



A STUDY ON THE WEIGHT LOSSES OF WRESTLERS AND THE IMPACTS OF THEIR REDUCED WEIGHT ON THEIR PERFORMANCE

Kadir Pepe¹ⁱ,

İbrahim Bozkurt²

¹Mehmet Akif Ersoy University,
High School of Physical Education and Sports,
Burdur, Turkey

²Selçuk University,
Faculty of Sport Sciences,
Konya, Turkey

Abstract:

The study has been conducted to reveal the weight losses of the sportspeople involved with wrestling and the impacts of their reduced weight on them. The population of the study consists of the wrestlers who competed in category (A) in the intercollegiate Turkey Wrestling Championship 2016 and the sampling group is constituted by 92 wrestlers chosen by way of the random sampling method. A questionnaire regarding the objective of the study has been developed. The reliability of the questionnaire was ensured through the Cronbach's Alpha method. Cronbach's Alpha reliability coefficient of the questionnaire was found as 0,70. The questionnaire developed was caused to be filled in by the one-to-one interviewed individuals determined by means of a random sampling method. For the statistical determination of the frequency (%), crosstabs, and differences, Chi-Square (X^2) test operations were used. In the determination of the difference between the variables, 0,05 was accepted as the confidence range. From the data obtained within the scope of the study, it was determined that the sportspeople involved with the wrestling branch of the weight-based sports lose 3-6 kilos from their weights prior to the competition in general as they are successful sportspeople; that their weight loss methods were workout and diet or workout, diet, and sauna; that they experience the wish of discontinuing wrestling and unwillingness during and after the process of weight loss; that they are, due to weight loss, defeated by their competitors who they defeated prior to the weight loss and they consider their defeat as the consequence of their weight loss; and that they experience dizziness, mouth dryness, acute disorder in their digestion systems, cramps in various parts of their bodies, perceptive disorder, negative impact in their excitement levels, decline in their workout

ⁱ Correspondence: email k_pepe@yahoo.com

process and performances, nervousness, and irritability. These situations are significant at 0,05 significance level.

Keywords: wrestling, weight loss, performance, impact

1. Introduction

Sports can be defined as all the actions of individuals for attaining success and experience the excitement of competing against themselves or a competitor by means of using their personal physical, mental, and cognitive skills, within the framework of predetermined rules.

It appears in the literature that the scientists define sports according their own viewpoints, although all such definitions are essentially identical. A sport is defined as the educative and entertaining activity carried out alone or collectively, with specific rules, based on a competition in general, ensuring the development of physical and mental competences (Kilcigil, 1985), and it is also the educative and entertaining pastime developing a person's physical activity and motor skills along with his/her mental, spiritual, and social competences and aiming to have such competences competed under some certain rules (İnal, 2003). A sport is defined as the cluster of events occupying significant place in the life of people and the health of the society as the narrowest and largest meaning (Özbaydar, 1983).

Sports are classified as amateur and professional sports. Individuals engaged in any branch of sports are referred to as sportspeople; the ones among them, who do such sport for pleasure, as amateur sportspeople; and the ones among them, who do such sport by transforming it into an occupation and earn money out of it, as professional sportspeople.

Today, the branches of sports are classified as the hall sports and field sports in general according to the manner of performing them as a team or individual and the venue where they take place. In this classification, "Football, Volleyball, Basketball" can exemplify the team sports and "Wrestling, Taekwondo, Judo" the individual sports. On the other hand, the sports performed within a hall are called hall sports and the ones done in a particular area and site are called field sports. In some sports branches, competitions, in which sportspeople are separated as per weights in particular categories as to compete in equal weights, are also held. The branches of sports like Wrestling, Judo, Taekwondo, and Halter can be exemplified for them.

In the weight-based sports, a sportsperson can also compete in lower and higher weights on condition that he/she adjust his/her weight accordingly. He/she is obliged to lose weight to compete in a lower category and gain it to compete in higher one.

The scope of the study consists of the elite level wrestlers involved with wrestling among the weight-based sports.

Wrestling is defined as a branch of sports, in which the anaerobic energy system is used dominantly, and the factors like speed, strength, agility, flexibility, balance,

muscular and cardiovascular stamina, and coordination affect performance (Algün, 1992; Gökdemir, 200; MacDougall et al, 1991).

Sportspeople involved with wrestling are considered the sportspeople who both perform heavy workouts and lose weight in a short time, among the other weight-based sportspeople (McAndle et al, 1981). Today, despite the warnings of the healthcare professionals regarding loss of weight fast, it is known that the wrestlers of secondary-level schools, universities, and clubs try to lose a few kilos during or a few days before a competition. It is also known that the weight loss problems that have always existed in wrestlers still exist today and that unacceptable weight loss methods are used to wrestle in the 1st, 2nd, or 3rd or lower categories. Weight loss is mainly used to create advantage by wrestling in a lower weight category.

In wrestlers, weight loss is conducted generally by reducing the intake of food and water, loss of water (dehydration) by sweating in hot environments, sauna, or exercises, or using various types of drugs (Gibs et al. 2009, Artioli et al. 2010, Steen and Brownell 1990).

The fast and short-term weight loss methods used by wrestlers create significant hazards and concerns regarding their health. Short-term weight loss inflicts negative impacts on the respective sportsperson regarding circulation, respiration, digestion, perception, and psychologically in parallel with the ratio of weight lost. It may result with fatalities occurring in some cases.

Decease of three college sportspeople in the United States of America (USA) in 1997 due to excessive weight loss in a short period encouraged the National Collegiate Athletic Association (NCAA) to take and develop precautions for the prevention of unsafe weight loss applications (Alderman et al, 2004; Utter et al, 2003; Stuempfle and Drury, 2003; Hetzler et al, 2006). In addition, it was specified that as the minimum wrestling weight, the body fat percentage must be at the level of minimum 5% in the body composition evaluation prior to the seasons and competitions within the framework of the Wrestling Weight Certification (WWC) program created by NCAA to reduce unhealthy weight loss and increase safe participation in a sportive activity for the college wrestlers in the US in 1998 (Utter et al 2001, Diboll and Moffit 2003, Clark et al, 2005). At the same time, within the scope of the minimum weight program for sportspeople (WWC), NCAA obligated the determination of body weights and compositions along with the hydrations of each wrestler in the beginning of the season (Utter et al, 2001).

The objective of this study conducted is the determination of the types of weight loss of the sportspeople involved with wrestling among the weight-based sports, their reason, and the impacts of the lost weight ratios on them.

2. Material and Method

The study has been conducted to reveal the weight losses of the sportspeople involved with wrestling and the impacts of their reduced weight on them. The study is in survey

screening model and the data were obtained by means of a questionnaire method and from the written literature.

The population of the study consists of the wrestlers who competed in category (A) in the intercollegiate Turkey Wrestling Championship 2016 and the sampling group is constituted by 92 wrestlers chosen by way of the random sampling method.

A questionnaire regarding the objective of the study has been developed. Understandability of each question of the questionnaire was ensured through receiving the opinions of experts in view of *“its relation with the issue being studied and with the targets to be measured,”* applying the valid content to 40 people as a preliminary trial questionnaire, and discussing and ordering it for clarity. The reliability of the questionnaire was ensured through the Cronbach’s Alpha method. Cronbach’s Alpha reliability coefficient of the questionnaire was found as 0,70. Numerous methods are available for calculating the reliability of the questionnaires developed for a study. The mostly used one of them is the Alfa Model (Cronbach’s Alpha Coefficient) (Lorlu, 2015). Cronbach’s Alpha number is a value between 0 and 1; it is the mean value of the weighed standard change found by proportioning the sum of the variances of the “k” number of articles in the scales to the general variance (Özdamar, 2002). Alpha coefficient is a benchmark of the internal coherence of the articles of a questionnaire. In the questionnaire, total 27 questions, 5 for the characteristics of the participants; 3 for their average weight loss, reasons for losing weight, and their methods for it; 3 for their thoughts and emotions regarding weight loss; and 16 for the problems they experience during and subsequent to weight loss, are present.

The questionnaire developed was caused to be filled in by the one-to-one interviewed individuals determined by means of a random sampling method. 92 wrestlers, 75 being males and 17 being females, took part in the questionnaire.

The questionnaires acquired were transferred to a computer environment for statistical operation and statistical operation was performed with an appropriate statistics program. For the statistical determination of the frequency (%), crosstabs, and differences, Chi-Square (X^2) test operations were used. In the determination of the difference between the variables, 0,05 was accepted as the confidence range. Comments were also made according to the responses given to each question.

3. Findings

Table 1: Distribution of the participants’ individual characteristics

Variables	N (Distribution)	% (Distribution)
Gender distributions	Male	75 81,5
	Female	17 18,5
	Total	92 100,0
Age distributions	15-18	1 1,1
	19-22	41 44,6
	23-25	36 39,1
	26 and above	14 15,2

Kadir Pepe, İbrahim Bozkurt
 A STUDY ON THE WEIGHT LOSSES OF WRESTLERS AND THE IMPACTS OF
 THEIR REDUCED WEIGHT ON THEIR PERFORMANCE

	Total	92	100, 0
Wrestling styles	Greco-roman style	39	42, 4
	Free style	53	57, 6
	Total	92	100, 0
How long have you been wrestling?	1-2 years	4	4, 3
	3-4 years	14	15, 2
	5 years and above	74	80, 4
	Total	92	100, 0
Distributions of the achievements	Top three in the Turkey championship	25	27, 2
	Top three in the international tournaments	34	37, 0
	Top three in the European championship	25	27, 2
	Top three in the world championship and Olympic top three	8	8, 7
	Total	92	100, 0

Table 2: Distribution of participants' "average weight losses, reasons and methods for losing weight"

Variables		N (Distribution)	% (Distribution)
Distribution of the average weight loss prior to a competition	1-2 kg	22	23, 9
	3-4 kg	38	41, 3
	5-6 kg	32	34, 8
	Total	92	100, 0
Weight loss reason	The number of opponents is less in the weight category to which I get down	10	10, 9
	My coach wants it	21	22, 8
	Presence of champion strong sportspeople in my normal weight category	25	27, 2
	Other reasons	36	39, 1
	Total	92	100, 0
Weight loss method	Workout +diet	59	64, 1
	Workout +medication	2	2, 2
	Workout +diet +sauna	27	29, 3
	All	4	4, 3
	Total	92	100, 0

Table 3: Distribution of participants' thoughts and emotions regarding weight loss "during and after the weight loss process"

Variables		N (Distribution)	% (Distribution)
Do you want to discontinue wrestling and did unwillingness take place during weight loss?	Yes	28	30, 4
	Sometimes	49	53, 3
	No	15	16, 3
	Total	92	100, 0
Do you consider your defeat in the contest is connected with weight loss?	Yes	59	64, 1
	No	33	35, 9

Kadir Pepe, İbrahim Bozkurt
A STUDY ON THE WEIGHT LOSSES OF WRESTLERS AND THE IMPACTS OF
THEIR REDUCED WEIGHT ON THEIR PERFORMANCE

	Total	92	100, 0
Have you been defeated after weight loss by a competitor, who you had been defeating prior to the weight loss?	Yes	63	68, 5
	No	29	31, 5
	Total	92	100, 0

Table 4: Comparative distribution of the problems experienced by participants
“during and after the weight loss process” as per their weight loss ratio

Variables		Yes	No	Total	X ² / P
1. I experience dizziness during weight loss.		8	14	22	
	1-2	36, 4%	63, 6%	100, 0%	
	3-4	23	15	38	9, 549 0, 008*
		60, 5%	39, 5%	100, 0%	
	5-6	25	7	32	
		78, 1%	21, 9%	100, 0%	
		56	36	92	
Total	60, 9%	39, 1%	100, 0%		
2. I experience blackout during weight loss.	1-2	11	11	22	
		50, 0%	50, 0%	100, 0%	
	3-4	31	7	38	7, 717 0, 021*
		81, 6%	18, 4%	100, 0%	
	5-6	25	7	32	
		78, 1%	21, 9%	100, 0%	
		67	25	92	
Total	72, 8%	27, 2%	100, 0%		
3. I experience mouth dryness during weight loss.	1-2	16	6	22	
		72, 7%	27, 3%	100, 0%	
	3-4	36	2	38	5, 964 0, 051*
		94, 7%	5, 3%	100, 0%	
	5-6	28	4	32	
		87, 5%	12, 5%	100, 0%	
		80	12	92	
Total	87, 0%	13, 0%	100, 0%		
4. Acute disorder takes place in my digestion system during and after weight loss.	1-2	7	15	22	
		31, 8%	68, 2%	100, 0%	
	3-4	27	11	38	9, 140
		71, 7%	28, 7%	100, 0%	

Kadir Pepe, İbrahim Bozkurt
A STUDY ON THE WEIGHT LOSSES OF WRESTLERS AND THE IMPACTS OF
THEIR REDUCED WEIGHT ON THEIR PERFORMANCE

		1%	9%	0%	0, 010*
	5-6	20 62, 5%	12 37, 5%	32 100, 0%	
		54 58, 7%	38 41, 3%	92 100, 0%	
Total					
	1-2	3 13, 6%	19 86, 4%	22 100, 0%	
	3-4	7 18, 4%	31 81, 6%	38 100, 0%	2, 796 0, 247
	5-6	10 31, 3%	22 68, 8%	32 100, 0%	
		20 21, 7%	72 78, 3%	92 100, 0%	
Total					
	1-2	13 59, 1%	9 40, 9%	22 100, 0%	
	3-4	16 42, 1%	22 57, 9%	38 100, 0%	2, 631 0, 268
	5-6	19 59, 4%	13 40, 6%	32 100, 0%	
		48 52, 2%	44 47, 8%	92 100, 0%	
Total					
	1-2	8 36, 4%	14 63, 6%	22 100, 0%	
	3-4	20 52, 6%	18 47, 4%	38 100, 0%	1, 482 0, 477
	5-6	15 46, 9%	17 53, 1%	32 100, 0%	
		43 46, 7%	49 53, 3%	92 100, 0%	
Total					
	1-2	10 45, 5%	12 54, 5%	22 100, 0%	
	3-4	20 52, 6%	18 47, 4%	38 100, 0%	, 287 0, 866

Kadir Pepe, İbrahim Bozkurt
A STUDY ON THE WEIGHT LOSSES OF WRESTLERS AND THE IMPACTS OF
THEIR REDUCED WEIGHT ON THEIR PERFORMANCE

	5-6	16 50, 0%	16 50, 0%	32 100, 0%	
		46 50, 0%	46 50, 0%	92 100, 0%	
Total					
	1-2	16 72, 7%	6 27, 3%	22 100, 0%	
9. There becomes a decline in my workout process as a result of weight loss.	3-4	28 73, 7%	10 26, 3%	38 100, 0%	, 029 0, 986
	5-6	23 71, 9%	9 28, 1%	32 100, 0%	
		67 72, 8%	25 27, 2%	92 100, 0%	
Total					
	1-2	13 59, 1%	9 40, 9%	22 100, 0%	
10. There becomes a decline in my competition performance due to weight loss.	3-4	32 84, 2%	6 15, 8%	38 100, 0%	5, 813 0,055*
	5-6	20 62, 5%	12 37, 5%	32 100, 0%	
		65 70, 7%	27 29, 3%	92 100, 0%	
Total					
	1-2	15 68, 2%	7 31, 8%	22 100, 0%	
11. I am defeated after weight loss by a competitor, who I had been defeating prior to the weight loss.	3-4	26 68, 4%	12 31, 6%	38 100, 0%	, 002 0, 999
	5-6	22 68, 8%	10 31, 3%	32 100, 0%	
		63 68, 5%	29 31, 5%	92 100, 0%	
Total					
	1-2	14 63, 6%	8 36, 4%	22 100, 0%	
12. I consider my defeat in a competition connected with my weight loss.	3-4	22 57, 9%	16 42, 1%	38 100, 0%	1, 479 0, 477
	5-6	23 71, 0%	9 28, 0%	32 100, 0%	

Kadir Pepe, İbrahim Bozkurt
A STUDY ON THE WEIGHT LOSSES OF WRESTLERS AND THE IMPACTS OF
THEIR REDUCED WEIGHT ON THEIR PERFORMANCE

		9%	1%	0%		
		59	33	92		
		64,	35,	100,		
		1%	9%	0%		
Total						
	1-2	6	16	22		
		27,	72,	100,		
		3%	7%	0%		
	3-4	11	27	38	1, 043	
		28,	71,	100,	0, 594	
		9%	1%	0%		
	5-6	6	26	32		
		18,	81,	100,		
		8%	3%	0%		
		23	69	92		
		25,	75,	100,		
Total		0%	0%	0%		
Variables		Yes	Somewhat	No	Total	X² / P
	1-	11	7	4	22	
	2	50,	31, 8%	18,	100,	
		0%		2%	0%	
	3-	17	21	0	38	
	4	44,	55, 3%	, 0%	100,	8, 921
		7%			0%	0, 063
	5-	17	11	4	32	
	6	53,	34, 4%	12,	100,	
		1%		5%	0%	
		45	39	8	92	
		48,	42, 4%	8,	100,	
Total		9%		7%	0%	
	1-	9	9	4	22	
	2	40,	40, 9%	18,	100,	
		9%		2%	0%	
	3-	20	15	3	38	2, 840
	4	52,	39, 5%	7,	100,	0, 585
		6%		9%	0%	
	5-	18	9	5	32	
	6	56,	28, 1%	15,	100,	
		3%		6%	0%	
		47	33	12	92	
		51,	35, 9%	13,	100,	
Total		1%		0%	0%	
	1-	7	9	6	22	
	2	31,	40, 9%	27,	100,	
		8%		3%	0%	
	3-	12	21	5	38	3, 108
	4	31,	55, 3%	13,	100,	0, 540
		6%		2%	0%	

	5-	9	19	4	32
	6	28,	59, 4%	12,	100,
		1%		5%	0%
		28	49	15	92
		30,	53, 3%	16,	100,
Total		4%		3%	0%

P<0,05*

4. Discussion and Results

This is a study planned and conducted in order to reveal the weight losses in wrestlers and the impact of their weight ratios on their performances. The findings acquired through the study were debated in terms of various aspects of them.

A total of 92 elite-level wrestlers participated in the study. In terms of their individual characteristics, we see that 81,5% of them are male, 18,5% are female; that their age distribution is between 19 and 25 years of age; that 57,6% of them are free and 42,4% are greco-roman style wrestlers; that 80,4% have been wrestling for 5 years and above; and 37% have ranked in top three in international tournaments, 27,2% in Turkey championships, and 27,2% in European championship, and 8,7% in the world and Olympic games (Table 1). According to these data, we can say that the generality of the people involved with wrestling is male and has been doing sports for 5 years and above and that they have achievements at international level in general.

When it comes to the participants' average weight losses, reasons for losing, and methods of losing, we see that 41,3% lost 3-4 kg, 34,8% lost 5-6 kg, 23,9% lost 1-2 kg; that 27,2% of them consider presence of champion strong sportspeople in their normal weight category; 22,8% consider the request of their coach; 10,9% consider the presence of fewer opponents in the reduced weight category, as the reason of their weight loss; and that weight loss methods in general are workout and diet in 64,1%; workout, diet, and sauna in 29,3%; and workout and drugs in 2,2%, in their responses (Table 2). In line with these data obtained, we can say that wrestlers lose weight between 3 and 6 kg, that the reason of it is the presence of champion strong sportspeople in their normal weight category, and that their weight loss methods in general are workout and diet followed by the methods of workout, diet, and sauna. These findings in this study are in parallel with the view (of Artioli et al, 2010) that wrestlers lose weight due to reasons like the consideration of the sportspeople competing in a lower category more impotent and weaker than themselves and presence of strong opponents in their own category and (of Bradley, 2006) that wrestlers lose weight by reducing their food and liquid consumption; using purgative (inflicting diarrhea) drugs, dietary drugs, and diuretics (removing urea); doing exercise intensely; and staying in sauna for a long time.

Concerning the thoughts and emotions of the participants about weight loss during and after the weight loss process, it appears that the participants responded to the question of "I want to discontinue wrestling and I am unwilling during the weight loss process" with sometimes by 53,3% yes by 30,4%, and no by 16,3 %; to the question of "Do you consider your defeat in the competition connected with weight loss?" with

yes by 64,1% and no by 35, 9%; to the question of “Have you been defeated after weight loss by a competitor, who you had been defeating prior to the weight loss?” with yes by 68,5% and no by 31,5% (Table 3). According to these data obtained within the scope of the study, we can say that the generality of wrestlers experience the wish of discontinuing doing sports during and after weight loss, they consider their defeat in the competition connected with weight loss, and they have been defeated after weight loss by a competitor, who they had been defeating prior to the weight loss. The findings and views (of Hall and Lane 2001) that the anger, tiredness, tension, and bad mood taken place in wrestlers upon weight loss has a negative relation with performance and (of Degoutte et al. 2006) that it has negative impact on the sportsperson’s psychology and physiology support the finding in our study.

4.2 Participants’ problems they experience “during and after weight loss” and the results of the comparative statistics as per weight loss ratio

Regarding the total answers of the participants to the question of “**I experience dizziness during and after weight loss,**” it appears that 60,9% say yes and 39,1% say no. In the comparative statistical analysis of the responses given in view of the weight loss ratio, χ^2 value, 9, 549, $p=0, 008$ were found (Table 4.1). This value is statistically highly significant ($p<0,05$). Upon the detailed scrutiny of the table, it appears that 36,4% of the people losing 1-2 kg and 78% of the people losing 5-6 kg say that they experience dizziness. According to this result, we can say that dizziness increases as long as the loss of weight increases. A wrestler experiencing dizziness during and after weight loss cannot be expected to be successful.

Regarding the total answers of the participants to the question of “**I experience blackout during and after weight loss,**” it appears that 72, 8% say yes and 27,2% say no. In the comparative statistical analysis of the responses given in view of the weight loss ratio, χ^2 value, 7,717, $P=0,021$ were found (Table 4.2). This value is statistically significant ($p<0,05$). Upon the detailed scrutiny of the table, it is shown that, 50% of the people losing 1-2 kg and 81,6% of the people losing 3-4 kg, and 78,1% of the people losing 5-6 kg state that they experience blackout. According to this result, we can say that blackout increases as long as the loss of weight increases. In a branch of sport requiring struggle like wrestling, a sportsperson experiencing blackout cannot be successful. The finding obtained as result of the study that wrestlers experience dizziness and blackout during weight loss tallies with the opinions and findings in the study performed (by Kurt, Kurt, and Çatıkkaş, 2006) regarding the fact that in the weight-based sports, weight loss has negative impact on sportspeople, that sportspeople experience lassitude, cramp, muscle tension, dizziness, excessive tiredness, and nervousness during a contest.

Regarding the total answers of the participants to the question of “**I experience mouth dryness during and after weight loss,**” it appears that 87,0% say yes and 13,0% say no. In the comparative statistical analysis of the responses given in view of the weight loss ratio, χ^2 value, 5,964, $p=0,051$ were found (Table 4.3). This value is

significant at 0,05 significance level ($p < 0,05$). A detailed analysis of the table shows that 72,7% of the wrestlers losing 1-2 kg, 94,7% losing 3-4 kg, and 87,5% losing 5-6 kg experience mouth dryness. According to these data obtained, we can say that wrestlers experience mouth dryness at each weight loss ratio but it increases in parallel with the increase of the weight loss ratio. The mouth dryness experienced by sportspeople is the clearest indicator that there is liquid loss and the metabolism need liquid. A sportsperson in need of liquid as a result of weight loss cannot be expected to perform well and achieve in a contest.

Regarding the total answers of the participants to the question of **“Acute disorder takes place in my digestion system during and after weight loss,”** it appears that 58,7% say yes and 41,3% say no. In the comparative analysis of the responses given in view of the weight loss ratio, χ^2 value was found as 9,140, $p = 0,010$ (Table 4.4). This value is statistically significant ($p < 0,05$). A detailed scrutiny of the table demonstrates that there is a significant relation in the weight loss ratios. Among the participants, 31% losing 1-2 kilos, 71,1% losing 3-4 kilos, and 62,5% losing 5-6 kilos say that an acute disorder takes place in their digestion system. According to this result obtained, we can say that acute disorder increases in a digestion system as per weight loss ratio. In this case, the success condition of wrestlers is affected negatively.

Regarding the total answers of the participants to the question of **“Pain forms in my kidneys during weight loss,”** it appears that 21,7% say yes and 78,3% say no. In the comparative statistical analysis of the answers given as per weight loss ratios, χ^2 value, 2,796, $p = 0,247$ were found. (Table 4.5). This value is not statistically significant at 0,05 significance level ($p > 0,05$). That is to say, there is no significant disagreement between wrestlers' weight loss ratios and suffering from kidney pain. It appears through the detailed scrutiny of the table that the generality of the participants is intensified on the option of “no.”

In total, the participants responded to the question of **“Cramps take place in my body during weight loss”** with yes by 52,2% and no by 47,8%. In the comparative statistical analysis of the answers given as per weight loss ratios, χ^2 value 2,631, $p = 0,268$ were found (Table 4.6). This value is not statistically significant ($p > 0,05$). A detailed examination of the table reveals that there is no significant relation between “weight loss and formation of cramps in the bodies of sportspeople” but 52,2%, the total ratio of the wrestlers suffering from cramps upon weight loss, is not an ignorable number. According to this result, we can say that cramps form in the bodies of wrestlers due to weight loss. A sportsperson whose body is subject to cramps due to weight loss cannot be expected to be successful.

Regarding the total answers of the participants to the question of **“Weight loss creates disorder in my perception of thoughts,”** it appears that 46,7% say yes and 53,3% say no. In the comparative statistical analysis of the answers given as per weight loss ratios, χ^2 value 1,482, $p = 0,477$ were found (Table 4.7). This value is not statistically significant ($p > 0,05$). That is to say, there is no significant disagreement of opinion of the wrestlers between weight loss ratios and wrestlers' ideas of presence of a disorder in

their perceptions due to weight loss. Despite the presence of no disagreement, the number of the wrestlers saying that there becomes a disorder in their perceptions is 46,7%. This ratio cannot be considered a trivial ratio. As a result, presence of disorder in perceptions due to weight loss in field of sports like wrestling that includes one-to-one struggle will have impact on success.

Regarding the total answers of the participants to the question of **“Weight loss inflicts negative impact in my excitement level,”** it appears that 50% say yes and 50% say no. In the comparative analysis performed for the determination of the answers given as per weight loss ratios, χ^2 = value, 285, $p=0,866$ were found (Table 4. 8). These values are not statistically significant ($p>0,05$). That is to say, there is no significant disagreement of opinion of the wrestlers that weight loss poses negative impact on their level of excitement. A detailed scrutiny of the table demonstrates that the ratio of the wrestlers who say that weight loss does not pose negative impact on their level of excitement is 50% is not a trivial number. Accordingly, we can say that in wrestling, weight loss has negative impact on the sportspeople’s level of excitement. A sportsperson who do not experience excitement during a contest cannot be expected to be successful.

Regarding the total answers of the participants to the question of **“There becomes a decline in my workout process as a result of weight loss,”** it appears that 72,8% say yes and 27,2% say no. In the comparative statistical analysis of the answers given as per weight loss ratios, χ^2 = value, 029, $p=0,986$ were found (Table 4.9). This value is not statistically significant ($p>0,05$). According to this result, we can say that there is no significant disagreement of opinion between the participants’ answers that there became a decline in their workout process as a result of weight loss. Upon the detailed scrutiny of the table, it appears that the generality of the participants gave the answer that there becomes a decline in their workout process as a result of weight loss. According to these data obtained, we can say weight loss causes a decline in wrestlers’ workout process.

Regarding the total answers of the participants to the question of **“There becomes a decline in my competition performance due to weight loss,”** it appears that 70,7% say yes and 29,3% say no. In the comparative analysis performed for the determination of the answers given as per weight loss ratios, χ^2 = value, 5, 818, $p=0,055$ were found (Table 4.10). This value is significant at 0,05 significance level ($p<0,05$). That is to say, there is a significant disagreement between the participants’ weight loss ratios in the answers given. Upon the detailed scrutiny of the table, it appears that the ratio of the wrestlers saying that there becomes a decline in their competition performance after weight loss is 59,1% in the ones losing 1-2 kilos, 84,2% in the ones losing 3-4 kilos, and 62,5% in the ones losing 5-6 kilos. According to this result, we can say that competition performance reduces as long as the weight loss ratio increases. Success cannot be expected from the wrestlers whose competition performance declines due to weight loss as well. This result obtained as a finding of our study is supported by the opinions that short termed and gradual weight loss has negative impacts on wrestlers’ muscle

power and performances and the impact increases in parallel with the ratio of weight lost in the studies conducted by Şahin and Süel (2006), Kurt, Kurt, and Çatıkkaş (2006), Koral J. and Dosseville F (2009), and Roemmich and Sinning (1997) on wrestlers.

Regarding the total answers of the participants to the proposition of **“I am defeated after weight loss by a competitor, who I have been defeating prior to the weight loss,”** it appears that 68,5% say yes and 31,5% say no. In the comparative analysis performed for the determination of the answers given as per weight loss ratios, χ^2 = value, 002, $p=0,999$ were found (Table 4.11). These values are not significant at 0,05 significance level ($p>0,05$). That is to say, concerning the idea of I am defeated after weight loss by a competitor, who I have been defeating prior to the weight loss, the participants do not have a significant disagreement in their responses in line with their weight loss ratios. Detailed analysis of the table demonstrates that the majority of the participants, 68,5%, says yes. According to this result, we can say that the generality of the participants is defeated after weight loss by a competitor, who they have been defeating prior to the weight loss. The studies conducted show that a body is unable to recuperate in terms of energy and liquid resources in a short time after fast weight loss despite the regained weights (Kukidome et al, 2008; Tarnopolsky et al, 1996; Demirkan et al, 2011). According to this condition, a wrestler cannot be expected to be successful in contests subsequent to weight loss.

Regarding the total answers of the participants to the proposition of **“I consider my defeat in a competition connected with my weight loss,”** it appears that 64,1% say yes and 35,9% say no. In the comparative analysis performed for the determination of the answers given as per weight loss ratios, χ^2 = value, 1,479, $p=0,477$ were found (Table 4.12). This value is not significant at 0,05 significance level ($p>0,05$). According to this result, wrestlers do not have a significant disagreement in their responses in line with their weight loss ratios. Upon the detailed scrutiny of the table, it appears that the generality of wrestlers consider their defeats in competitions connected with their weight losses.

To the question of **“I feel exhausted in mornings when I lose weight,”** 25% of the participants say yes and 75% say no. In the comparative analysis performed for the determination of the answers given as per weight loss ratios, χ^2 = value, 1,043, $p=0,594$ were found (Table 4.13). This value is not statistically significant ($p>0,05$). That is to say, there is no significant disagreement between the participants' weight loss ratios and the answers given. Upon the detailed scrutiny of the table, it appears that the generality of the participants say no to the query of I feel exhausted in mornings when I lose weight. We can connect this situation with the resting of the bodies of sportspeople until the morning as they sleep at night.

Regarding the total answers of the participants to the proposition of **“I become very irritated and nervous person during and after weight loss,”** it appears that 48,9% say yes, 42,4% say somewhat, and 8,7% say no (Table 4.14). In the comparative statistical analysis of the answers given as per weight loss ratios, χ^2 = value, 8,921, $p=0,063$ were found. These values are not statistically significant ($p>0,05$). That is to say,

there is no significant disagreement between the participants' weight loss ratios and the answers given to this question. Upon the detailed scrutiny of the table, it appears that generality of the participants intensifies at the options of yes and somewhat for this question. That is to say, we can say that they become very irritated and nervous persons over weight loss. This result from the findings of our study tallies with and supports the views and expressions that weight losses in the elite wrestlers prior to the competitions increase their depression levels in a study (performed by Işık et al, 2013) and the expressions (of Hall and Lane 2001, Anderson et al. 2002; Degoutte et al 2006) that restriction of food and liquids as a result of weight loss causes the increase of their cortisol levels, creating of anger and tension, and bad performance.

Regarding the total answers of the participants to the question of **"My order of sleep is broken down during and after weight loss,"** it appears that 51,1% say yes, 35,9 % say somewhat, and 13% say no. In the comparative analysis performed for the determination of the answers given as per weight loss ratios, $X^2=$ value, 2,840, $p=0,585$ were found (Table 4.15). This value is not statistically significant ($p>0,05$). That is to say, there is no significant disagreement between the participants' weight loss ratios and the answers given. Upon the detailed scrutiny of the table, it appears that generality of the participants intensifies at the options of yes and somewhat for this question. According to this result, we can say that participants experience disorder of sleep during and after weight loss.

Regarding the total answers of the participants to the question of **"Willingness to discontinue wrestling and fatigue take place during and after weight loss,"** we see that 30,4% say yes, 53,3% say somewhat, 16,3% say yes. In the comparative analysis performed for the determination of the answers given as per weight loss ratios, $X^2=$ value, 3,108, $p=0,540$ were found (Table 4.16). This value is not statistically significant at 0,05 significance level ($p>0,05$). That is to say, there is no significant disagreement between the participants' weight loss ratios and the answers given to this question. Upon the detailed scrutiny of the answers given by the participants, it appears that generality of them intensifies at the options of yes and somewhat. According to this result, we can say that the participants feel the willingness to discontinue wrestling and fatigue takes place during and after weight loss. It is not possible to expect a sportsperson in such a condition to continue with this sport and become successful.

From the data obtained within the scope of the study, it was determined that the sportspeople involved with the wrestling branch of the weight-based sports lose 3-6 kilos from their weights prior to the competition in general as they are successful sportspeople; that their weight loss methods were workout and diet or workout, diet, and sauna; that they experience the wish of discontinuing wrestling and unwillingness during and after the process of weight loss; that they are, due to weight loss, defeated by their competitors who they defeated prior to the weight loss and they consider their defeat as the consequence of their weight loss; and that they experience dizziness, mouth dryness, acute disorder in their digestion systems, cramps in various parts of their bodies, perceptive disorder, negative impact in their excitement levels, decline in

their workout process and performances, nervousness, and irritability. These situations are significant at 0,05 significance level in the comparative statistical analysis conducted as per weight loss ratios ($p < 0,05$). It was determined that such impacts that took place on the sportspeople upon weight loss generally increase in parallel with the weight loss ratio.

In conclusion, we can say in view of the literature and study conducted that wrestlers perform their weight (kilo) adjustment prior to a contest by losing 3-6 kilos from their current weights; that this is done by means of the workout-diet and sauna methods applying "restriction of liquid and nutrition in body;" and that this situation affect the physical, physiological, and psychological health as well as performances of

4.3 Suggestions

- In weight-based sports, a sportsperson must compete in the weight category as created upon normal intake of food and workouts;
- If the sportsperson is in an interim range of weight, he/she must lose maximum 1-2 kilos and must do such weight adjustment at least 4-5 weeks earlier;
- A sportsperson must not fall into the conditions during and after weight loss that will affect his/her performance negatively in terms of physical, physiological, and psychological grounds;
- In all branches of sports, particularly in weight-based sports, the order and variety of alimentation must be taken into account attentively;
- It is necessary to avoid all kinds of circumstances that will pose a negative impact on the health and performance of the respective sportsperson;
- Such circumstances must be told to the administrators, coaches, teachers of physical education and sports, and sportspeople along with other people involved.

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Kadir Pepe, İbrahim Bozkurt
A STUDY ON THE WEIGHT LOSSES OF WRESTLERS AND THE IMPACTS OF
THEIR REDUCED WEIGHT ON THEIR PERFORMANCE

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