Psychological Perspective. *Nutrients* 7(10), 8712-8715. doi: 10.3390/nu7105424.
- Hawks, S., Merrill, R. M., & Madanat, H. N. (2004). The Intuitive Eating Scale: Development and Preliminary Validation, *American Journal of Health Education*, 35(2), 90-99. doi: 10.1080/19325037.2004.10603615.
- Jaworski, M. (2016). Psychology and Dietetics: Improvement of Cognitive Function in Obesity Using an Appropriate Diet in the Context of Psychodietetics. (Unit 15). In D. M. Martirosyan (Ed.) *Functional Foods for Chronic Diseases*. Functional . San Diego: Food Institute.
- Kagee, A. & Dixon, D.N. (2000). Worldview and Health Promoting Behavior: A Causal Model. *Journal of Behavioral Medicine*, 23(2), 163-79. doi: 10.1023/A:1005465102002.

- Macht, M. (2005). Essen und Emotion [Food and emotion]. *Ernährungs-Umschau* 52(8), 304-308. Available at: https://www.ernaehrungs-umschau.de/fileadmin/ErnaehrungsUmschau/pdfs/pdf_2005/08_2005/EU08_304_308.pdf (accessed 20 December 2021)
- Mariański, J. (2004). *Religijność społeczeństwa polskiego. Próba syntezy socjologicznej* [Religiousness of Polish society. An attempt at a sociological synthesis]. Kraków, Poland: Zakład Wydawniczy Nomos.
- Nastaskin, R.S. & Fiocco, A.J. (2015). A survey of diet self-efficacy and food intake in students with high and low perceived stress. *Nutrition Journal*, 14:42. doi: 10.1186/s12937-015-0026-z.
- Obara-Gołębiowska, M. (2016). Analiza psychologicznych aspektów samoregulacji odżywiania się oraz poczucia skuteczności w przestrzeganiu diety w grupie młodych kobiet w wieku 19-22 lata. [Analysis of the psychological aspects of eating self-regulation and dieting self-efficacy among young women aged 19-22 years] *Journal of Education, Health and Sport*, 6 (12), 543-551. doi: 10.5281/zenodo.213788.
- Obara-Gołębiowska, M. & Michałek-Kwiecień, J. (2018). Polish adaptation and validation of the Dieting Self-Efficacy Scale. *Health Psychology Report*, 6 (2), 183-191. doi: 10.5114/hpr.2018.72044.
- Ogden, J. (2010). *The Psychology of Eating: From Healthy to Disordered Behavior*, 2nd ed. Hoboken: Wiley-Blackwell.
- Ogińska-Bulik, N. (2016). *Wiem, co jem. Psychologia nadmiernego jedzenia i odchudzania się*. [I know what I eat. Psychology of excessive eating and weight loss]. Kraków, Poland: Wydawnictwo Uniwersytetu Jagiellońskiego.
- Papies, E.K., Stroebe, W., & Aarts, H. (2008). Understanding dieting: A social cognitive analysis of hedonic processes in self-regulation. *European Review of Social Psychology*, 19(1), 339–383. doi:10.1080/10463280802563723.
- Shepherd, R. & Raats, M. (Eds.). 2006. *The Psychology of Food Choice. Vol 3 of Frontiers in nutritional science*. Wallingford, Oxfordshire: CABI.
- Tylka, T. L., & Kroon van Diest, A. M. (2013). The Intuitive Eating Scale–2: Item refinement and psychometric evaluation with college women and men. *Journal of Counseling Psychology*, 60(1), 137. doi: 10.1037/a0030893.
- Wojciszke, B. (2002). *Człowiek wśród ludzi. Zarys psychologii społecznej* [Man among people. Outline of social psychology]. Warszawa, Poland: Wydawnictwo Naukowe Scholar.