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Female elite gymnasts' experiences of weight pressures, body image concerns, and disordered eating: a phenomenological study

by

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Trikala, Greece [2016]

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Abstract

The purpose of this study was to explore female elite gymnasts' experiences of weight pressures, body image concerns, and disordered eating. By using a phenomenological approach we aimed to shed more light on five elite gymnasts' experiences through interviews that focused on participants' personal meanings. Data was gathered through semi-structured interviews. Athletes cited as the main sources of weight pressure the level of competition, the coach's practices, the judges, and their attire. Further, athletes shared experiences of body dissatisfaction and weight preoccupation, and described the ideal body of a gymnast. Participants' knowledge on disordered eating and responses to a hypothetical scenario of a teammate with unhealthy weight-control behaviors are discussed. The findings clearly highlight the importance of promoting educational programs for both coaches and athletes about nutrition and healthy eating habits, and the need to eliminate practices and attitudes in the sport environment that can trigger disordered eating behaviors.

Keywords: weight pressures, body dissatisfaction, disordered eating, weight preoccupation

Table of Contents:

Declaration by Author	ii
Abstract.....	iii
Table of Contents	iv
Review of Literature.....	1
Disordered Eating in Sport.....	1
Sociocultural Models.....	3
Weight Pressures.....	4
Body Image.....	6
The Present Study.....	6
Methods.....	8
Participants.....	8
Procedures.....	8
Data Collection.....	9
Data Analysis.....	10
Figure.....	11
Results.....	12
Weight Pressures.....	12
The Level of the Athlete.....	12
The Coach’s Practices.....	13
The Judges.....	15
The Leotards.....	16
The Ideal Body.....	17
Body Image Concerns.....	18
Body Dissatisfaction.....	18
Weight Preoccupation.....	19
Knowledge on Disordered Eating and Communication Approaches to Teammates.....	20
Discussion.....	23
Limitations and Recommendations for Future Research.....	30

Conclusion.....	31
References.....	32
Appendix i: Informed Consent.....	38
Appendix ii: Interview Guide.....	39

Review of Literature:

As appearance is quite important in many sports and low weight is believed to affect dramatically the performance, a lot of athletes present body image concerns, pushed by weight-related pressures, and tend to engage in unhealthy weight control methods. It was during the 1990s that researchers started to investigate the sport-specific weight pressures that could contribute to unhealthy eating behaviors and negative body image (Reel, 2011).

In gymnastics the majority of the elite athletes train intensively during childhood and adolescence, with the risk of developing eating disorders or subclinical symptoms being quite high (Halimi, 2009). It has been estimated that because of the young age that elite gymnasts enter the high standards of training and meet the demands of weight loss for optimal performance, and of aesthetic considerations like slimness, they are in danger of developing eating disorders (Tan, Bloodworth, McNamee, Hewitt, 2014). Female gymnasts are considered to be in high risk as gymnastics in general emphasize the lean and slender body and the judges evaluate the athletes not only for their performance but for the aesthetic and the artistic part (e.g. Kerr et al., 2006).

Disordered Eating in Sport

Feeding and eating disorders are serious psychopathological disorders. According to DSM-5 (APA, 2013), they are characterized by a persistent disturbance of eating or eating-related behavior that results in the altered consumption or absorption of food and that significantly impairs physical health or psychosocial functioning.

During the last three decades there has been a growing interest in the concept of disordered eating in sport. The term refers to a subclinical condition and is based on the assumption of a continuum between healthy and pathological eating patterns (Sundgot-Borgen & Torstveit, 2010). Disordered eating may involve symptoms like body weight and body image anxiety, substandard nutrition, fasting, bingeing, vomiting, exploitation of laxatives, diuretics, diet pills etc. (Torstveit, Roseninge, and Sundgot-Borgen, 2008). It has been found that disordered eating behaviors may affect the cardiovascular, reproductive, skeletal, renal, gastrointestinal, endocrine and central nervous systems, as a result of undernourishment and inappropriate weight loss (Mountjoy et al., 2014). It is estimated that the consequences of disordered eating can be dangerous, as there are high mortality and suicide rates (Crow, 2012) and quality of life is seriously affected (Wade, Wilksch, & Lee, 2012). It has been reported that almost one quarter of young women have experienced disordered eating (Wade et al., 2012).

The body of literature shows that disordered eating is prevalent in athletic populations and that it affects health and well-being, identity and athletic performance (Papathomas & Lavalley, 2006, 2010). Studies show increased risk among athletes involved in sports that emphasize a lean body shape and low weight such as aesthetic, endurance and weight-class sports (Torstveit, Roseninge & Sundgot-Borgen, 2008). In aesthetic sports the success doesn't depend only on the execution of difficult physical skills but on artistic and appearance-based components as well (Reel & Voelker, 2012). As a result, aesthetic sport athletes are at higher risk for disordered eating behaviors compared to non-aesthetic athletes and non-athletes (Sundgot-Borgen and Torstveit, 2004). Additionally, it has been found that female athletes are in greater risk for developing disordered eating than males (Bonci et al., 2008). It is

estimated that more than the 25% of female athletes may suffer from subclinical symptomatology, whereas 2% to 7% of female athletes meet the criteria for eating disorders at a clinical level (e.g. Petrie, Greenleaf, Reel, & Carter, 2009; Reel, SooHoo, Doetsch, Carter, & Petrie, 2007). In the study of Kerr & Dacyshyn (2000), former elite female gymnasts reported a preoccupation with their body image and weight and appreciated that this was a source of constant stress.

The prevalence of both eating disorders and disordered eating, raises ethical issues about the sport's governing organizations' responsibilities towards their athletes and particularly the minors (Tan, Bloodworth, McNamee, Hewitt, 2014).

Sociocultural Models

There are several etiological models that explain how sociocultural pressures about weight and appearance may affect women that develop body image concerns and disordered eating behaviors. The internalization of beauty ideals such as the “thin ideal”, that focus on a slim and slender physique results in the comparisons that women make about their bodies, eating behaviors, and femininity (Anschutz, Engels, & Van Strien, 2008; Stice, 2002). This can lead to body dissatisfaction and a distorted body image, and the response can be a restriction in the caloric intake and pathological weight management practices (Anschutz et al., 2008). Female athletes are also a group susceptible to the internalization of the thin-ideal (Bissell, 2004). Athletes that are involved in elite levels are at high risk of developing disordered eating behaviors as except for the pressures for the thin-ideal, they have to deal with pressures for optimal performance (Beckner & Record, 2016).

The etiological model of Petrie and Greenleaf (2012), is based on the sociocultural models that apply on the general population, with sport-specific pressures added,

regarding weight, body shape and performance, and with the societal pressures as well. Further, it emphasizes how these pressures may influence the extent to which athletes internalize societal ideals, experience body dissatisfaction, experience negative emotions, and develop eating disorder symptomatology.

Weight Pressures

Except for internal factors that can contribute to the weight pressures, such as perfectionism, low self-esteem or being ego-oriented, there are certain external factors that have been presented in the literature. Factors that can lead athletes to body image concerns or disordered eating behaviors include monitoring weight, revealing uniforms, body criticism and negative comments from coaches, judges and teammates (Reel & Voelker, 2012).

The regular weigh-ins emphasize the need of specific weight requirements and can contribute to unhealthy weight-management strategies (Petrie & Greenleaf, 2012). In their studies Reel and Gill (1996; 1998), found that the 40% of the cheerleaders in a college level had weekly weigh-ins, so as to monitor how much weight they had lost or gained. When athletes are weighed, mainly by their coaches, they may become sensitized to their weight, physique and appearance and develop body dissatisfaction (Carrigan, Petrie, & Anderson, 2015).

Revealing uniform has been identified as a serious weight pressure and is quite often referred by athletes in aesthetic sports (e.g. Reel & Gill, 2001). In their study, Reel et al., (2005), found that the 99% of college dancers experienced negative body image and body concerns about their uniform and believed that the uniform distracted them during performance. Former competitive athletes have reported that their uniforms made them more aware of their shape and physique and that they caused

them feelings of dissatisfaction about their bodies (Greenleaf, 2012). Moreover, Reel & Gill (2001) found that the 45% of college female swimmers, appreciated that their swim suits were a source of body dissatisfaction.

Comments by coaches, judges and teammates can serve as triggers in developing negative body image and disordered eating behaviors (Kerr, Berman, and De Souza, 2006). Coaches are believed to be key-individuals and can play an important role in the early identification of disordered eating. The identification of these signs and symptoms may be critical in preventing them or treating them in their onset. It has been proposed that the risk of eating disorders in young athletes can be reduced in supportive coaching environments (Currie, 2010). However, certain practices such as critical comments regarding an athlete's weight (Kerr, Berman, & DeSouza, 2006; Muscat & Long, 2008), use of monitoring processes (McMahon & Dinan-Thompson, 2011) and direct verbal encouragement for unhealthy weight-loss (Engel et al., 2003, Kerr et al., 2006) can precipitate disordered eating behaviors. In their study (Kerr, Berman, and De Souza, 2006), found that the 44% of gymnasts had received negative comments about their bodies, with the 71% of them feeling that they should probably lose weight compared to those who had not received comments from their coaches. Moreover, a poor quality in the coach-athlete relationship, with low levels of support and high levels of conflict, has been linked with higher levels of eating psychopathology (Shanmugam et al., 2013).

The level of performance is another risk factor, as athletes at the highest levels of competition are at the highest risk (Nowicka, Eli, Ng, Apitzsch, & Sundgot-Borgen, 2013). The literature also suggests that pressures to be thin for performance places such athletes at increased risk of disordered eating and eating disorders development (e.g. Dosit, 2008). There is a general belief among athletes mainly in aesthetic and

weight-class sports that low weight can serve as an advantage for enhanced performance. The 97% of college female dancers in a study of Reel et al. (2005), stated that being lighter was an advantage as far as it concerns their performance and the 47% of collegiate swimmers appreciated that weight loss can be an advantage too (Reel & Gill, 2001).

Body Image

Body image, refers to the internal perception of one's own physical appearance (Thompson et al. 1999). Many different factors such as personal, societal and environmental, interact and create an individual's perception of her or his body (Cash, 2002). Negative body image can lead to the development of eating disorders and disordered eating (e.g. Vohs, Heatherton, & Herrin, 2001). Athletes' body dissatisfaction can be caused for the same reasons as in non-athletes (e.g. internalization of the thin ideal) (Thompson & Stice, 2001) and because of sport-specific factors as well (e.g. low weight for optimal sporting performance) (Sundgot-Borgen & Torstveit, 2004). However, there is evidence that body image dissatisfaction doesn't always accompany disordered eating (Reel & Voelker, 2012). Research shows that gymnasts may have a more positive body image when compared to non-athletes (de Bruin, Oudejans, and Bakker, 2007). According to Reel and Voelker (2012), athletes in some sports such as aesthetics, may be satisfied with their body appearance, but engage in disordered eating behaviors in order to enhance their performance, due to the common belief that low weight influences the performance.

The Present Study

Although disordered eating, body image concerns, and weight pressures have a long tradition in sport psychology research, the literature has presented so far a

narrow medicalized approach that focuses on the symptomatology and fails to explain the conceptualization of such factors (Botha, 2009) from the perspective of the athlete. According to Frank (2007), there is a certain danger that the scientific knowledge becomes detached from those it was intended to treat, as we don't have enough evidence on how athletes construct meanings around their bodies, the consumption of food etc. Papatomas and Lavallee (2014) stated that by accepting the findings that medical approaches offer, we don't consider disordered eating behavior as something that is influenced by social, historical and cultural factors. So, there are some researchers that call for methodological diversity in this field. Papatomas and Lavallee (2012) for example, mention that there is a variety of interpretive approaches that can focus on athletes' personal meanings and experiences. As researchers in sport and exercise psychology call for qualitative methodologies in order to understand the complexity surrounding the phenomenon of disordered eating (Busanich & McGannon, 2010), this study will try to give voice to the athletes to address important issues through a phenomenological approach.

A phenomenological study describes the meaning for several individuals of their lived experiences of a phenomenon. According to Creswell (2007), the researcher collects data from persons who have experienced the phenomenon and develops a description of the essence of the experience. This description consists of "what" they experienced and "how" they experienced it (Moustakas, 1994). Moustakas' (1994) transcendental or psychological phenomenology focuses less on the interpretations of the researcher and more on a description of the experiences of participants (Creswell, 2007).

So, this phenomenological study aims to shed more light on female elite gymnasts' experiences through interviews that would focus on participants' personal meanings.

The first goal is to investigate how these athletes perceive weight related pressures, and from which sources they appreciate they come. We also aim to explore, as a second goal, how athletes perceive their body image and what is in their opinion, the ideal body for their sport. Third, we investigate their perceptions about how weight affects performance and ask about practices that they may use in order to control their weight. The last goal of this study is to investigate if these athletes are familiar with the phenomenon of disordered eating and how they would react in a hypothetical scenario of an athlete in their team with possible disordered eating symptoms.

Methods:

Participants

The study was targeted in female athletes from an aesthetic sport and more specifically from rhythmic gymnastics. We aimed to recruit adult competitive athletes that would have many years of experience and would perform at an elite level. The participants are five elite level athletes with ages ranging from 19 to 23 years ($M=20.4$ years, $SD=1.67$) with an average of 15.6 years of experience in rhythmic gymnastics ($SD=2.07$).

Procedures

Ethical approval was obtained from the University Ethics Committee. The athletes that agreed to participate were provided with information about the present study and received a consent form. The confidentiality of the study was emphasized in order to build rapport and trust between the interviewer and the interviewees. The athletes were given the option to conduct the interview via Skype, phone, or in-person, depending on the personal preference and comfort level. All of them preferred the in-

person interview. Moreover, they were ensured that they could leave the interview at any time without justification.

Data Collection:

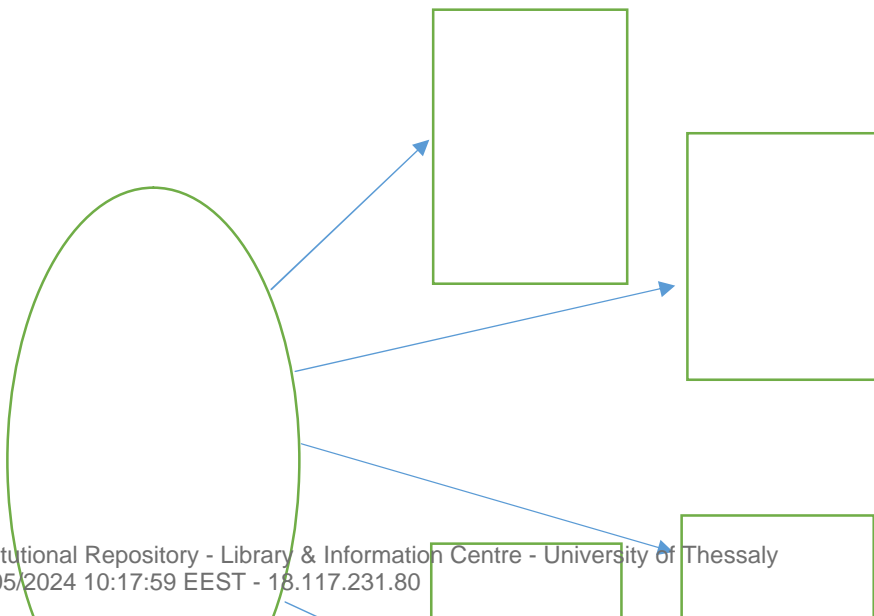
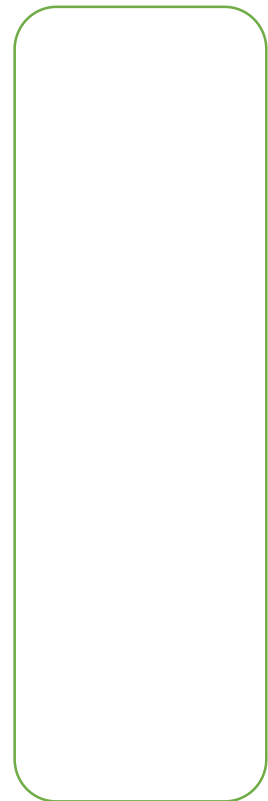
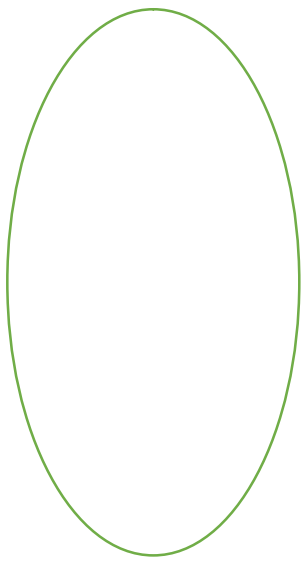
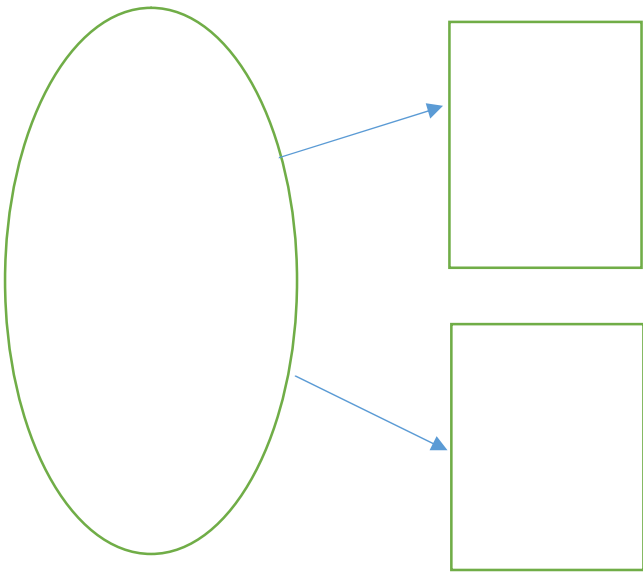
Data were collected through a semi-structured interview format and the author conducted all the interviews face to face. The semi-structured format was preferred as it can facilitate in-depth responses and it is possible for the researcher to include additional questions and direct the interview depending on the participant (Patton, 2002).

The interview questions were tested in a pilot interview with one athlete of rhythmic gymnastics in order to make the researcher more familiar with the process. This interview was not included in the analysis. The procedure led to a few changes and to the addition of two more questions. All interviews were recorded with a digital tape-recorder and lasted approximately 30 to 40 minutes.

The interview schedule was developed through previous research on disordered eating, weight pressures, and body image literature in aesthetic sports (e.g. Voelker & Reel, 2015). Participants were asked to provide us with information about their sport environment, their opinions on the ideal figure a gymnast should have etc. Except for exploring their own experiences though, the athletes were asked to respond to a hypothetical scenario of an athlete with disordered eating symptomatology. According to Hughes (1998), this is a less personal and threatening way of exploring sensitive issues, and a way to investigate people's actions in specific contexts. The term "disordered eating" was not used by the researcher in an attempt to leave the athletes free to select which terms they would use in order to describe their experiences (Busanich, McGannon, & Schinke, 2014).

Data Analysis

The interviews were transcribed verbatim. The data was analyzed as suggested by Moustakas' (1994) phenomenological method of analysis. More specifically, at first, the transcribed recordings were read several times in order to obtain an overall feeling for them (Creswell, 2007). Then, significant statements were identified in order to understand how participants experienced the phenomenon. Clusters of meaning and themes common to all of the participants' transcripts were developed from these statements. Participants were assigned pseudonyms for reasons of confidentiality. The following figure depicts the themes and subthemes that emerged.



Results:

Our results depict which are the weight pressures that the female elite athletes deal with in their sport and the sources they come from. Moreover, we describe the ideal body a gymnast should have according to their opinion and how they perceive their own body image. Their knowledge towards disordered eating behaviors is discussed and the responses to the hypothetical scenario of the teammate with disordered eating are also described.

Weight Pressures

The level of the athlete

All the athletes agreed that there are certain weight pressures on their sport. The elite level was described as an important factor that initiated their interest on keeping a specific weight. They all estimated that the higher the level they perform, the more they feel the pressure of keeping their weight low. As Eleutheria stated: “It is a psychological issue because... when you are an elite athlete and your weight is monitored in a daily basis, and you get 100 grams, no you get 200 grams, and you start thinking of it all the time and you brood over it...” It was estimated that the demands of the elite level can actually affect athletes that were not preoccupied with their weight before. Korina emphasized “... in the lower competitive levels it is better. When you are in a higher level it is more...we maximize things, they get excessive. And it gets in our mind and that creates a problem although an athlete

didn't have one, she can have a problem just because of the psychological factor.” Mary also describes how the high level of competition can lead the athlete to dangerous behaviors in order to control their weight: “...that's why there are so many disorders and so many problems, that's why they get 10 kilos when they stop (the former athletes)...when you get in the elite level where you are supposed to get monitored...there is a brainwash as far as it concerns the weight issues”.

The coach's practices

The coach was appreciated as the most important source of weigh pressure from all the athletes. They emphasized that coaches in rhythmic gymnastics are particularly interested in their athletes' weight and they described in detail their current coach's practices that they perceived as pressures. According to the athletes, the common practice of being monitored once a day in the morning hours, was replaced by a new approach by their current coach, with four weigh-ins, one in the morning, one after the morning training, one after lunch just before the second training and one after the end of the second training. Korina noted: “...it's very pressing for us, the fact that in the evening you shouldn't drink too much water or eat too much...because you have a weigh-in in the morning. And in the morning you shouldn't eat the regular breakfast that you would eat because in the next 15 minutes you will have a weigh-in. And all these will show in the scale, they may be nothing as calories but they will show. A yogurt that is 200 grams, we even think of it.” The same athlete emphasizes how this tactic is not something usual nowadays in their sport environment: “...this with the four weigh-ins... I don't think it is logical, it is very pressing...I haven't met this since my beginning until now...and it is a little funny... because when you monitor your weight after lunch, apparently you have gained. I just can't understand it...” Mary also states that she doesn't agree with this practice of her coach: “...until now,

we used to have one weigh-in in a daily basis. Now there is the new tactic with the four weigh-ins which I think it is stupid and needless...it doesn't make any sense, if you have drunk water you may put on 300 grams and the coach makes a fuss for 100 extra grams." Alexandra also comments on how much she is affected by the monitoring practices: "It affects me, I get very anxious, and I count (the calories) of every single mouthful, even the water, because this is something that makes a difference in the weigh-in." Katerina also believes that this approach is exaggerated: "...I think it's a little excessive...you can't have a standard weight all day long."

Another practice that was perceived as a pressure from the coach was the instruction they were given to drink a specific amount of water. It was described by all the athletes that the coach believed that the reduced fluid intake would lead to weight loss. Mary noted: "...the coach said to drink during the two trainings...ten hours per day, to drink a little bottle of water (500ml). I didn't do this not once, and I am not going to do this. I 'm sorry, but I don't want to get dehydrated, with these stupid things, no, I 'm not going to gain weight from water..." Eleutheria states in an ironic way: "Yes, we've been even told from the coach that water is fattening." Korina also said: "In a training that starts at half past eight until half past one you can't just have 250 grams and another 250 grams in the afternoon training that lasts 6 hours, it isn't possible. Half a liter in ten hours."

Except for these practices, two of the athletes described two different incidents of extreme food restraint and one reported some extreme actions towards the gain of weight. Korina reported: "It happened in a competition... we were competing in the afternoon and we had at half past seven (in the morning) a yogurt, and until the competition we didn't eat anything...we complained because we couldn't handle it...we didn't know if we are going to come through it..." The other incident was

described by Mary: "...it happened in a training to have nine hours continuing training without a break...I had breakfast at nine o'clock and I ate again at half past seven at night. Ok, I was ready to faint, I couldn't stand it...although I lost a lot (of weight), I didn't feel good at all." Both the incidents were initiated by the coach. Some other severe actions that were described were the following: "I fortunately haven't experienced anything like this but I've seen an athlete in a weigh-in that had put on (weight), she made her (the coach) run for two hours, or another that she didn't eat anything for the rest of the day, or even hit (the athlete)..."

Weight-based comments from the coach was a common source of pressure according to the athletes. They varied from mild to offensive and were perceived as hurtful and annoying from the athletes. Katerina for example stated that because she didn't face issues with her weight, she didn't receive specific negative comments that she remembers of: "There have been positive and there have been negative (comments)...it was normal..." All the other athletes reported a different situation, as Mary that mentioned: "I hear every day from the coach that I am fat..., ok from others they are more... gentle, more delicate the comments, girls you really need to lose some weight..." Alexandra described how the coach reminds them in a daily basis that they should not gain any weight: "We are told (comments) every single day for our weight. Ok, it is frustrating...she tells us (the coach) don't eat because you have to lose weight...and if we put on weight she berates us...she gives us more training." Eleutheria also notes: "(She tells me) you are fat, yes...Ok, fat is nothing to us, we now listen to it and we say ok." She recalls an incident when a coach compared her own body with hers: "I've been told from one that was 100 kilos (coach) that my thigh was like hers and that my arm was like hers."

The judges

Judges were also reported as a source of weight pressure in rhythmic gymnastics. Korina commented: “As the sport is about the appearance as well...how you look in the floor, if you have more kilos...it reflects on the evaluation...” She also noted: “...judges in every competition, they say you should lose weight...we may be at the lowest (weight) but they will always tell you to lose weight.” Some athletes mentioned that it depends on the judge and that there are different opinions about how slim they want the athletes to be. Aleksandra stated: “A judge may not be concerned if the athlete has two extra kilos...I know judges that may tell you that you are ok, others that want you to be very skinny. And they grade higher the skinnier athletes.” Mary comments on how important their appearance is in front of the judges: “It is apparently in our mind how we look at the floor when we go to an important competition...it is logical to get worried about our image...” Finally, Eleutheria reported: “They tell us (the judges) that we should lose weight because the appearance of a girl who is slimmer is different.”

The Leotards

The athletes expressed their thoughts and concerns towards their revealing leotards, with the majority of them admitting they feel self-conscious and have negative thoughts. Eleutheria mentioned: "...after my injury...the first time I wore the leotard, I felt really bad...how fat am I, how fat my legs look.” Korina similarly noted: “... (I was thinking) that I have bigger thighs, how am I supposed to go to the competition...I have to lose weight...things like these that create a negative psychology...” Aleksandra described that when she had some extra kilos, she had some thoughts of how she looks in the leotard just before the competition: “Yes, it makes me lose my concentration. I keep thinking that everybody looks at my thighs. You may be thin, but you have it in your mind.” One athlete, Katerina, mentioned that

in order not to feel self-conscious in the leotard, she tries to prepare her body: "...I think of it a long time before. I try to prepare my body in order to wear the leotard."

The Ideal Body

The ideal figure of an elite gymnast in rhythmic gymnastics was mainly described as "graceful", "slim but not anorexic", "slender but strong", "lean and muscled". It was estimated from all the athletes that the ideal body should be thin but at the same time they all disapproved the "anorexic" physique. More specifically, as Korina states: "(the athlete) should be graceful, she should have a nice body... not too thin". Mary noted: "Perhaps tall, thin, with a muscular body, for me it isn't perfect to be waif, unsound for example, I like (the athlete) to have muscles..." Aleksandra also described the ideal figure: "In rhythmic gymnastics you should be slender, it gives a totally different image in the floor...and strong. When you are too skinny but you are not firm it looks weird..." Eleutheria similarly noted: "She should have long and thin legs, and slim hips." Katerina described how things have changed during the last years as it is common nowadays to see gymnasts achieving their peak after reaching their twenties, when their bodies have more curves. She stated: "She shouldn't be too thin, anorexic, as it was previously, now the age limit has changed, so you can't have the physique of a child in the age of 14 or 15. You can see more feminine bodies now...things have changed a bit... when the athlete is 23...she will have her curves".

There was a consensus among the athletes that low weight was necessary for optimal performance. They described that the body of a gymnast in rhythmic gymnastics should be lean and her weight should be low in order to achieve a good performance. Aleksandra explained: "The heavier the body, the more difficult it is to

leap, to twirl, to balance. Generally, when you are lighter it is easier as far as it concerns the speed too. When you have extra kilos you are slower...” Mary also mentioned: “It is necessary for this sport (the athlete) to be thin and to have this specific physique as it helps you in many things, in your appearance, how it looks (the body) in the competition...to avoid injuries in the back, in the legs, we do a lot of leaps. Even one kilo...” Katerina similarly noted: “Our body is like an asset, if you have more or less kilos affects you in your movements.” Korina described how she was affected after an injury from her weight: “...back then I had put on two to three kilos...it affects your jumps and your movements...when you are lighter you can move...”

Body Image Concerns

Body Dissatisfaction

The gymnasts described how they experience body image concerns or have experienced them during puberty. Korina reported: “...when I was younger, I was chunkier... I didn’t like my body...Generally, the majority has an issue with this, when you are 16 (years old) and you don’t want to wear pants because they will make you look fat, I think it is a psychological matter.” Some of the athletes mentioned that during periods they had gained weight, for example after an injury, they had faced body dissatisfaction and concerns. Eleutheria talked about the difficulties she coped with after her injury: “...after the surgery... I was out for five months... I had put on ten kilos... it was very difficult to handle it.” Korina also mentioned: “I had an injury and I was forced not to train, I had put on two or three kilos, they might not seem a lot, but we even count the grams...500 grams are a major issue.” Aleksandra also described that she even thought to quit rhythmic gymnastics when she gained seven

kilos during the summer months: “I wanted to quit back then. But then I thought that I won’t quit for the weight... I did a big effort, I was really hungry but this had results.” Mary responded to the question what she thinks of her body as following: “It’s a mess...because I’m fat for this sport. I used to be thinner, I couldn’t realize it though, and I thought that I was fat back then too. Now I see photos and I say that I was stupid. Now I really have a problem.”

Weight Preoccupation

The gymnasts reported their preoccupation with food or weight related issues as a result of the pressures in their sport environment. Korina states: “...it is addressed in a wrong way from the coaches... we are being told don’t eat this, don’t eat that...I think we eat as a reaction...it gets in our mind and...I will eat this, you can’t tell me if I can eat this, it may sound self-centered but the majority of the girls in this sport does this.” The athletes explained that as they listen in a daily basis comments about their weight and their bodies, and they have frequent weigh-ins, they tend to adopt these behaviors and they try to control themselves with certain practices. Korina emphasizes: “...we monitor ourselves, because we want to see if we have lost or gain (weight) after training...” Aleksandra similarly notes: “...it is very hard, every day we look ourselves at the mirror...when every single day you are being told about it (to lose weight), it gets in your mind and it gets harder...the first thing I do is what I told you about the mirror, it becomes an obsession.” Except for checking her body in the mirror she uses other methods as well, such as monitoring herself in a scale: “I have a scale and even in the day-off...I just ate and I had a weigh-in immediately in order to check if I have put on after lunch.” Mary also explains: “It is constantly in my mind, the weight, what should I eat, how I will eat, the weigh-ins, it’s constantly in my mind...” It is a common theme among the athletes, being extremely preoccupied with

weight related issues, as Mary emphasizes: “When you have this pain chain and you think of it all the time...you can’t lose...you can’t control it, it becomes an obsession.” The same athlete has used in the past certain practices in an attempt to lose weight: “I’ve done silly things to lose weight, for example to go out at 12 or 2 o’clock in the night to run with a lot of layers of clothes so as to sweat, and then I didn’t drink water in order to lose one kilo.” Eleutheria also reported similar practices: “Sometimes I chew a gum in order not to eat something else...running, or cycling...to feel better.”

This preoccupation however lead to an increased consumption of food in their days-off as it was described by almost all the athletes. Alexandra notes: “As they tell us not to eat, we end up thinking of food only...when you know you don’t have a weigh-in the next day...you get the chance, even if you are not hungry, as a reaction...I usually do it as a reaction, because they forbid it, I know that I have one day, I will eat to get a kick out of it.” Korina also states: “...there are times...for example in our day-off when we...go wild with food. And we eat things that we will regret of because it was the effort of the week...” Eleutheria describes that if there wasn’t so much pressure they wouldn’t adopt such extreme eating behaviors: “...if it wasn’t for this pressure, we wouldn’t overdo it. In our day-off we go wild, we eat stupid things as if we will never eat again...it comes as a reaction I think.”

Knowledge on Disordered Eating and Communication Approaches to Teammates

Athletes were asked if they have noticed or heard of disordered eating behaviors in their sport environment. More specifically, the term “disordered eating” wasn’t used in an attempt to leave the athletes free to select which terms they would use in order

to describe their experiences. All the athletes replied that they haven't noticed anything related to such behaviors, but mentioned that they are familiar with the phenomenon. Further, they reported that they have heard the use of these practices in the previous years. Katerina emphasized how things have changed because athletes nowadays reach their peak performance in their twenties: "I've heard such things, from retired athletes...they didn't eat anything, and they had one fruit for the whole day...now there isn't anything like this..." Aleksandra similarly replied that she is familiar with these behaviors: "I've heard...that you eat too much, to feel satisfied, then you use your finger and you vomit." When she was asked if it is a usual practice, she replied: "Not anymore. I've heard about this from older athletes." Korina described that she had experiences in the past from other teammates that had disordered eating behaviors: "I've seen (an athlete who) had put an object into her mouth, or her finger in order to vomit...I've seen it. But I haven't done it...Nowadays it isn't usual...it was in the previous years." Eleutheria described an experience of a good friend and teammate that wasn't competing in an elite level: "I had a friend, a close friend...she would eat and then vomit, then eat and vomit again...she went to see a psychologist..."

Athletes were then asked to describe their reaction to a hypothetical scenario of a teammate who presented disordered eating behaviors. All the athletes discussed the importance of communicating with their teammate and described the way they would approach her. Eleutheria explained: "I would try to persuade her to open up, to share it so as she can get help, I would explain that there is no point at not eating because it will not help her...she should eat properly and in a healthy way. I wouldn't be able to help her that much..." Mary similarly stated: "I would talk to her...to make her open up to me, to tell me how she feels...if she didn't react, I would talk to the second

coach who is very cooperative...And to the other girls...what we should do to help her.” Korina responded in a different way, as she could see herself in the role of the gatekeeper: “I think I won’t let anyone do this. I see myself as...not their mother, as their older sister. She may have that issue but there is no chance for me to let this happen, at least as long as I am an athlete or a coach.” Aleksandra had a supportive response as well: “First of all as a friend and a teammate I would help her. I would talk to her, if I knew that she does such things, vomiting etc...I wouldn’t berate her, but I would tell her that she has to stop it because rhythmic gymnastics is just rhythmic gymnastics...but health, health is everything. This thing that she does now may be a problem in the future too...” Katerina similarly described how she would approach her teammate: “I would try to ask her how she feels...If it is something personal, if it is something related to the training...I would try to understand what she does exactly to achieve...her goal, which is to lose weight...I wouldn’t judge her.”

Some of the athletes reported that they would bring the issue to the other teammates, but none of them to the coach. Two of them mentioned that they would approach the second coach, for example Mary: “(the second coach) ...she understands a lot of things and she helps us psychologically, she has the role of the psychologist. So, I would talk to her.” Eleutheria also referred to the same person: “Yes, I would talk to the second coach...because our coach is from... (another country), she doesn’t even know how to speak the language...she doesn’t know how to explain such stuff...” Aleksandra mentioned that she would think if she would approach the coach or not: “It depends on the coach. Others would help the athlete, they would try to stop her...there are coaches that would tell her to quit gymnastics...if she can’t control it. Others wouldn’t even care, (they say) just be thin and that’s all.” Finally, Katerina

strongly expressed that she wouldn't approach the coaches or the other teammates: "I would prefer (to talk) to her only."

Discussion:

In our study we tried to explore female gymnasts' experiences of weight pressures, body image concerns, and disordered eating. Our findings were generally consistent with the relevant literature.

As far as it concerns the weight pressures in their sport environment, athletes identified four main sources. First of all, the level of competition was acknowledged as one source of weight pressure. All athletes agreed that elite gymnasts are very interested in controlling their weight, and they estimated that the higher the level they perform, the more they feel the pressure of keeping their weight low. They compared their previous experiences as non-elite athletes and reported that demands now are quite different. Except for the fact that the demands are higher though, athletes mentioned that the culture of the specific sport in the elite levels of competition influences them. In fact, one of the athletes used the term "brainwash" to describe how elite level athletes are affected by stereotypes about their physique, leading them to engage in problematic eating behaviors. Athletes that are involved in elite levels are at high risk of developing disordered eating behaviors as except for the pressures for the thin-ideal, they have to deal with pressures for optimal performance (Beckner &

Record, 2016). Further, in the study of Nowicka et al. (2013), it was found that the level of performance was as a risk factor for disordered eating behaviors, with the athletes at the highest levels of competition being at the highest risk.

The coach was deemed to be the main and most powerful source of weight pressure for the athletes. Coach's practices were described as particularly stressful, with the frequent weigh-ins being disapproved by all the athletes. The four weigh-ins in a daily basis, one in the morning, one after the morning training, one after lunch, and one after the end of the second training, were reported as "not logical", "stupid", "pressing", and "needless". Previous research has indicated that the regular weigh-ins emphasize the need of specific weight requirements and may contribute to unhealthy weight-management strategies (Petrie & Greenleaf, 2012), and that when athletes are monitored by their coaches, they may become sensitized to their weight, physique and appearance and develop body dissatisfaction (Carrigan, Petrie, & Anderson, 2015). In our case, the weigh-ins aren't in a weekly basis as in the study of Reel and Gill (1998), with the cheerleaders in a college level. The athletes in our study, have to be monitored four times a day, which means that they are forced to think of their weight and its variations during the whole day. Mandatory team weigh-ins have been identified as a serious sport pressure, they underlie sport environments that focus on pathogenic preoccupation with weight and body size, and may promote problematic weight management behaviors (Kerr et al., 2006; McNulty, 2001). The fact that one athlete reported that the coach would "make a fuss about 100 extra grams", and that all of them mentioned the importance of such slight differences in their weight for their coach, indicates that there is a normalization of practices like frequent monitoring in the sport environment of rhythmic gymnastics.

What was also alarming in the coach's practices was the instruction for reduced fluid intake. More specifically, gymnasts according to their coach should drink, half a liter of water in approximately ten hours of hard training. All the athletes considered this tactic as inappropriate and needless. It is obvious that practices like this can pose a threat to the athletes' health and can promote pathogenic behaviors and attitudes towards the achievement of a low weight. An ethical issue arises, when coaches promote the idea that water can be "fattening" to their athletes. In our case, athletes are all adults and perhaps they have the experience and the maturity to doubt and reject such dangerous practices. However, if we take into consideration that in aesthetic sports, athletes typically start training at a very young age, it is possible for young athletes not to be in the position to understand the problematic and threatening side of these tactics.

It was noteworthy that two out of the five athletes reported on their own, without replying to a specific question of the researcher, two different incidents of extreme food restraint. In both cases, the athletes ate only breakfast (which was often described as yogurt) and then didn't have any food for approximately ten hours. Practices like this indicate that our participants have experienced substandard nutrition and that they engage in unhealthy weight control methods that could lead to disordered eating symptomatology. Previous studies have found that 26.1% of female collegiate gymnasts, swimmers and divers, displayed subclinical eating disordered symptoms and the 6.3% met the criteria for clinical eating disorders (Anderson & Petrie, 2012).

The weight-based comments from their coach was a stressful and hurtful source of pressure for achieving and maintaining a low body weight. Except for one athlete that mentioned that the comments weren't particularly annoying, the other four athletes

experienced offensive comments, with the word “fat” being the most common that they would hear in a daily basis. The negative weight-related comments are a usual finding in the previous research, as in the study of Kerr, Berman, & DeSouza (2006), where the 44% of gymnasts reported receiving negative comments about their bodies from coaches, and with the 71% of those gymnasts more likely to feel they should lose weight than those who had not received weight related comments. Further, according to Anderson (2001), a remark from a coach can have devastating effects on an athlete's beliefs and behaviors regarding eating, and such critical comments can precipitate disordered eating behaviors (Muscat & Long, 2008). Moreover, in the current study athletes not only reported body criticism, but the use of offensive language as well. Except for the results that this practice can have to their eating behavior, the current coach-athlete relationship can be characterized by a poor quality, with low levels of support and high levels of conflict, which has been linked with higher levels of eating psychopathology (Shanmugam et al., 2013).

Judges were also reported as a source of weight pressure for the athletes, with some of them mentioning that they make negative weight-related comments and there was a belief that the skinnier the gymnast, the higher the score she will earn. Judges have been proposed as a source of pressure in the literature, for example in the study of Greenleaf (2004), where it was found that over half of college synchronized skaters (64%), believed that appearance and weight was important to them.

Leotards were also perceived as a source of pressure, with all the athletes admitting they have concerns about their appearance when wearing them. Especially when they faced body image concerns, they coped with negative thoughts about their attire, and this could lead to a “negative psychology” and result in a loss of concentration. Indeed, revealing uniform has been identified in previous studies as a serious weight

pressure and is quite often stated by athletes in aesthetic sports (e.g. Reel & Gill, 2001). As in the study of Reel et al. (2005) where the 99% of college dancers experienced negative body image and feelings of self-consciousness from their attire, reporting that the costume could be a performance distraction, some of our participants believed that the leotard could distract them during performance. Moreover, our finding coincides with the finding of Greenleaf (2012) where former competitive athletes have reported that their uniforms made them more aware of their shape and physique and that they caused them feelings of dissatisfaction about their bodies.

The ideal body of an elite gymnast was described as “slim but not anorexic”, “lean and muscled”. Although according to the athletes, gymnasts should be “strong” in order to perform technical skills, they should be “graceful” as well, something that is consistent with the findings in the study of Voelker & Reel (2015). Athletes also emphasized that being too thin was something undesired. They commented on how the age affects their physique, as they tend to become more “curvy” at their twenties.

There was also a consensus that low weight can serve as an advantage for enhanced performance as all the athletes stated that it is necessary to be thin in order to execute the technical part. This could lead to the normalization of the use of drastic solutions by the athletes in order to reduce their weight. Research indicates that there is a general belief in aesthetic sports that low weight can enhance performance (e.g. Busanich, McGannon, Schinke, 2014). Further, the 97% of college female dancers in a study of Reel et al. (2005), stated that being lighter was an advantage for performance and the 42% of collegiate swimmers appreciated that weight loss can be an advantage too (Reel & Gill, 2001). Dieting for performance was deemed

appropriate in the study of Plateau et al. (2014) as well, as coaches expected from their athletes to adapt their bodies in order to improve their performance.

Athletes described their body image concerns, with the four of them coping with body dissatisfaction. The periods during which they experienced dissatisfaction were at puberty or after an injury, when their weight was increased. Literature shows that sport-specific factors can contribute to the development of body dissatisfaction (e.g. low weight for optimal sporting performance) (Sundgot-Borgen & Torstveit, 2004), and in our case gymnasts explained multiple times how their weight, “even 500 grams”, can play a role in their performance.

The weight preoccupation was another theme that emerged in our analysis. All the athletes described how they are preoccupied with their weight and reported the use of practices to control it. This finding was consistent with previous studies. For example, in the study of Kerr & Dacyshyn (2000), former elite female gymnasts reported a preoccupation with their body image and weight and appreciated that this was a source of constant stress. It is noteworthy that four athletes used the term “obsession”, and the phrase “it gets in your mind” about their weight. They noted that they use scales to monitor their weight, even though they have four weigh-ins in a daily basis. Moreover, they described that they look at themselves in the mirror, and two athletes mentioned that they have used excessive exercise in an attempt to lose weight. It was emphasized that the pressures of their sport environment lead them to the continuous preoccupation with weight-related issues. It is interesting that although the athletes acknowledged the fact that these practices were a source of stress and although they disapproved and critiqued the tactic of their coach with the four weigh-ins, they had normalized their own actions and accepted them as inevitable.

However, this constant preoccupation leads, according to the athletes, to an excessive consumption of food in their days-off. Athletes described that the pressure of maintaining or losing weight, results into reacting with binge eating, even though they may not feel hungry. They also reported that after the excessive consumption of food they feel guilty. This is an alarming finding as binge eating has been reported as a symptom of disordered eating (Torstveit, Rosenvinge, and Sundgot-Borgen, 2008).

When athletes were asked about disordered eating, they all replied that they are familiar with the phenomenon but haven't experienced it. More specifically, the researcher didn't use the term "disordered eating" in an attempt to let the participants free to choose their own words in order to describe their experiences (the term that was used was "drastic methods for weight loss"). All of them described at least one example of disordered eating behaviors, including bulimic episodes, vomiting, and starvation. They agreed that these practices were used by athletes in the past and that now it isn't something common. However, it has been suggested that many gymnasts don't recognize certain methods as inappropriate and problematic and they may perceive them as normative in the sport culture (Kerr & Dacyshyn, 2000). Perhaps this can be an explanation why retired athletes who are out of the sport context find such behaviors inappropriate and abusive (Kerr, Berman, & DeSouza, 2006). Moreover, as it was suggested in the same study of Kerr, Berman, and DeSouza (2006), gymnasts may feel intimidated of talking about their disordered eating experiences because of possible negative consequences in their career.

Athletes were asked to respond to a hypothetical scenario of a teammate who coped with disordered eating. They all stated that they would approach the athlete and talk to her about the issue, explaining how these practices could threat her health. It is noteworthy that some of the athletes mentioned that they would inform the other

teammates, but none of them stated that would talk to the coach. This is a finding that depicts the poor quality of the coach-athlete relationship. As it was indicated in the previous findings, the constant criticism, the offensive language, and other practices of the coach resulted in an authoritarian coaching approach. It has been suggested that elite sports cultures have a tradition of paternalistic and authoritarian approaches, with high levels of external control (e.g. Brackenridge, 2001). However two of the athletes reported that they would approach their second coach with whom they had a supportive and trusting relationship.

Limitations and Recommendations for Future Research:

The present study is naturally not free of limitations. The participants, although were chosen due to their particularly high level of competition, were only five. Moreover, because of their sport engagements at the time we were conducting the study, it was impossible to conduct a second interview as we intended to initially, in order to have more detailed and richer results. So, our findings, even though they are consistent with the literature and add some more evidence in the field, lack in generalizability. Further, although our participants were willing to share their experiences and confidentiality was afforded, it has been suggested by previous research that gymnasts may feel intimidated of talking about their disordered eating experiences because of possible negative consequences in their career (Kerr, Berman, & DeSouza, 2006).

As a major theme that emerged was coach's practices towards weight loss, future research should concentrate more on the role of coach in the development of disordered eating in elite athletes of aesthetic sports, and assess the quality of the

coach-athlete relationship. So far coaches have been identified as a major weight pressure, however more qualitative research is needed with both athletes and coaches participants in order to investigate in depth their perceptions. It is important to move beyond the narrow medicalized approach that has been used so far in the field and use a variety of interpretive approaches that can focus on personal meanings and experiences (Papathomas & Lavalley, 2012).

Moreover, researchers should broaden their focus in male athletes, as this population remains underinvestigated, and explore the role of teammates, not only as a source of weight pressure, but as a positive influence in the identification of disordered eating behaviors and in interventions.

Conclusion:

It is a fact that athletes in sports that emphasize a lean figure are in danger of developing problematic and unhealthy behaviors in an attempt to maintain or reduce their weight. There are several practical implications that could be useful in the prevention of disordered eating. Promoting educational programs about nutrition issues for both athletes and coaches is essential. Additionally, practices like weigh-ins in a daily basis, body criticism, and offensive language, should be eliminated, as they are a source of stress and pressure for the athletes. The need of the extremely revealing leotards should be reevaluated by the gymnastics community and a support network with sport psychologists and dieticians should be established.

References:

- American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Washington, DC: Author.
- Anderson, D. A., Williamson, D. A., Johnson, W. G., & Grieve, C. O. (2001). Validity of test meals for determining binge eating. *Eating Behaviors*, 2(2), 105-112.
- Anschutz, D. J., Engels, R. C. M. E., & Van Strien, T. (2008). Susceptibility for thin ideal media and eating styles. *Body Image*, 5(1), 70-79.
- Anschutz, D. J., Engels, R. C. M. E., Becker, E. S., & van Strien, T. (2008). The bold and the beautiful. Influence of body size of televised media models on body dissatisfaction and actual food intake. *Appetite*, 51(3), 530-537.
- Beckner, B. N., & Record, R. A. (2016). Navigating the thin-ideal in an athletic world: Influence of coach communication on female athletes' body image and

- health choices. *Health Communication*, 31(3), 364-373.
- Bissell, K. L. (2004). What do these messages really mean? Sports media exposure, sports participation, and body image distortion in women between the ages of 18 and 75. *Journalism and Mass Communication Quarterly*, 81(1), 108-123.
- Bonci, C. M., Bonci, L. J., Granger, L. R., Johnson, C. L., Malina, R. M., Milne, L. W., et al. (2008). National athletic trainers' association position statement: preventing, detecting, and managing disordered eating in athletes. *Journal of Athletic Training*, 43, 80-108.
- Botha, D. (2009). Psychotherapeutic treatment for anorexia nervosa: modernist, structural treatment approaches, and a post-structuralist perspective. *Counselling, Psychotherapy, and Health*, 5, 1-46.
- Brackenridge, C. H. (2001). *Spoilsports: Understanding and preventing sexual exploitation in sports*. London: Routledge.
- Busanich, R., McGannon, K. R., & Schinke, R. J. (2014). Comparing elite male and female distance runner's experiences of disordered eating through narrative analysis. *Psychology of Sport & Exercise*, 15(6), 705-712.
- Busanich, R., & McGannon, K.R. (2010). Deconstructing disordered eating: A feminist psychological approach to the body, food, and exercise relationship in female athletes. *Quest*, 62, 385-405.
- Carrigan, K. W., Petrie, T. A., & Anderson, C. M. (2015). To weigh or not to weigh? relation to disordered eating attitudes and behaviors among female collegiate athletes. *Journal of Sport and Exercise Psychology*, 37(6), 659-665.
- Cash, T. F. (2002). The situational inventory of body-image dysphoria: Psychometric evidence and development of a short form. *International Journal of Eating*

- Disorders*, 32(3), 362-366.
- Creswell, J.W. (2007). *Qualitative inquiry and research design: Choosing among five approaches (2nd ed.)*. Thousand Oaks, CA: Sage.
- Crow, S. J., & Smiley, N. (2012). Costs and cost-effectiveness in eating disorders. *The oxford handbook of eating disorders*.
- de Bruin, A.P., Oudejans, R.R.D., Bakker, F.C., & Woertman, L. (2011). Contextual body image and athletes' disordered eating: The contribution of athletic body image to disordered eating in high performance women athletes. *European Eating Disorders Review*, 19, 201-215.
- Dosil, J. (2008). *Eating disorders in athletes*. Chichester: Wiley.
- Engel, S. G., Johnson, C., Powers, P. S., Crosby, R. D., Wonderlich, S. A., Wittrock, D. A., et al. (2003). Predictors of disordered eating in a sample of elite division I college athletes. *Eating Behaviors*, 4, 333-343.
- Frank, A. W. (2007). Five dramas of illness. *Perspectives in Biology and Medicine*, 50, 379-394.
- Halmi, K. A. (2009). Perplexities and provocations of eating disorders. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 50(1-2), 163-169.
- Kerr, G., Berman, E., & De Souza, M.J. (2006). Disordered eating in women's gymnastics: Perspectives of athletes, coaches, parents, and judges. *Journal of Applied Sport Psychology*, 18, 28-43.
- Kerr, G., & Dacyshyn, A. (2000). The retirement experiences of elite, female gymnasts. *Journal of Applied Sport Psychology*, 12(2), 115-133.
- McMahon, J. and Dinan-Thompson, M. (2008). A malleable body – revelations from an Australian elite swimmer. *Healthy Lifestyles Journal*, 54, 1-6.

- McNulty, P. A. F. (2001). Prevalence and contributing factors of eating disorder behaviors in active duty service women in the army, navy, air force, and marines. *Military Medicine*, *166*(1), 53-58.
- Mountjoy, M. L. (2014). Handbook of sports medicine and science: The female athlete. *Handbook of sports medicine and science: The female athlete* (pp. 1-133).
- Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.
- Muscat, A., & Long, B. (2008). Critical comments about body shape and weight: Disordered eating of female athletes and sport participants. *Journal of Applied Sport Psychology*, *20*, 1–24.
- Nowicka, P., Eli, K., Ng, J., Apitzsch, E., & Sundgot-Borgen, J. (2013). Moving from Knowledge to Action: A Qualitative Study of Elite Coaches' Capacity for Early Intervention in Cases of Eating Disorders. *International Journal of Sports Science & Coaching*, *8*(2), 343–356.
- Papathomas, A., & Lavalley, D. (2006). A life history analysis of a male athlete with an eating disorder. *Journal of Loss and Trauma*, *11*, 143-179.
- Papathomas, A., & Lavalley, D. (2010). Athlete experiences of disordered eating in sport. *Qualitative Research in Sport and Exercise*, *2*, 354-370.
- Papathomas, A., & Lavalley, D. (2014). Self-starvation and the performance narrative in competitive sport. *Psychology of Sport and Exercise*, *15*(6), 688-695.
- Papathomas, A., & Lavalley, D. (2012). Eating disorders in sport: A call for methodological diversity. *Revista De Psicologia Del Deporte*, *21*(2), 387-392.
- Patton M., Q. (2002). *Qualitative evaluation and research methods*. 3rd ed. London: Sage.

- Petrie, T. A., Greenleaf, C., Reel, J., & Carter, J. (2009). Personality and psychological factors as predictors of disordered eating among female collegiate athletes. *Eating Disorders, 17*(4), 302-321.
- Petrie, T.A., & Greenleaf, C. (2012). Eating disorders in sport. In S. Murphy (Ed.), *Handbook of sport and performance psychology* (1st ed.). New York, NY: Oxford University Press.
- Reel, J. J., & Voelker, D. (2012). Sculpted to perfection: Addressing and managing body image concerns and disordered eating among athletes. *Athletic insight's writings in sport psychology* (pp. 301-316).
- Reel, J. J. (2012). Identification and prevention of weight pressures and body image concerns among athletes. *Revista de Iberoamericana de Psicología del Ejercicio y el Deporte 6*, 203-216.
- Reel, J.J., & Gill, D.L. (1996). Psychosocial factors related to eating disorders among high school and college female cheerleaders. *The Sport Psychologist, 10*(2), 195-206.
- Reel, J.J., & Gill, D.L. (1998). Weight concerns and disordered eating attitudes among male and female college cheerleaders. *Women in Sport and Physical Activity Journal 7*(2), 79-94.
- Reel, J. J., SooHoo, S., Gill, D.L., & Jamieson, K.M. (2005). Femininity to the extreme: Body image concerns among college female dancers. *Women in Sport and Physical Activity Journal, 14*(1), 39-51.
- Reel, J.J., & Gill, D.L. (2001). Slim enough to swim? Weight pressures for competitive swimmers and coaching implications. *The Sport Journal, 4*(2).
- Shanmugam, V., Jowett, S., & Meyer, C. (2013). Eating psychopathology amongst

- athletes: The importance of relationships with parents, coaches and teammates. *International Journal of Sport and Exercise Psychology*, 11(1), 24-38.
- Stice, E. (2002). Risk and maintenance factors for eating pathology: A meta-analytic review. *Psychological Bulletin*, 128(5), 825-848.
- Sundgot-Borgen, J. & Torstveit, M.K. (2010). Aspects of Disordered Eating Continuum in Elite High-Intensity Sports. *Scandinavian Journal of Medicine & Science in Sports*, 20(2), 112-121.
- Sundgot-Borgen, J., & Torstveit, M.K. (2004). Prevalence of eating disorders in elite athletes is higher than in the general population. *Clinical Journal of Sport Medicine*, 14, 25-32.
- Tan, J., Bloodworth, A., McNamee, M., & Hewitt, J. (2014). Investigating eating disorders in elite gymnasts: *Conceptual, ethical and methodological issues*. *European Journal of Sport Science*, 14(1), 60-68.
- Thompson, J. K., & Stice, E. (2001). Thin-ideal internalization: Mounting evidence for a new risk factor for body-image disturbance and eating pathology. *Current Directions in Psychological Science*, 10(5), 181-183.
- Thompson, S. H., Corwin, S. J., Rogan, T. J., & Sargent, R. G. (1999). Body size beliefs and weight concerns among mothers and their adolescent children. *Journal of Child and Family Studies*, 8(1), 91-108.
- Torstveit, M.K., Rosenvinge, J.H., & Sundgot-Borgen (2008). Prevalence of Eating Disorders and the Predictive Power of Risk Models in Female Elite Athletes: A Controlled Study. *Scandinavian Journal of Medicine & Science in Sports*, 18, 108-118.
- Voelker, D. K., & Reel, J. J. (2015). An Inductive Thematic Analysis of Female

Competitive Figure Skaters' Experiences of Weight Pressure in Sport. *Journal of Clinical Sport Psychology*, 9(4), 297–316.

Vohs, K. D., Heatherton, T. F., & Herrin, M. (2001). Disordered eating and the transition to college: A prospective study. *International Journal of Eating Disorders*, 29(3), 280-288.

Wade, T. D., Wilksch, S. M., & Lee, C. (2012). A longitudinal investigation of the impact of disordered eating on young women's quality of life. *Health Psychology*, 31(3), 352-359.

Appendix i: Informed Consent



ΠΑΝΕΠΙΣΤΗΜΙΟ ΘΕΣΣΑΛΙΑΣ
ΤΜΗΜΑ ΕΠΙΣΤΗΜΗΣ ΦΥΣΙΚΗΣ ΑΓΩΓΗΣ ΚΑΙ ΑΘΛΗΤΙΣΜΟΥ



Έντυπο συναίνεσης δοκιμαζόμενου σε ερευνητική εργασία

Τίτλος Ερευνητικής Εργασίας: Εμπειρίες αθλητριών ρυθμικής γυμναστικής σχετικά με τη διατροφή και την εικόνα του σώματος τους: μία ποιοτική μελέτη

Επιστημονικός Υπεύθυνος-η: Αθανάσιος Παπαϊωάννου, Καθηγητής Αθλητικής Ψυχολογίας

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1. Σκοπός της ερευνητικής εργασίας

Σκοπός της μελέτης είναι η συγκέντρωση μέσω ποιοτικής μεθοδολογίας, εμπειριών αθλητριών ρυθμικής γυμναστικής υψηλού επιπέδου, σχετικά με ζητήματα διατροφικών συνηθειών και την εικόνα του σώματος τους.

2. Διαδικασία

Οι συμμετέχουσες θα κληθούν να λάβουν μέρος σε μία συνέντευξη που θα διαρκέσει περίπου 30 λεπτά και να απαντήσουν σε διάφορες ερωτήσεις της ερευνήτριας.

3. Κίνδυνοι και ενοχλήσεις

Δεν αναμένεται να υπάρξει κανένας κίνδυνος ή ενόχληση στις συμμετέχουσες.

4. Προσδοκώμενες ωφέλειες

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5. Δημοσίευση δεδομένων – αποτελεσμάτων

Η συμμετοχή σας στην έρευνα συνεπάγεται ότι συμφωνείτε με την μελλοντική δημοσίευση των αποτελεσμάτων της, με την προϋπόθεση ότι οι πληροφορίες θα είναι ανώνυμες και δε θα αποκαλυφθούν τα ονόματα των συμμετεχόντων. Το όνομα σας δε θα φαίνεται πουθενά, καθώς θα χρησιμοποιηθούν ψευδώνυμα.

6. Πληροφορίες

Μη διστάσετε να κάνετε ερωτήσεις γύρω από το σκοπό ή την διαδικασία της εργασίας. Αν έχετε οποιαδήποτε αμφιβολία ή ερώτηση ζητήστε μας να σας δώσουμε διευκρινίσεις.

7. Ελευθερία συναίνεσης

Η συμμετοχή σας στην εργασία είναι εθελοντική. Είστε ελεύθερος-η να μην συναινέσετε ή να διακόψετε τη συμμετοχή σας όποτε το επιθυμείτε.

8. Δήλωση συναίνεσης

Διάβασα το έντυπο αυτό και κατανοώ τις διαδικασίες που θα ακολουθήσω. Συναινώ να συμμετάσχω στην ερευνητική εργασία.

Ημερομηνία: __/__/__

Όνοματεπώνυμο και
υπογραφή συμμετέχοντος

Υπογραφή ερευνητή

Όνοματεπώνυμο και
υπογραφή παρατηρητή

Appendix ii: Interview Guide

- 1) Can you provide me with some information about your sport environment?
- 2) Which is the ideal body a gymnast in rhythmic gymnastics should have?
What do you think about your body?
- 3) Do you think that the body of a gymnast affects her performance? How?
- 4) Can you give me some information about your nutrition? Do you have dietary restrictions?
- 5) Do you think there are pressures in your sport environment as far as it concerns your weight and your physique?
- 6) Have you ever heard any comments about your body or your eating habits?
- 7) Are you familiar with the use of drastic methods for weight loss? Have you ever used any?

- 8) This is a hypothetical scenario and I would like you to tell me how you would react in this case: «You suspect that a teammate of yours has body concerns. You notice that she has reduced her food intake, and you suspect that she engages in certain practices such as vomiting. She doesn't share her concerns with anyone. » What are your first thoughts and how would you react;