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Research Article / Araştırma Makalesi

Adaptation of the rapid weight loss questionnaire to the Turkish language: A validity and reliability study in weight classified athletes

Hızlı kilo verme anketinin Türkçe'ye uyarlanması: Kilo sınıflandırmalı sporcularda geçerlilik ve güvenirlik çalışması

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ABSTRACT

Objectives: The purpose of weight classification in certain sports is to ensure safe and fair competition. However, some athletes attempt to gain an advantage by losing weight to compete in a lower weight category. The Rapid Weight Loss Questionnaire (RWLQ) assesses the weight loss status of athletes. This study aims to translate the RWLQ into Turkish (RWLQ-Tr), while ensuring its validity and reliability.

Materials and Methods: Cross sectional study. Three independent experts translated the questionnaire from English into Turkish. The Turkish version of the questionnaire was obtained by translating the questionnaire into Turkish and then back into English. The translated questionnaire was then compared with the original questionnaire and harmonised. The content validity of the questionnaire was evaluated through expert opinion using the Davis method. At least 12 years old weight-classified sports athletes (n=330) were included in the pilot study. The RWLQ-Tr and the Dutch Eating Behaviour Questionnaire-Tr were administered simultaneously to the athletes participating in the pilot study. To assess reliability of the RWLQ-Tr, 93 athletes completed the questionnaire twice, with a 15-day interval.

Results: The Content Validity Ratio value was found to be 0.994. Discriminant validity was established between the independent groups created based on weight loss below 4 kg (n=181) and above 4 kg (n=118), determined by the median value (50^{th} percentile is 4 kg) obtained from responses to the 14^{th} question of the RWLQ ($p<0.05$). There was no statistically significant difference in total scores between the test (31.0±12.3) and retest (30.5±12.2). The Bland-Altman plot test revealed a mean difference of -0.525 ($p=0.318$).

Conclusions: A valid and reliable Turkish version of the RWLQ for weight-classified athletes was obtained.

Keywords: *Weight loss, athletes, reliability, validity, questionnaire*

ÖZ

Amaç: Belirli spor dallarında siklet sınıflandırmasının amacı güvenli ve adil yarışmayı sağlamaktır. Ancak bazı sporcular daha düşük siklet kategorisinde yarışmak için kilo vererek avantaj elde etmeye çalışmaktadır. Hızlı Kilo Verme Anketi (RWLQ), sporcuların kilo verme durumunu değerlendirir. Bu çalışma, RWLQ'nun (RWLQ-Tr) Türkçe'ye çevrilerek geçerlilik ve güvenirliğini sağlamayı amaçlamaktadır.

Gereç ve Yöntem: Kesitsel çalışma. Üç bağımsız uzman anketi İngilizce'den Türkçe'ye çevirdi. Anketin Türkçe versiyonu, anketin önce Türkçe'ye, sonra tekrar İngilizce'ye çevrilmesiyle elde edildi. Çevrilen anket daha sonra orijinal anketle karşılaştırıldı ve uyumlu hale getirildi. Anketin içerik geçerliliği Davis yöntemi kullanılarak uzman görüşü alınarak değerlendirilmiştir. Pilot çalışmaya en az 12 yaşında ağırlık sınıflandırmalı sporcular (n=330) alındı. Pilot çalışmaya katılan sporculara RWLQ-Tr ve Dutch Yeme Davranışı Anketi-Tr eş zamanlı olarak uygulandı. RWLQ-Tr'nin güvenirliğini belirlemek için 93 sporcu anketi 15 gün arayla iki kez doldurdu.

Bulgular: İçerik Geçerlilik Oranı değeri 0.994 olarak bulundu. Kilo kaybının 4 kg'ın altında (n=181) veya üzerinde (n=118) olmasına göre oluşturulan bağımsız gruplar arasında, 14. RWLQ sorusuna verilen yanıtlardan elde edilen medyan değer (50. persentil=4 kg) ile ayırma geçerliliği oluşturuldu ($p<0.05$). Test (31.0±12.3) ve tekrar test (30.5±12.2) toplam puanları arasında istatistiksel olarak anlamlı bir fark yoktu. Bland-Altman grafiği testinde ortalama -0.525 fark ortaya çıktı ($p=0.318$).

Sonuç: RWLQ'nun ağırlık sınıflandırmalı sporcular için geçerli ve güvenilir Türkçe versiyonu oluşturuldu.

Anahtar Sözcükler: *Kilo kaybı, sporcu, geçerlilik, güvenirlik, anket*

INTRODUCTION

Sports that involve weight are usually sports in which athletes compete in specific weight classes (1-3). These specific weight classes are used to ensure fair competition, to make it easier for athletes with similar body masses to compete

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against each other, to compare the physical abilities of athletes in general in a balanced way, and to protect the safety of athletes. Weight classifications are significant in sports such as boxing, wrestling, judo, weightlifting, taekwondo, mixed martial arts (MMA), and tug-of-war to guarantee fair competition and that athletes compete against opponents of similar ability (1,3,4). A welterweight athlete is usually an athlete who competes or participates in a sport within a certain weight class. Every sport has its own range of classes and weight categories that vary (4).

Some athletes aim to lower their weight class for a competitive edge, improving performance, speed, agility and strength-to-weight ratio. When athletes are smaller and lighter in their weight class, they can often increase their chances of facing competitors with similar body measurements. This can help them gain a competitive advantage by providing a physical advantage. For some athletes in certain sports, a lower weight may allow them to have a more favourable body composition. In some sports, such as boxing, wrestling and martial arts, competing in a lower weight class can help to become faster and more agile. In certain weight classifications, like in weightlifting, a lighter weight can allow athletes to use their strength more effectively and produce more power in proportion to their body weight (3,4). However, weight control and weight reduction processes may result in health complications if used incorrectly (5,6). It is crucial to use weight loss strategies under expert supervision and in a healthy way. It is additionally essential for athletes to follow the rules of their sports federation so that their weight loss efforts do not become excessive and are in line with the ethics of the sport (7).

Rapid and sudden weight loss in athletes is commonly used for pre-competition weight control or to enter the weight class. Nevertheless, such practices can be harmful to the athlete's performance and general health (2,5,8). Common methods used by athletes to lose weight quickly include water loss, low carbohydrate diets, light fasting, laxatives and diuretics (3,9). Although these methods provide short-term weight loss by reducing the amount of water in the body, they can also be harmful. Rapid and sudden weight loss can have adverse impacts on athletes. Therefore, athletes must maintain a healthy weight that is appropriate for their physique and level of athletic activity. This type of weight reduction is typically due to loss of water or muscle tissue and can seriously affect both athlete health and performance. Rapid weight loss can disturb energy sources and fluid balance in the body, leading to low energy levels and reduced performance during training and competition (4,5,7).

Sudden weight loss frequently results in dehydration. Dehydration may result in decreased performance, reduced energy levels, and difficulty regulating body temperature. Rapid weight loss frequently leads to muscle loss, which has a detrimental impact on strength, endurance, and overall physical abilities. Furthermore, muscle loss can lower metabolic rate. Sudden weight loss can deplete energy stores in the body quickly, causing athletes to feel fatigued and become weaker during training. Rapid weight loss may result in muscular weakness and decreased stability, increasing the risk of injury for athletes. Additionally, such weight loss may lead to body image issues and psychological stress, which are common among athletes. Consequently, the motivation and general mental wellbeing of athletes may be negatively impacted (1-4,8). As a result, it is crucial for athletes to utilise healthy and sustainable methods for weight management. Rapid weight loss is frequently due to water loss, resulting in its inevitability to be regained. Therefore, athletes are advised to utilise healthier, sustainable and supervised weight control methods. Collaborating with nutritionists and coaches to achieve healthy weight control goals will undeniably lead to greater long-term performance and health benefits (7).

Weight-class athletes often adopt strict long-term dietary programs to enable them to compete in their desired weight class. Alternatively, athletes who are unable to achieve the required body weight limit for their target weight class, even close to competition time, may resort to unhealthy rapid weight loss methods. However, extreme measures like dehydration, starvation, excessive sweating in saunas, and extreme exercise, appear to result in swift weight loss, however, they negatively impact the health and performance of athletes (7,10). During in-season screenings, sports medicine experts must identify unhealthy weight loss practices by athletes and provide correct nutritional/dietary behaviours (7).

The aim of this study is to translate the Rapid Weight Loss Questionnaire into Turkish while ensuring its validity and reliability. The questionnaire assesses the weight loss status of athletes.

MATERIAL and METHODS

The methodological research was conducted with permission obtained from the developers of the Rapid Weight Loss Questionnaire (RWLQ) via email on 19 August 2023 (11). The study was initiated after approval from the Süleyman Demirel University Ethics Committee, dated 20.09.2023 and numbered 68/1, and were performed in accordance with the Helsinki Declaration, revised 2013. The study adhered to the methodological algorithm recommended for validity and reliability studies (12).

Rapid Weight Loss Questionnaire

The questionnaire was developed to assess the rapid weight loss of judo athletes. It comprises 21 questions and has been found to have a Cronbach's alpha value of 0.98 and a Spearman correlation value of 0.92. These findings indicate that the questionnaire has good validity and reliability (11).

Translation-Back Translation of the Questionnaire

Three independent experts (AO, YAY, SE) translated the questionnaire from English into Turkish. The translators took care to ensure that the questionnaire covered all weight athletes. The three translations were merged into a single questionnaire by adjusting conceptual inconsistencies and paying attention to Turkish language and cultural compatibility. The Turkish version of the questionnaire was obtained by translating the questionnaire into Turkish and then back into English by a bilingual professional translator who had not seen the original questionnaire before. The translated questionnaire was then compared with the original questionnaire and harmonised.

Content Validity

The content validity of the Turkish version of the questionnaire (RWLQ-Tr) was evaluated through expert opinion. The experts' ages ranged from 16 to 56 years, with a mean of 34.8±10.5. The Davis method was used to obtain the opinions of 20 experts, consisting of seven (35%) females and 13 (65%) males. Of the experts, three (15%) were athletes, eight (40%) were coaches, and nine (45%) were sports medicine professionals.

The Content Validity Ratio (CVR) value of each item in the questionnaire and the questionnaire itself was calculated after obtaining expert opinions. The CVR values of the items ranged from 0.85 to 1.00, and the CVR value of the questionnaire was found to be 0.994. As all calculated CVR values exceeded the critical value of 0.80 (12), it was decided to retain all items in the questionnaire. To enhance the comprehensibility of the items, a preliminary evaluation of the language validity of the Turkish questionnaire was conducted among weight athletes who visited the clinics of the researchers (AO, SE). Subsequently, a pilot version of the Turkish questionnaire was created (refer to Appendix 1).

Pilot Application

The Turkish version of the Rapid Weight Loss Questionnaire and the Dutch Eating Behaviour Questionnaire (DEBQ) were administered simultaneously to athletes participating in the pilot study. At this stage of the study, athletes who could read and write Turkish, were at least 12 years old, and regularly participated in any of the weight sports, were included in the study.

Descriptive characteristics questionnaire: In addition to the questions in the general information section of the rapid weight loss questionnaire, the participants' sports discipline, weekly training time, whether they had a known disease and whether they were taking regular medication, if any, were asked.

DEBQ: The questionnaire, which examines eating behaviour in three sub-dimensions according to three different psychological theories with a total of 33 questions, was developed by Van Strien et al. in 1986. The questionnaire was adapted into Turkish by Bozan et al. (13). Demirdöğen et al. showed that the questionnaire was a valid and reliable tool that could be used in adolescents aged 12-18 years (14).

The questionnaire uses a 5-point Likert scale to score each question from the sub-dimensions of restrictive eating (items 1-10), emotional eating (items 11-23), and external eating (items 24-33). The 31st item is a reverse question. The questionnaire does not calculate a total score, and each sub-dimension is analyzed separately. There is no cut-off point for evaluating questionnaire scores, but an increase in score indicates negative eating behaviour. The most closely related psychological theory to weight athletes' eating behaviour for weight control is restrictive eating behaviour. The cut-off point for the questionnaire was determined on the basis of the median of the sample (50th percentile=26 points) in relation to scores obtained for restrictive eating behaviour, and these scores were then divided into lower and upper groups.

Validity of the Questionnaire

In determining the construct validity of the questionnaire, the method of determining discriminant validity with the help of group differences was preferred. Discriminant validity was established by means of a difference analysis in independent groups. According to DEBQ, these groups were divided into 'lower score' (n=148)' and 'upper score' (n=151) groups. Furthermore, discriminant validity was established between the independent groups created based on weight loss <4 kg (n=181) and >4 kg (n=118), determined by the median value (50th percentile=4 kg) obtained from the response to the 14th question of RWLQ ('How much weight did you lose in your career to participate in the competition?')

Reliability of the Questionnaire

This study aimed to reach 25-30% of the number of athletes (n=330) who participated in the pilot application during the retest phase (12). A different sample of athletes who did not participate in the pilot application phase (and whose data were not used in validity analyses) was used for the questi–

onnaire's reliability. Ninety-three athletes (84.9% male, 15.1% female) completed the questionnaire twice, with a 15-day interval between each completion.

Statistical Analysis

The CVR value was calculated using the formula 'agreed item/number of experts' to determine the content validity of the questionnaire. The pilot study participants' descriptive characteristics, questionnaire validity, and reliability were analysed using SPSS v.23 software. The normal distribution conformity of quantitative data was determined using the Shapiro-Wilk test. Participant characteristics were presented as frequency (n), percentage (%), median (25.p-75.p), and mean ± standard deviation (SD), (min-max). Construct validity was assessed using Mann-Whitney U test to compare scores between independent groups, with a significance level of $p<0.05$ used to determine differences between groups.

The questionnaire's reliability was evaluated through analysis of test-retest scores using the dependent groups t-test, Intraclass Correlation Coefficient (ICC), and Bland-Altman plot test. The ICC value was found to be of moderate agreement in the range of 0.40-0.75, and good agreement in the range of 0.76-0.90. In the Bland-Altman plot, 95% of the data are expected to fall between the limits 'mean of the differences -1.96 × SD of the differences' and 'mean of the differences +1.96 × SD of the differences'. The percentage rate (%) represents the agreement between the answers given to questions with categorical answer options.

RESULTS

Pilot application

In the pilot application of the study, 330 weight athletes participated voluntarily. The majority of participants were wrestlers (63.0%), followed by judo athletes (12.4%), weightlifters (11.2%), taekwondo athletes (6.1%), boxers (5.2%), and athletes from other weight sports (2.1%). Of the participants, 77.3% (n=255) were male and 22.7% (n=75) were female. Only 4.8% (n=16) of the athletes reported having a known disease, and 2.7% (n=9) reported using regular medication for treatment.

The mean age of the athletes was 15 (14-17) years, height 170 (160-176) cm and body weight 62 (52-78) kg. The athletes trained for 14 (10-18) hours per week. The age at which the athletes started to train in the weightlifting sport was 10 (9-12) years and had their first competition at the age of 11 (10.3-13.0) years. In the last off-season, the athletes' body weightwas 60 (50-75) kg. The number of medals won by the athletes last year was three (1-5) and the sportiness level of the participants is presented in Table 1.

Table 1. The competitive level of athletes who participated in the pilot study

Level	Never participated	Participated without winning medal	Won a medal
Regional or city level	4.2% (n=14)	8.2% (n=27)	87.6% (n=289)
State level	8.2% (n=27)	13.9% (n=46)	77.9% (n=257)
National level	28.2% (n=93)	26.7% (n=88)	45.1% (n=149)
International level	42.1% (n=139)	29.4% (n=97)	28.5% (n=94)

When asked to rate the effectiveness of individuals on weight loss practices, 59.1% (n=195) of the athletes rated their coach to be 'very effective', followed by experienced athlete in the sport of weightlifting (35.2%, n=116), training mate (28.2%, n=93), parents (28.2%, n=93), dieticians 20.9% (n=69), physicians 16.1% (n=53) and physical education teachers (13.6%, n=45).

Three hundred thirty athletes scored 26 (20-33) points on the restrictive eating sub-dimension, 19 (14.8-30.0) points on the emotional eating sub-dimension, and 28.5 (23.8-33.0) points on the external eating sub-dimension of the DEBQ. Table 2 presents the proportion of methods that the athletes reported 'always' using to lose weight before competitions. The most commonly used methods for weight loss, were exercising more than usual (26.4%), increasing sweating through thermal tracksuits (26.1%), and training in areas with intentionally higher ambient temperatures (22.7%).

Table 2. Methods athletes 'always' use to lose weight before competitions

RWLQ-Tr Question 21	%	n
Gradual dieting	14.0	46
Skipping one or two meals	9.7	32
Fasting	10.3	34
Restricting fluids	6.4	21
Increased exercises	26.4	87
Heated training rooms	22.7	75
Sauna	16.7	55
Training with rubber/plastic suits	26.1	86
Use winter or plastic suits	11.8	39
Spitting	6.4	21
Laxatives	6.4	21
Diuretics	6.7	22
Diet pills	6.7	22
Vomiting	7.9	26

RWLQ-Tr: Turkish version of Rapid Weight Loss Questionnaire

In the last two years, 65.2% (n=215) of athletes reported weight change for competition. Over the course of their athletic career, 90.6% (n=299) of the athletes lost weight for competition. The construct validity of the questionnaire was analysed using the data from the 299 athletes who answered 'yes' to question 13 in order to calculate the total score of the RWLQ-Tr.

Validity of the Questionnaire

The construct validity of the questionnaire was assessed by examining the differences in scores obtained from the sco–

rable questions of the Rapid Weight Loss Questionnaire between two independent groups. The first group consisted of individuals with lower scores in DEBQ (n=148, DEBQ: 20 (17-24) points), while the second group consisted of individuals with upper scores in DEBQ (n=151, DEBQ: 33 (30-36) points). According to the answer to question 14 of the Rapid Weight Loss Questionnaire, participants were divided into two independent groups based on the amount of weight lost: those who lost less <4 kg (n=181) and those who lost >4 kg (n=118). Thus, the construct validity of the questionnaire was ensured (Table 3).

Table 3. Construct validity of the questionnaire in independent groups

Questions	$DEBQ_{lower}$ (n=148)	$DEBQ_{upper}$ (n=151)	p	$Group_{<4\ kg}$ (n=181)	$Group_{>4\ kg}$ (n=118)	p
13. Have you ever lost weight in order to compete?	3 (3-3)	3 (3-3)	1.000	3 (3-3)	3 (3-3)	1.000
14. What is the most weightyou have cut to compete in career?	1.5 (1.0-2.0)	2.5 (1.5-3.5)	**<0.001***	1.5 (1-2)	3.0 (2.5-4.0)	**<0.001***
15. How many times did you cut weight to compete last season?	2.0 (1.0-2.5)	2 (1-4)	**<0.001***	2 (1-3)	2 (1-5)	**<0.001***
16. How much weight do you usually cut before competitions?	2 (1-2)	2 (1-3)	**<0.001***	1 (1-2)	3 (2-5)	**<0.001***
17. How many days do you usually cut weight before competitions?	3 (1-5)	3 (0-4)	**0.004***	3 (1-5)	3 (0-4)	**<0.001***
18. At what age did you begin to cut weight for competitions?	5 (4-5)	5 (4-5)	0.254	5 (4-5)	5 (4-5)	0.077
19. How much weight do you regain the wk after competition?	1.0 (0.8-2.0)	1 (1-2)	0.362	1 (1-2)	2 (1-3)	**0.001***
21. How often did you use methods to lose weight before competitions?	13.0 (6.3-24.9)	15 (9-23)	0.137	12 (7-23)	16.0 (9.4-25.0)	**0.011***
RWLQ-Tr score	29.0 (21.5-42.0)	35.5 (26.0-44.0)	**0.006***	28.5 (21.3-39.0)	38.8 (30.3-46.5)	**<0.001***

As mean (min-max). Independent-Samples Mann-Whitney U is used. *: The significance level is 0.05. DEBQ: Dutch Eating Behaviour Questionnaire

Reliability of the Questionnaire

The questionnaire's test-retest phase involved 93 athletes (84.9% male, 15.1% female). All of these athletes were involved in wrestling discipline. The mean age of these athletes was 15 (14-16), the mean age of starting sports was 10 (8-11), and the mean age of first competition was 11 (10-12) years. The athletes' mean height was 169.5±9.3 (148-190) cm and their mean body weight was 65 (56-80) kg. Only 5.3% (n=5) of the athletes reported having a known medical condition, and 2.2% (n=2) reported regularly taking medication for treatment. The athletes' mean training time was 15 (12-16) hours per week. Their mean body weight in the last off-season was 64.3±16.2 (38-110) kg. Regarding the athletes' level of sport achievement, 93.2% had won medals at the local or provincial level, 84.7% at the regional level, 39.0% at the national level and 16.9% at the international level. Athletes had taken part in five (3-7) competitions in the previous season and had won three (2-5) medals.

As shown in Figure 1, there was no statistically significant difference (p=0.833, mean difference 0.47±2.25) in total scores between the test (31.0±12.3) and retest (30.5±12.2) administrations of the RWLQ. The answers given to the questions in the questionnaire were found to be consistent in the test-retest stages, as shown in Tables 4 and 5.

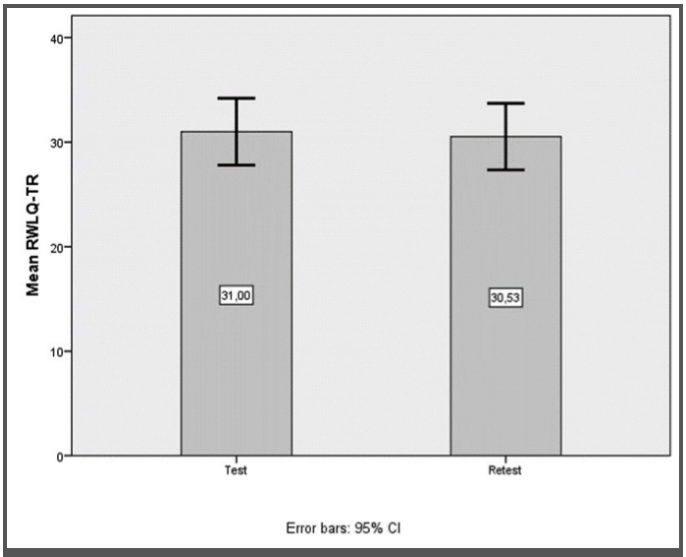

Figure 1. Rapid Weight Loss Questionnaire-Tr scores obtained in the test and retes

The Bland-Altman plot test revealed a mean difference of -0.525 (%95 Confidence Interval lower bound=-1.570, upper bound=0.520) and a standard deviation of 4.010 for the differences, with a p-value of 0.318. Therefore, the test and retest results were deemed reliable, with 95% of them distributed within the range of -5 to +5 (Figure 2).

Table 4. ICCs scores and rate of athletes who recorded the same response in the test and retest

RWLQ-Tr Question No.	ICC (95% CI)	RWLQ-Tr Question (No.)	Rate of agreement (%)
1	0.766	2	100.0
3	0.776	11	84.7
4	0.773	13	98.3
5	0.664		
6	0.716		
8	0.776		
9	0.771		
10	0.681		
12	0.673		
14	0.769		
15	0.772		
16	0.769		
17	0.778		
18	0.775		
19	0.772		

ICC: intraclass correlation coefficient

DISCUSSION

This study adapted the Rapid Weight Loss Questionnaire for weight classified athletes to Turkish, and ensured its validity and reliability. The CVR values of the items ranged from 0.85 to 1.00, and the CVR value of the questionnaire was found to be 0.994. The discriminant validity method was chosen to determine the construct validity of the questionnaire. Two separate groups were created using two different variables. A difference in the total score of the Rapid Weight Loss Questionnaire was observed between the independent groups in both groups where the validity of the questionnaire was ensured. Ninety-three athletes who were in the wrestling discipline and who did not participate in the pilot application phase completed the questionnaire twice, with a 15-day interval, for the questionnaire's reliability. As 95% of the results fell within the range of -5 to +5, the test was considered reliable.

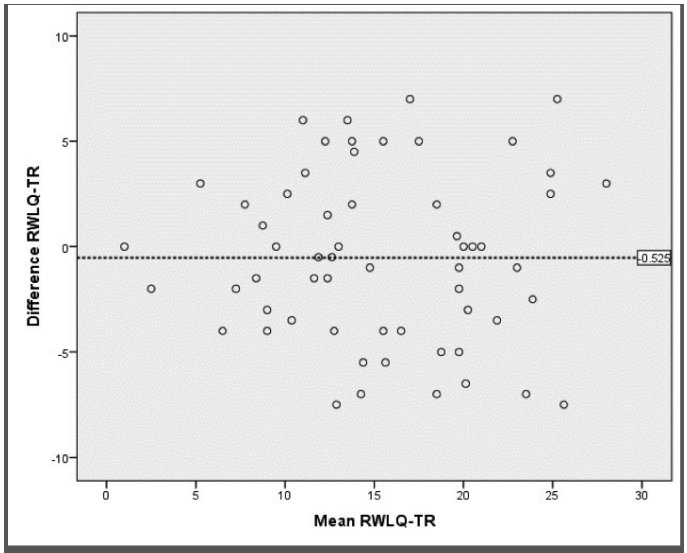

Figure 2. The reliability of the Rapid Weight Loss Questionnaire-Tr

Table 5. Proportion of athletes who recorded the same response or disagreed only ±1 point in the 5-point scale between test and retest for items of question 20 and question 21

RWLQ-Tr Question 20	Proportion of agreement ± 1 (%)	RWLQ-Tr Question 21	Proportion of agreement ± 1 (%)
Another athlete	74.6	Gradual dieting	86.4
Fellow athlete	76.3	Skipping 1 or 2 meals	81.4
Physician/doctor	67.8	Fasting	83.1
Physical trainer	67.8	Restricting fluids	86.4
Coach	83.1	Increased exercises	94.9
Parents	64.4	Heated training rooms	88.1
Nutritionist/dietitian	72.9	Sauna	91.5
Other	77.0	Training with rubber/plastic suits	81.4
		Use winter or plastic suits	86.4
		Spitting	93.2
		Laxatives	94.9
		Diuretics	94.9
		Diet pills	94.9
		Vomiting	89.8

RWLQ-Tr: Turkish version of Rapid Weight Loss Questionnaire

The questionnaire used for the Turkish validity and reliability study was originally designed for judo athletes (11). However, this study aimed to include all related and accessible sports disciplines with weight classifications. Numerous studies have investigated the impact of athlete nutrition on performance, highlighting the importance of nutrition planning well in advance of competitions (15-16). The impact of fluid-electrolyte balance on fatigue and performance is well-established (17). However, despite evidence to the contrary, athletes in weight classes often attempt to rapidly gain or lose weight prior to competition. This practice is believed to be beneficial but may actually be detrimental to performance. It may even cause injuries (18).

The purpose of weight classification in certain sports is to ensure safe and fair competition. However, some athletes attempt to gain an advantage by losing weight to compete in a lower weight category. These weight loss practices from the past are difficult to eliminate (7). In Barley et al.'s study, it was found that 63% of taekwondo athletes and 67% of wrestling athletes changed their weight category to participate in competitions in the last two years (3). Similarly,

dition. In another study conducted by Artioli et al. on judokas, the rate of rapid weight loss was reported as 86%, irrespective of the time taken to participate in competitions. The findings of the same study indicated that coaches were the most effective individuals in assisting athletes with weight management (19).

The present study revealed that athletes found their coach the most effective in weight loss practices (59.1%), followed by experienced athletes in the same weight class (35.2%), training buddies (28.2%), and parents (28.2%). In this category, the physician and dietician were found to be much less effective. The importance of coaches in this area is demonstrated by these results. Educating coaches on this issue can change their perspective and improve the athlete's chances of success by ensuring that they compete in the suitable weight category. To improve the athlete's performance in the appropriate weight category, the coach must take necessary steps.

A limitation of this study is the gender ratio. This limitation was identified in both the pilot study and in the reliability study. The strength of this study is that the Turkish version of the questionnaire ensures the validity and reliability of all questions. When questionnaires are prepared in different languages, they may be influenced by the culture of the country's language from which they are translated. Questions in a questionnaire may have to be removed. However, in the Turkish version of this questionnaire, no questions had to be removed, and it remained in its original form. This may be due to the commonality of sports culture.

To conclude; the valid and reliable Turkish version of the Rapid Weight Loss Questionnaire for weight classified athletes was implemented with all its questions. With this scale, physical education teachers and/or coaches can understand the rapid weight loss behavior, control their knowledge level, and can evaluate and orientate athletes correctly. This also can be an evaluation tool in studies investigating the psychological aspects of athletic performance.

Ethics Committee Approval / Etik Komite Onayı

The approval for this study was obtained from Süleyman Demirel University Ethics Committee, Isparta, Turkiye. (Decision no:68/1, Date: 20.09.2023).

Conflict of Interest / Çıkar Çatışması

The authors declared no conflicts of interest with respect to authorship and/or publication of the article.

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Author Contributions / Yazar Katkıları

Concept – SE; Design - SE; Supervision - YAY,SE, GB; Materials– YAY; Data Collection and/or Processing – YAY; Analysis and İnterpretation – SE; Literature Review – AO,SE; Writing manuscript – AO; Critical Reviews – SE,GB All authors contributed to the final version of the manuscript and discussed the results and contributed to the final manuscript.

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