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Cross-cultural adaptation of the Contextual Body Image Questionnaire for Athletes for young physically active Polish adults

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Abstract

Introduction and Objective. Individuals who are not professional and competitive athletes but who engage in regular (even daily) physical activity may experience a different body image in the context of physical activity compared with that in everyday life. The Contextual Body Image Questionnaire for Athletes (CBIQA) has been developed to assess aspects of body image within these two dimensions, but has not yet been validated in the Polish population. This study aimed to conduct a cross-cultural adaptation of the CBIQA for physically active Polish adults.

Materials and method. The study sample comprised 90 young Polish adults (49 women and 41 men). All respondents regularly participated in recreational sports. The average age of the sample was 21.4 years. All participants engaged in physical activity at least 3 times per week. The average training experience was 8.6 years. A 3-phase study was conducted: 1) translation of the CBIQA for use in a Polish sample, 2) pretesting and cognitive debriefing, and 3) evaluation of the test-retest reliability. The test-retest interval was 7 days. Interclass correlation coefficients were calculated.

Results. The 1-week test- retest results (ICC) ranged from 0.83–0.94 in the daily life subscales and from 0.86–0.95 in the athletic subscales among all participants. The reliability of the CBIQA was high. The alpha value for the internal consistency of the translated and adapted instrument was 0.91. After the translation and cognitive interview, 3 sentences were reworded to adapt the instrument to Polish culture.

Conclusions. The CBIQA exhibited a high tes-retest reliability and good validity for assessing daily and physical activity-related body image in a Polish population.

Key words

translation, test–retest, body satisfaction, physical activity, instrument

INTRODUCTION

Body image refers to an individual's body-related self-perception, especially physical appearance [1], and involves the thoughts, beliefs, feelings, and behaviours an individual has toward his/her body. A discrepancy in the subjective perception of the current and ideal body images (body dissatisfaction) is a marked risk factor for numerous negative outcomes, such as low self-esteem and poor quality of life [2, 3], as well as mental health problems [4], particularly eating disorders [5, 6], among both athletes and non-athletes [7, 8].

Body perception might change in relation to the context in which the body is being considered [9]. One such context is physical activity and sports competition. Studies have shown that the body image of athletes and recreational exercisers differs depending on the type of sport they play [10] and from that of those who are not physically active [8, 11]. The bodies of high-level athletes and physically active non-athletes are closer to the widespread Western ideal of a thin, athletic, and muscular body [9, 12]. Therefore, the body image of athletes and recreational exercisers should be more positive than that of the average man or woman. However, some studies have failed to demonstrate that professional and amateur exercisers have a more positive body image than sedentary individuals [13]. Further, research has even found that elite athletes and non-professional but physically active exercisers were dissatisfied with their body image [14]. Individuals who are not professional and competitive athletes but engage in regular (even daily) physical activity, may also experience a different body image in the context of physical activity compared with that in everyday life [15, 16]. Similar to athletes, they have internalized the ideal of an athletic and slim silhouette that is widespread in media representations of athletes [11]. One study confirmed that physically active women had a worse body image than those who did not exercise [14].

Analyzing this phenomenon, de Bruin et al. [17] found that athletes often experience different body images in relation to daily life and sports. To assess aspects of body image in these two dimensions, the authors developed the Contextual Body Image Questionnaire for Athletes (CBIQA) [17]. The CBIQA consists of 30 questions (items) for evaluating different body image aspects, such as appearance, body shape, muscularity, body weight, and fat percentage, among athletes [17]. These questions form 4 subscales of body image, namely, appearance, muscularity, thin–fat self-evaluation, and thin–fat others' evaluation, in the context of physical activity and daily life. Both contexts are assessed with 15 questions. All questions are scored using a 7-point Likert scale. Subscale scores are obtained by dividing the sum of

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the item scores by the total number of items on the scale. Through a factor analysis of the 15 daily life body image items, de Bruin et al. [17] demonstrated the presence of 4 components with eigenvalues exceeding 1 that explained 79.4% of the total variance. Analysis of athletic body image revealed the presence of 3 components explaining 76.7% of the total variance [17]. The authors reported Cronbach's alpha values for the scales ranging from 0.83–0.95 [17].

The external validity of the CBIQA has been verified [17]. The questionnaire has been found to be positively correlated with the Body Image and Body Change Inventory [18], the Body Areas Subscale of the Multi-dimensional Body-Self Relations Questionnaire [19], and the Somatomorphic Matrix [20]. The validity of the CBIQA has also been confirmed by Stewart et al. [21], who showed that in a sample of 52 high-level female athletes, different body image dimensions relating to either the daily life or sport context, determined eating disorders and negative mood/behaviours. Using the CBIQA, Danckers [22] found that athletes had a different body image in the context of daily life compared with that in sport. Earlier results of de Bruin et al. [17] showed that female athletes perceived themselves in the sport context differently from that in daily life. More research is needed, especially in larger and diverse populations, to better understand body image in the physical activity context.

In Poland, there is a lack of reliable and validated questionnaires assessing body image in the context of physical activity. Thus, the objective of this study was to translate and assess the reliability (test–retest reliability within 1 week) of the CBIQA in physically active Polish adults. The study assumed that the CBIQA would be an accurate and credible tool for measuring daily and physical activity-related body image in Polish adults, and that the reliability indicators would be similar to those obtained in the study by de Bruin et al. [17].

MATERIALS AND METHOD

Study design. A 3-phase study was conducted: 1) translation of the CBIQA for use in a Polish sample, 2) pre-testing and cognitive debriefing, 3) evaluation of the test–retest reliability. All participants were volunteers and were invited to participate in the study through announcements on the website of Poznań University of Physical Education. Written informed consent was obtained from all participants, who also completed an agreement form on the website. The study protocol was approved by the Ethics Committee of Poznań University of Medical Sciences (No. 349/20).

Study sample. The study sample comprised 90 young adults recruited from Poznań University of Physical Education (49 women and 41 men). All respondents regularly participated in recreational sports. Specifically, the sample included 33 dancers, 25 ball sports players, 12 strength athletes, 7 endurance athletes (middle- and long-distance runners), 7 swimmers, 4 martial artists (all men), 1 rower (canoe), and 1 sailor.

The mean age of the sample was [*M*] = 21.4 years (standard deviation [*SD*] = 1.36). Mean height was [*M*] = 173.7 cm (*SD* = 9.34), and mean body weight [*M*] = 68.5 kg (*SD* = 11.93). The mean BMI value in the study group was [*M*] = 22.3 kg/m^2 (*SD* = 2.23). Among women, the mean height and weight were [*M*] = 166.6 cm (*SD* = 5.1) and [*M*] = 59.6 kg (*SD* = 7.17), respectively, and mean BMI [*M*] = 21.1 kg/m^2 (*SD* = 2.24). In the male group, the mean height was [*M*] = 181.5 cm (*SD* = 6.13), mean weight [*M*] = 78.17 kg (*SD* = 7.89), and mean BMI was equal 23.25 kg/m^2 (*SD* = 7.85). All participants engaged in physical activity at least 3 times per week [*M* = 3.9 days/week, *SD* = 1.27). The highest number of training sessions per week was 7 times. The mean training experience of the respondents was [*M*] = 8.6 years (*SD* = 4.9).

Translation and back-translation of the CBIQA. The original version of the CBIQA was translated by 2 independent English translators. The mother tongue of both translators was Polish, and both were Masters of English philology programmes and dealt with translating and teaching English on a daily basis. Subsequently, a preliminary version of the Polish questionnaire was created on the basis of the 2 CBIQA translations obtained. The next step was the retranslation of the scale. The newly-obtained scale was translated back into the original language by 2 translators whose mother tongue was English, but who have lived in Poland for many years and are also fluent in this language. Both translators undertake professional translation work.

The forward- and back-translated questionnaires were reviewed by the study investigators to verify equivalence between the original English and translated Polish versions of the CBIQA, and to finalize the Polish version to be used for testing.

The next stage of the questionnaire validation process was maintenance of the questionnaire's façade equivalence, including the graphics, number and type of questions, form of answers to the questions, and instructions [23].

Pre-testing and cognitive debriefing of the CBIQA. Five Polish-speaking students from Poznań University of Physical Education were recruited and asked to complete the Polish version of the CBIQA. The questionnaire was administered at the same time and with all participants in the classroom. Each participant received the questionnaire and was asked to complete it independently. After completing the CBIQA, each participant had an individual interview with the researcher, during which they answered 6 questions. The following questions were used during cognitive debriefing to probe how each participant had understood and answered the CBIQA items:

1) How easy or difficult was it for you to understand what each question was about?
2) Which question was difficult for you to understand?
3) How easy or difficult was it for you to interpret the response scale?
4) Which answer was difficult for you to understand?
5) Did you understand the instructions for the questionnaire?
6) What did you not understand in the questionnaire instructions?

For questions 1 and 3, the response options were arranged along a 4-point quality-based scale: *very difficult*, *difficult*, *easy*, and *very easy*. The possible answers to question number 5 were as follows: *no*, *I am not sure*, and *yes*. For question 2 and 4, the respondents could select the answer *none*, or write their own sentence in the open field. Question number 6 was partially open-ended, and the respondents could enter their answers themselves or check the answer *I understood everything*.

Evaluation of the test–retest reliability of the CBIQA. To assess the reliability of the adapted CBIQA, the participants were instructed to complete the questionnaire twice, with an interval of 1 week. The test procedures were repeated on the same day of the week and under the same test conditions in the first and second administrations. Interclass correlation coefficients (ICCs) were calculated (2-way mixed models under absolute agreement) using IBM SPSS 20.0. Data were analyzed for internal consistency by means of Cronbach's alpha using Statistica data analysis software version 13.0.

RESULTS

Forward- and back-translations. Small differences were found in syntax and grammar between the forward- and back-translations of the questionnaire. The item 'my body shape' was translated by one of the translators as *Moja sylwetka*, while the other translator interpreted the sentence as *Mój kształt ciała.* Taking into account the cultural context and the type of answer to this question in the questionnaire, the experts and translators decided to use *Moja sylwetka*. For the item *I think the muscularity of my body is…*, the selected translation was *I think my body is…* to account for the answer phrased as *too muscular*. The Polish language avoids the construction of sentences and replies in which a given word is repeated. Therefore, *the muscularity* in the construction *I think the muscularity of my body is e.g., too muscular* was abandoned and replaced with the phrase *my body.*

The last amendment to the questionnaire after translation concerned the term *fat percentage*. In Polish, the literal translation *fat percentage* is rarely used in everyday life. Therefore, it was decided to use the commonly used and understood word *fatness*. Finally, the item *I think my fat percentage is…* was translated as *Myślę, że otłuszczenie mojego ciała jest….* After analyzing all translations of the CBIQA items into Polish, the expert committee accepted the final version of the questionnaire (see Appendix).

In the next step, the questionnaire's façade equivalence was addressed. Following the procedures by de Bruin et al. [17], questions were prepared for the version related to everyday life and physical activities/sports. Both versions were placed on one sheet of paper. To avoid confusion, the scales for everyday life were numbered from 1–4, and employed a similar approach for the scales for physical activities/sports. The following heading was included before the questions regarding everyday life: *The following questions are about everyday life*. At the beginning of the section on physical activities/sports, the following headline was placed: *The following questions relate to the physical activity/sport undertaken*. In the original version, the authors used the phrase *concerning my sport…*; however, to use the questionnaire for both professional athletes and amateurs engaging in regular physical activity, it was decided to utilize the following statement: *The following questions relate to the physical activity/sport undertaken*.

Pretesting and cognitive debriefing of the CBIQA. Among the 5 Polish-speaking respondents, 2 replied *very easy*, and 3 answered *easy* to question No. 1: *How easy or difficult was it for you to understand what each question was about?*. For question No. 2: *Which question was difficult for you to understand?*, all participants selected *none.* The answers to question No. 3: *How easy or difficult was it for you to interpret the response scale?* were more diverse: 1 respondent answered *difficult*; three – *easy*; and 1 – *very easy.* For question No. 4: *Which answer was difficult for you to understand?*, 2 students provided a middle response containing the phrase *neither too… nor too….* The other participants selected *none.* The answers to question No. 5: *Did you understand the instructions of the questionnaire?* and question No. 6: *What did you not understand in the questionnaire instructions?* indicated that all 5 participants understood all instructions in questionnaire.

Test–retest reliability of the CBIQA. The test–retest results of the CBIQA are presented in Table 1. The test–retest reliability after 7 days was high for all daily life body image items among all participants. The Thin–Fat-Self Daily Life ICC was 0.94 ($p < 0.001$); Appearance Daily Life ICC, 0.90 ($p < 0.001$); Thin–Fat-Others Daily Life ICC, 0.88 ($p < 0.001$); and Muscularity Daily Life ICC, 0.83 ($p < 0.001$). The test–retest reliability was also high for the items related to physical activity/athletic body image items. The Thin–Fat-Self Athletic ICC was 0.95 ($p < 0.001$); Thin–Fat-Others Athletic ICC, 0.91 ($p < 0.001$); Muscularity Athletic ICC, 0.91 ($p < 0.001$);

Table 1. Test–retest results for contextual body image, descriptive statistics, and interclass correlations

BODY IMAGE	TEST		RETEST		ICC
	Mean (SD)	*Range*	*Mean (SD)*	*Range*	
ALL PARTICIPANTS (*N* = 90)					
Appearance Daily Life	4.8 (0.9)	2.7–6.3	4.6 (0.8)	2.3–6.3	0.90***
Thin-Fat-Self Daily Life	4.1 (0.7)	2.3–5.7	4.2 (0.7)	2.7–6.0	0.94***
Muscularity Daily Life	3.7 (0.8)	1.3–6.3	3.7 (0.7)	2.0–5.0	0.83***
Thin-Fat-Others Daily Life	3.8 (0.7)	2.0–6.0	3.8 (0.6)	2.0–5.7	0.88***
Appearance Athletic	4.4 (0.8)	2.7–6.0	4.4 (0.8)	2.7–7.0	0.86***
Thin-Fat-Self Athletic	4.2 (0.8)	2.2–6.5	4.2 (0.8)	2.2–6.5	0.95***
Muscularity Athletic	3.4 (1.0)	1.0–6.0	3.5 (0.8)	1.3–5.3	0.91***
Thin-Fat-Others Athletic	3.8 (0.6)	2.3–5.3	3.9 (0.7)	2.3–6.0	0.91***
WOMEN (*N* = 49)					
Appearance Daily Life	4.9 (0.9)	2.7–6.3	4.6 (0.8)	2.7–6.3	0.90***
Thin-Fat-Self Daily Life	4.4 (0.7)	2.3–5.7	4.4 (0.7)	3.0–6.0	0.95***
Muscularity Daily Life	3.7 (0.8)	2.0–6.3	3.8 (0.7)	2.0–5.0	0.75***
Thin-Fat-Others Daily Life	3.9 (0.6)	2.7–6.0	3.9 (0.6)	2.7–5.7	0.92***
Appearance Athletic	4.3 (0.8)	2.7–5.7	4.3 (0.8)	2.7–7.0	0.89***
Thin-Fat-Self Athletic	4.4 (0.8)	2.5–6.5	4.5 (0.8)	2.5–6.5	0.94***
Muscularity Athletic	3.2 (1.1)	1.0–5.7	3.4 (0.8)	1.3–5.3	0.92***
Thin-Fat-Others Athletic	4.0 (0.6)	2.3–5.3	4.0 (0.6)	2.3–6.0	0.92***
MEN (*N* = 41)					
Appearance Daily Life	4.6 (0.9)	2.7–6.0	4.5 (0.9)	2.3–6.0	0.90***
Thin-Fat-Self Daily Life	3.9 (0.7)	2.3–5.7	3.9 (0.7)	2.7–6.0	0.92***
Muscularity Daily Life	3.7 (0.9)	1.3–5.3	3.6 (0.9)	2.0–5.0	0.90***
Thin-Fat-Others Daily Life	3.7 (0.7)	2.0–5.3	3.7 (0.7)	2.0–5.0	0.84***
Appearance Athletic	4.4 (0.8)	3.0–6.0	4.4 (0.8)	3.0–6.0	0.83***
Thin-Fat-Self Athletic	3.8 (0.7)	2.2–5.8	3.9 (0.8)	2.2–5.7	0.95***
Muscularity Athletic	3.6 (0.9)	2.0–6.0	3.6 (0.8)	2.0–5.0	0.89***
Thin-Fat-Others Athletic	3.7 (0.6)	2.7–5.0	3.8 (0.7)	2.3–5.7	0.90***

SD – standard deviation; *ICC* – interclass correlation coefficient; ***$p < 0.001$

and Appearance Athletic ICC, 0.86 (p <.001). The results separately obtained for the women and men were similar to each other and to the results of the entire group. Only slight differences were noted among the women, with the ICCs ranging from 0.94 for the Thin–Fat-Self Athletic subscale to 0.75 for the Thin–Fat-Others Daily Life subscale. Among the men, the highest ICC was obtained from the Thin–Fat-Self Athletic subscale (ICC = 0.95) and the lowest ICC from the Appearance Athletic subscale (ICC = 0.83).

Internal consistency of the CBIQA. The homogeneity of the CBIQA was high, with a Cronbach's alpha value of 0.91.

DISCUSSION

The results of the present study indicate that the translated and adapted version of the CBIQA is a valid instrument ready to be used in Poland. This opens the possibility of studying contextual body image among recreational and professional Polish athletes, and comparing the results internationally.

The developed version of the CBIQA is the first adaptation of this questionnaire. The translation, back-translation, and cognitive debriefing indicated the cultural convergence of the English and Polish versions of the questionnaire. The only changes required were those concerning the definition of *body*, *fatness*, and the answer *neither too… nor too…*. The similarity in terms of significance and construction of the items in the English and Polish versions made it possible to maintain the façade equivalence in the translated version of the CBIQA (see Appendix), and enabled its further validation.

The 1-week test–retest results ranged from 0.83–0.94 in the daily life subscales, and from 0.86–0.95 in the athletic subscales among all participants. This finding demonstrates the high reliability of the CBIQA. Further, the CBIQA was applicable to both genders; the separate analysis of the results for men and women revealed no differences in the reliability and repeatability of the instrument between the genders.

The highest repeatability rates were obtained from the Thin–Fat-Self Athletic, Thin–Fat-Self Daily Life, Muscularity Athletic, Thin–Fat-Others Athletic, and Appearance Daily Life subscales. Slightly lower repeatability rates were noted for the Thin–Fat-Others Daily Life, Appearance Athletic, and Muscularity Daily Life subscales. The 1-week test–retest result for physical activity (athletic body image) was 0.95, and the lowest score for daily life body image was 0.86. In the comparison between daily and athletic body images, slightly higher and more stable results were obtained from the subscales of athletic body image. The authors of the questionnaire noted a similar tendency [17]. They found stronger correspondence between the own opinion of athletes and the perceived opinions of others among the thin–fat subscales.

De Bruin et al. [17] constructed the CBIQA and conducted a factor analysis of the 15 daily life body image items and 15 athletic body image items, which revealed the presence of 4 components explaining 79.4% of the total variance; the analysis of athletic body image revealed the presence of 3 components explaining 76.7% of the total variance. The same as in the current study, De Bruin et al. found greater stability and reliability for the subscales that depended on variables that could be objectively measured, such as body weight and adipose tissue level. These subscales included the Thin–Fat-Self and Thin–Fat-Others subscales. In the test–retest in the current study, these subscales were similar in the context of daily life and physical activity, consistent with the results of de Bruin et al. [17].

The homogeneity of the CBIQA Polish adaptation was high, with a Cronbach's alpha value of 0.91. This is in line with the results of de Bruin et al. [17]: Cronbach's alpha values ranging from 0.83- 0.95. Similarly, in Potter's [24] study, the Cronbach's alpha values of the CBIQA subscales ranged from 0.82–0.90. Analysis of the results demonstrated that the 4 questionnaire subscales for daily life and physical activities/sports of the CBIQA were internally valid and reliable. Validation of this new instrument is an important step that may allow its wider adoption as a body image measurement tool for professional and non-professional Polish athletes.

CONCLUSIONS

The Polish version of the CBIQA exhibited a high test–retest reliability and good factor structure which is comparable to the original model. This finding opens the possibility of studying contextual body image in Poland and comparing the results internationally. The translation model introduced might be helpful for researchers in other countries where information on contextual body image is missing owing to a lack of validated tools.

REFERENCES

1. Cash TF. Body image: Past, present, and future. Body Image. 2004;1(1):1–5. https://doi.org/10.1016/S1740–1445(03)00011–1.
2. Howie EK, McVeigh JA, Smith AJ, et al. Organized sport trajectories from childhood to adolescence and health associations. Med Sci Sports Exerc. 2016;48:1331–9. https://doi.org/10.1249/MSS.0000000000000894.
3. Griffiths S, Hay P, Mitchison D, et al. Sex differences in the relationships between body dissatisfaction, quality of life and psychological distress. Aust N Z J Public Health. 2016;40(6):518–22. https://doi.org/10.1111/1753–6405.12538.
4. Paxton SJ, Eisenberg ME, Neumark-Sztainer D. Prospective predictors of body dissatisfaction in adolescent girls and boys: a five-year longitudinal study. Dev Psychol. 2006;42(5):888–899. https://doi.org/10.1037/0012–1649.42.5.888.
5. De Bruin AK, Oudejans RR, Bakker FC. Dieting and body image in aesthetic sports: A comparison of Dutch female gymnasts and non-aesthetic sport participants. Psychol Sport Exerc. 2007;8(4):507–520. https://doi.org/10.1016/j.psychsport.2006.10.002.
6. De Bruin AK, Oudejans RR. Athletes' body talk: The role of contextual body image in eating disorders as seen through the eyes of elite women athletes. J Clin Sport Psychol. 2018;12(4):675–698. https://doi.org/10.1123/jcsp.2018–0047.
7. Tylka TL, Wood-Barcalow NL. What is and what is not positive body image? Conceptual foundations and construct definition. Body Image. 2015;14:118–129. https://doi.org/10.1016/j.bodyim.2015.04.001.
8. Pustivšek S, Hadžić V, Dervišević E, et al. Risk for eating disorders and body composition among adolescent female and male athletes and non-athlete controls. Int J Adolesc Med Health. 2020;32(4):20170190. https://doi.org/10.1515/ijamh-2017–0190.
9. Krane V, Waldron J, Michalenok J, et al. Body image concerns in female exercisers and athletes: A feminist cultural studies perspective. Women Sport Phys Act J. 2001;10(1):17–54. https://doi.org/10.1123/wspaj.10.1.17.
10. Kantanista A, Glapa A, Banio A, et al. Body image of highly trained female athletes engaged in different types of sport. Biomed Res Int. 2018. https://doi.org/10.1155/2018/6835751.
11. Soulliard ZA, Kauffman AA, Fitterman-Harris HF. Body image, sport confidence, flow state, and subjective performance among student athletes and non-athletes. Body Image. 2019;28:93–100. https://doi.org/10.1016/j.bodyim.2018.12.009.

12. Longobardi C, Prino LE, Fabris MA, et al. Muscle dysmorphia and psychopathology: Findings from an Italian sample of male bodybuilders. Psychiatry Res. 2017;256:231–236. https://doi.org/10.1016/j.psychres.2017.06.065.
13. Chapa DA, Johnson SN, Richson BN, et al. Eating- disorder psychopathology in female athletes and non- athletes: a meta- analysis. Int J Eat Disord. 2022;55(7):861–885. https://doi.org/10.1002/eat.23748.
14. Guszkowska M. The body image of physically active and inactive women. Pol J Sports Med. 2015;22(2):74–78. https://doi.org/10.1515/pjst-2015–0015.
15. Bailey KA, Cline LE, Gammage KL. Exploring the complexities of body image experiences in middle age and older adult women within an exercise context: The simultaneous existence of negative and positive body images. Body Image. 2016;17:88–99. https://doi.org/10.1016/j.bodyim.2016.02.007.
16. Fuller-Tyszkiewicz M, Richardson B, Lewis V, et al. Do women with greater trait body dissatisfaction experience body dissatisfaction states differently? An experience sampling study. Body Image. 2018;25:1–8. https://doi.org/10.1016/j.bodyim.2018.01.004.
17. De Bruin AP, Oudejans RR, Bakker FC, et al. Contextual body image and athletes' disordered eating: The contribution of athletic body image to disordered eating in high performance women athletes. Eur Eat Disord Rev. 2011;19(3):201–215. https://doi.org/10.1123/jcsp.2018–0047.
18. Ricciardelli LA, McCabe MP. Psychometric evaluation of the Body Change Inventory: An assessment instrument for adolescent boys and girls. Eat Behav. 2002;3(1):45–59. https://doi.org/10.1016/S1471–0153(01)00044–7.
19. Cash TF. User's Manual for the Multidimensional Body-Self Relations Questionnaire (MBSRQ, 3rd revision). https://moam.info/queue/mbsrq-user-manual-3rd-ed_59ccec101723ddd52081b4ef.html# (access: 2022.12.21).
20. Gruber AJ, Pope HG, Borowiecki J, et al. The development of the somatomorphic matrix: A bi-axial instrument for measuring body image in men and women. In: Norton K, Olds T, Kollman J, editors,. Kinanthropometry VI. International Society for the Advancement of Kinanthropometry, Adelaide; 1999. p. 217–231.
21. Stewart T, Kilpela L, Wesley N, et al. Psychometric properties of the contextual body image questionnaire for athletes: a replication and extension study in female collegiate athletes. J Eat Disord. 2021;9(1):1–9. https://doi.org/10.1186/s40337–021–00414–8.
22. Danckers E. An Observational Study of Contextual Body Image in NCAA Division 1 Female Athletes. Master's thesis, Ohio State University, 2017. http://rave.ohiolink.edu/etdc/view?acc_num=osu1492529811268875 (access: 2022.12.21).
23. Drwal R. Adaptacja kwestionariuszy osobowości. Warszawa: Wydawnictwo Naukowe PWN;1995.
24. Potter SR. A cross-sectional study of body image attitudes in male collegiate club athletes. Master's thesis, Ohio State University, 2018. http://rave.ohiolink.edu/etdc/view?acc_num=osu1524001262403064 (access: 2022.12.21).

APPENDIX: Contextual Body Image Questionnaire for Athletes (CBIQA)

Prosimy o udzielenie odpowiedzi na pytania dotyczące postrzegania własnego ciała i wyglądu.

Nie myślcie zbyt długo nad swoimi odpowiedziami i nie pomijaj żadnych pytań.

Poniższe pytania dotyczą aktywności fizycznej/ sportu

1 Biorąc pod uwagę życie codzienne,…	Bardzo brzydki	Brzydki	Trochę brzydki	Ani brzydki ani ładny	Trochę piękny	Piękny	Bardzo piękny
a myślę, że mój wygląd jest:	1	2	3	4	5	6	7
b myślę że w porównaniu do innych mój wygląd jest:	1	2	3	4	5	6	7
c inni uważają, że mój wygląd jest:	1	2	3	4	5	6	7
2 Biorąc pod uwagę życie codzienne,…	O wiele za szczupła	Za szczupła	Trochę za szczupła	Ani za szczupła, ani za otyła	Trochę za otyła	Za otyła	O wiele za otyła
a myślę, ze moja sylwetka jest:	1	2	3	4	5	6	7
b myślę, że moja sylwetka w porównaniu do innych jest:	1	2	3	4	5	6	7
c inni uważają, że moja sylwetka jest:	1	2	3	4	5	6	7
3 Biorąc pod uwagę życie codzienne,…	Zdecydowanie za słabo umięśnione	Za słabo umięśnione	Trochę za słabo umięśnione	Ani umięśnione ani nieumięśnione	Trochę za mocno umięśnione	Za mocno umięśnione	Zdecydowanie za mocno umięśnione
a myślę, że moje ciało jest:	1	2	3	4	5	6	7
b myślę, że moje ciało w porównaniu do innych jest:	1	2	3	4	5	6	7
c inni uważają, że moje ciało jest:	1	2	3	4	5	6	7
4 Biorąc pod uwagę życie codzienne,…	O wiele za niska/ O wiele za niskie	Za niska/ Za niskie	Trochę za niska/ Trochę za niskie	Ani za niska, ani za wysoka/ Ani za niskie ani za wysokie	Trochę za wysoka/ Trochę za wysokie	Za wysoka/ Za wysokie	O wiele za wysoka/ O wiele za wysokie
a myślę, że moja masa ciała jest:	1	2	3	4	5	6	7
a myślę, że otłuszczenie mojego ciała jest:	1	2	3	4	5	6	7
b myślę, że moja masa ciała w porównaniu do innych jest:	1	2	3	4	5	6	7
b myślę, że otłuszczenie mojego ciała w porównaniu do innych jest:	1	2	3	4	5	6	7
c inni uważają, że moja masa ciała jest:	1	2	3	4	5	6	7
c inni uważają, że otłuszczenie mojego ciała jest:	1	2	3	4	5	6	7

Poniższe pytania dotyczą życia codziennego

5 Biorąc pod uwagę aktywność fizyczną,…	Bardzo brzydki	Brzydki	Trochę brzydki	Ani brzydki ani ładny	Trochę piękny	Piękny	Bardzo piękny
a myślę, że mój wygląd jest:	1	2	3	4	5	6	7
b myślę, że w porównaniu do innych mój wygląd jest:	1	2	3	4	5	6	7
c inni uważają, że mój wygląd jest:	1	2	3	4	5	6	7
6 Biorąc pod uwagę aktywność fizyczną,…	O wiele za szczupła	Za szczupła	Trochę za szczupła	Ani za szczupła, ani za otyła	Trochę za otyła	Za otyła	O wiele za otyła
a myślę, że moja sylwetka jest:	1	2	3	4	5	6	7
b myślę, że moja sylwetka w porównaniu do innych jest:	1	2	3	4	5	6	7
c inni uważają, że moja sylwetka jest:	1	2	3	4	5	6	7
6 Biorąc pod uwagę aktywność fizyczną,…	Zdecydowanie za słabo umięśnione	Za słabo umięśnione	Trochę za słabo umięśnione	Ani umięśnione ani nieumięśnione	Trochę za mocno umięśnione	Za mocno umięśnione	Zdecydowanie za mocno umięśnione
a myślę, że moje ciało jest:	1	2	3	4	5	6	7
b myślę, że moje ciało w porównaniu do innych jest:	1	2	3	4	5	6	7
c inni uważają, że moje ciało jest:	1	3	3	4	5	6	7
7 Biorąc pod uwagę aktywność fizyczną,…	O wiele za niska/ O wiele za niskie	Za niska/ Za niskie	Trochę za niska/ Trochę za niskie	Ani za niska, ani za wysoka/ Ani za niskie ani za wysokie	Trochę za wysoka/ Trochę za wysokie	Za wysoka/ Za wysokie	O wiele za wysoka/ O wiele za wysokie
a myślę, że moja masa ciała jest:	1	2	3	4	5	6	7
a myślę, że otłuszczenie mojego ciała jest:	1	2	3	4	5	6	7
b myślę, że moja masa ciała w porównaniu do innych jest:	1	2	3	4	5	6	7
b myślę, że otłuszczenie mojego ciała w porównaniu do innych jest:	1	2	3	4	5	6	7
c inni uważają, że moja masa ciała jest:	1	2	3	4	5	6	7
c inni uważają, że otłuszczenie mojego ciała jest:	1	2	3	4	5	6	7

a: własne postrzeganie; b: własne postrzeganie w porównaniu z innymi; c: postrzegana opinia innych.