

Aesthetic Sports as High-Risk Contexts for Eating Disorders – Young Elite Dancers and Gymnasts Perspectives

Rita Francisco¹, Madalena Alarcão², and Isabel Narciso¹

¹Universidade de Lisboa (Portugal)

²Universidade de Coimbra (Portugal)

This is the first study developed in Portugal which investigates specific characteristics of dance and gymnastics environments that make them high-risk contexts for the development of eating disorders. Four focus groups were conducted with thirteen ballet students from a professional dance school and nine gymnasts from a gymnastics club (aged 12 to 17 years old), which were subjected to an inductive-deductive analysis procedure. Specific risk and protective factors were identified. Among their respective sources of influence, teachers and coaches are those who exert a stronger influence upon young athletes. We also explored some themes related to the influence of peers, parents, and environmental characteristics, which could have an important role on the development or prevention of disordered eating.

Keywords: eating disorders, ballet, gymnastics, adolescents, focus group.

Este es el primer estudio realizado en Portugal que tiene como objetivo investigar las características específicas que en el mundo de la danza y de la gimnasia pudieran ser factores de alto riesgo para el desarrollo de trastornos de la conducta alimentaria. Se realizaron cuatro grupos focales con trece estudiantes de danza profesional y nueve gimnastas (de 12 a 17 años). Las transcripciones de los grupos focales fueron sometidas a un procedimiento de análisis inductivo-deductivo. Se identificaron factores de riesgo y protectores específicos. Entre las respectivas fuentes de influencia, los profesores y entrenadores son los que ejercen mayor influencia sobre los jóvenes atletas. También se exploraron algunos temas relacionados con la influencia que tienen compañeros, padres y las características del entorno deportivo; los cuales pueden tener un importante rol tanto en el desarrollo como en la prevención de comportamientos alimentarios alterados.

Palabras clave: trastornos de la conducta alimentaria, ballet, gimnasia, adolescentes, grupo focal.

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Correspondence concerning this article should be addressed to Rita Francisco. Faculdade de Psicologia, Alameda da Universidade. 1649-013 Lisboa (Portugal). E-mail: rmfrancisco@fp.ul.pt

Eating Disorders (ED), defined as abnormal eating habits associated with a permanent worry about weight and body image, have been considered a public health threat, mainly affecting female adolescents and young adults. Over the last three decades, a great number of studies have documented a higher risk, prevalence, and incidence of ED among athletes, compared with the general population (e.g. Garner & Garfinkel, 1980; Hausenblas & Carron, 1999; Toro et al., 2005). Striegel-Moore, Silberstein, and Rodin (1986) compared the sporting environment to a subculture where the influence of environmental and sociocultural factors is amplified. Today's society constantly pushes individuals into achieving an "ideal" body through diets and exercise. However, athletes are also exposed to the internal pressures of their sport, which often overemphasize the link between peak performance and a specific weight (Hausenblas & Carron, 1999; Toro et al., 2005). On the other hand, high expectations and pressure from parents, coaches, and teammates are among the main factors causing ED (Dosil & González-Oya, 2008).

A meta-analysis of 34 studies ranging from 1975 to 1999 concerning female athletes and eating problems revealed that elite athletes are more at risk of suffering from ED than nonathletes or nonelite athletes, especially those from sports in which the required body aesthetic demands thinness (Smolak, Murnen, & Ruble, 2000). In fact, *aesthetic sports*, such as rhythmic and artistic gymnastics, ice-skating, or dance, are considered by Dosil & Díaz (2008), according to the United States Olympic Committee criteria, as high-risk sports for ED (as well as weight division sports, gym sports, or endurance sports). The judges' criteria which stress thinness are another essential factor in the etiology of ED in some sports (Thompson & Sherman, 1993). Therefore, ballet dancers and gymnasts, for example, are more prone to engaging in extreme and unhealthy eating and weight-control behaviors (Engel et al., 2003; Petrie, 1993) in the name of commitment and competition (Gvion, 2008; Thompson & Sherman, 1999). Classical dance is considered an art more than a sport by those who practice it. However, as ballet is also the most physical of the performing arts (Aalten, 2004), dancers can also be considered special athletes. The long hours of daily physical training, the pressure to maintain an extremely thin body to achieve aesthetic and performance ideals, as well as the need to be technically, artistically and aesthetically excellent (Davis & Strachan, 2001; Koutedakis & Jamurtas, 2004; Krasnow, 2005; Schluger, 2010), are similar in both ballet and gymnastics and make these activities interesting contexts for the study of ED development risk.

In Portugal there are no studies reporting levels of prevalence of ED among dancers or gymnasts. The latest study showed that the prevalence of all ED was 3.06% among female adolescents (0.39% for Anorexia Nervosa, 0.30% for Bulimia Nervosa, and 2.37% for Eating Disorders Not Otherwise Specified—EDNOS) (Machado, Machado, Gonçalves, & Hoek, 2007).

Toro and his colleagues (2005) studied Spanish athletes from different sports and found a ratio of athletes with some type of ED five times higher than that in the general population (22.6% vs. 4.1%). Athletes competing in rhythmic sports, such as gymnasts, displayed the highest percentages. Another study (Dosil & Díaz, 2008) which analyzed the relationships between athletes' ideal and real weight reached the conclusion that rhythmic gymnasts show high levels of weight dissatisfaction (77.2% of them considered that their real weight was above their ideal weight, according to the weight required for their discipline, in which competition judges reward an exceptionally thin body, when compared with the ideal weight for the normal population). A study of female ballet dancers (Ringham et al., 2006) revealed that 83% of them reported some form of eating pathology, including Anorexia Nervosa (6.9%), Bulimia Nervosa (10.3%), and EDNOS (55%). Thomas, Keel, and Heatherton (2005), upon comparing the prevalence of disordered eating attitudes and behaviors among adolescent ballet dancers at national, regional, and local schools, suggested a combination of individual (e.g., perfectionism) and environmental (e.g., competition) variables as mediators of the phenotypic expression of ED. Despite the fact that a dancer's extra-thin body is looked upon as a sign of ultimate control and professional achievement (Gvion, 2008), it is necessary to have an accurate understanding of the aspects of the dance school environment and relationships established there, as well as at gymnastics clubs, that may inhibit or contribute to the development of an ED. It is well known that the prevalence of ED is substantially higher among females than males. For this reason, male athletes are rarely included in studies of athletes' eating behaviors (dancers are also excluded because there are far fewer male than female dancers). However, some of these few studies show that the male athletes competing in sports that emphasize a lean body shape or a low body weight also evidenced a significantly higher prevalence of ED than other athletes and non-athletes (e.g. Byrne & McLean, 2002). On the other hand, male dancers and gymnasts are part of the systems studied, so they can influence the development of ED among girls' counterparts positively or negatively, and should be taken into account.

The purpose of this study was to understand the specifics of dance and gymnastics' environments that make them high-risk contexts for the development of ED among female and male adolescents, adopting a qualitative methodological approach. We tried to investigate (a) specific types of pressures and characteristics young Portuguese dancers and gymnasts found within their contexts; (b) the way teachers/coaches, peers/teammates, and parents sway their body image and weight attitudes and behaviors; and (c) specific environmental characteristics that could protect young dancers and gymnasts from developing ED. The ecological perspective, which considers the systems that surround these adolescents and specifically understands the

Table 1
Focus group questions

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1. When you hear about dance/gymnastics, what comes to your mind?
 2. What would an ideal dancer/gymnast's body look and be like?
 3. You live in an environment that greatly values the body and the physical appearance—does this have any impact on your life?
 4. How is your relationship with your teachers/coaches?
 5. How do your parents deal with the Dance School/Gym Club demands?
 6. How do you live through auditions/competition exams?
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forces shaping adolescents' development (and possible ED) in their environments, is an adequate theoretical frame to answer these questions (Bronfenbrenner, 1979). As "seeing research participants' lives from the inside often gives a researcher otherwise unobtainable views" (Charmaz, 2006, p. 14), qualitative research is considered the best way to explain processes and phenomena from specific contexts (Miles & Huberman, 1994).

Method

Participants

The participants ($N = 22$; 11 females and 11 males) were 13 female and male ballet students ($M = 14.6$ years, $SD = 1.56$) from a professional Portuguese dance school, and 9 gymnasts ($M = 15.1$ years, $SD = 1.27$) from a Portuguese gymnastics club, who compete at national and international level.

Ballet students from different classes were separated into two focus groups (FG) according to their artistic level (FG1: 3rd to 5th levels; FG2: 6th to 8th levels), and gymnasts were also separated according to their gymnastics disciplines (FG3: artistic and rhythmic gymnastics; FG4: acrobatic gymnastics). All of the participants' parents gave written authorization for their children to participate in the research, and all of them signed informed consent.

Procedure

Focus groups were selected as a data collection method because they are particularly useful for exploratory research when little is known about the context (e.g. James, Rienzo, & Frazee, 1997; Tiggemann, Gardiner, & Slater, 2000). The goal is not to generalize to larger populations; instead, our intention is to fully understand particular aspects through the different ideas that emerge. The interaction between participants enables them to express their views of the world where they live, their beliefs and attitudes in their own words. Thus, the participants were recruited through purposive sampling, according to the project's goal of generating the most productive discussions possible with the focus groups (Morgan, 1998). The session with each

group (60-90 min) was based on the questioning route with open-ended questions developed for that purpose (see Table 1). The study was part of a PhD project (about the individual, family, and environmental characteristics that put young dancers and gymnasts at higher risk or protect them from the development of ED) and as such was scrutinized by the appropriate university research committees and the Foundation for Science and Technology (Portugal).

The focus group discussions were recorded and transcribed verbatim and subjected to an inductive-deductive content analysis procedure. First, the focus groups' data were analyzed deductively for meaningful units (references), which were defined as sets of phrases about the same topic. Then, meaningful units that shared common features were identified and organized into distinct categories and were combined to form more abstract categories, as engaged in successive levels of analysis (Charmaz, 2006), based on new labels or pre-existing concepts in the literature. Triangulation by the researchers helps to ensure the credibility and validity of the research (Miles & Huberman, 1994). Therefore, raw data responses were individually identified and grouped into themes and subthemes developed by the first researcher and checked for reliability and validity by a second researcher until a consensus was reached. The QSR Nvivo7 software (QSR, 2006) was used to search, store, explore, and organize the qualitative material.

Results

The content analyses of the focus groups' responses yielded 84 interrelated categories, organized in a hierarchical system. Two main categories were seen as having the most potential for the purpose of the study:

1) *Factors of Influence* among dancers' and gymnasts' attitudes, behaviors, and well-being. They were separated into risk factors for the development of problems among young elite athletes (corresponding to 58% of the coded references), protective factors (29%), and ambiguous factors (because the type of the influence was not clarified by the participants or it is not referred to in the literature; 13%). Among the risk and protective factors, we have distinguished those specifically related to ED and those related to problems in general. The inclusion criteria in each category were a

reference to the theme by participants at focus groups or in the literature reviewed.

2) *Sources of Influence*, which indicate the source of the influence factors. We have found three main sources of influence—dance school/gymnastics club (72%), classical dance world/elite gymnastics world (13%), and parents (9%).

We will present a detailed analysis of each source of influence upon dancers' and gymnasts' attitudes and behaviors, to try to understand which factors appear to be most related to each source. To provide insight into the experiences of the participants, some of their quotations are included within the explanation of each factor of influence (names given to respondents are pseudonyms to guarantee anonymity).

Results for Dancers

Dance School. Five essential categories emerged within the dance school: teachers (31%), peers (13%), system (culture and rules of dance school; 19%), training (15%), and schedules (4%).

Teachers. Teachers appear to be the major source of influence upon ballet students. The category most frequently referred to was the *negative relationship between teacher and students* (41.5%), which includes features such as feeling that teachers are not accessible, fear of them, or expressions of partiality ("showing preferences") and hostility toward students, which is likely to contribute to lower self-esteem, poor perception of social support, and so on.

Some teachers aren't approachable (...) we can hardly say *Teacher, I'm in pain, what can I do?* (Ana, 16-year-old girl)

(...) in my first year, I had a teacher who acted like this was the military (...) because when we did something wrong she'd scream at us! (Carolina, 12-year-old girl)

This category is strongly related to some risk factors for ED, such as *pressure for thinness; emotional distress* (including anxiety, sadness, and frustration); and *negative comments about eating, weight, and body image* (which sometimes involve the indication of *food restriction* as a weight control method). This appears to happen with both female and male students but seems to be more frequent and cause more emotional distress in girls.

They suffer a lot (...) sometimes they have to hear things like *you're really fat! You'd better start losing weight! or You'll never fit into a tutu!* (Henrique, 17-year-old boy)

On the other hand, dancers also talk about, although less frequently, a *positive relationship between teacher and students* (23.1%), which we considered a protective factor for problems in general. This factor includes themes such as the impartiality and professionalism of teachers, and empathy and trust between teachers and students.

I think he's a great teacher, and he works hard for his students! (José, 12-year-old boy)

We can trust him and talk to him... (Ana, 16-year-old girl)

Another relevant category was the *undervaluing of health* (10%), especially related to ED symptoms.

There was that thing with Teresa, who was obviously anorexic, and the teacher kept saying *you look nice!* (...) If teachers encourage that, how are we supposed to care about health? (Ana, 16-year-old girl)

Peers. The most frequently mentioned factors associated to peers are all risk factors for ED, especially *negative comments about weight and body image* (36.2%), which seem to be a trigger of *emotional distress* and many different *weight control behaviors*. Interestingly, negative comments are not mentioned by older dancers (aged 15 to 18) at all.

There was talk about what I ate (...) I don't know if it's on purpose, it probably isn't on purpose, but they should realize they're tearing other people down. (...) sometimes we have really nice colleagues [ironic tone] who say we're fat and that day I decided to stop eating. That day I didn't have lunch or dinner... (Madalena, 13-year-old girl)

We also have to underline the frequency of comparisons between dancers who are exposed to a high level of competition (*competitive comparisons*, 27.6%), although these are more referred to by younger dancers. However, older dancers also recognize the classical dance environment as extremely competitive, which is considered a strong risk factor for ED.

I think there are people who worry too much about other people instead of worrying about themselves. (Carolina, 12-year-old girl)

You have to be better than other people. (Paulo, 17-year-old boy)

System. *Pressure for thinness* (23.3%) and *food restriction* (24.4%) as a method of weight control are, undoubtedly, the risk factors for ED most related to this source of influence. These two themes are widespread in the classical dance subculture (e.g., Gvion, 2008), and are no exception at this Portuguese dance school.

When we're a little bigger (...) I always think *will this mean I can't be in this school, can they ask me to leave because of that?* (Carolina, 12-year-old girl)

(...) if people tell me I'm skinny or even anorexic, because I know it's not true, it's actually a compliment to me! (...) It's almost my goal! (Ana, 16-year-old girl)

Two other categories are only mentioned by students from higher artistic degrees: *early demand for maturity* (which we considered a risk factor for problems in general) and *great maturity* that students feel they attain, truly, and view as an advantage of studying at this dance school (which can work as a protective factor for ED).

I've seen teachers talk to 1st year girls and boys and be very hard on them: *You have to grow up, you have to learn! Do you want to be a dancer or what are you here for? Don't be an idiot!* (Paulo, 17-year-old boy)

One thing I think a dancer gets out of this is... knowing how to deal with life (...) thinking about everything that surrounds each person and other people much more easily and much earlier than normal people who go to other schools. (Henrique, 17-year-old boy)

However, they are frequently related to some forms of *emotional distress*.

We're more mature, but we make up for it in nerves and stress! (Ana, 16-year-old girl)

We have to devote ourselves to dance! Which is very hard! (Sérgio, 15-year-old boy)

Training. The factors with the greatest number of references related to this source of influence are *intensive training* (20.6%) and *overtraining* (20.6%). Just as some characteristics of athletes are similar to the characteristics of patients with Anorexia Nervosa (Thompson & Sherman, 1993), the boundaries between these two themes are unclear. Thus, we considered intensive training as a characteristic of the work developed at the dance school, within reasonable limits, and overtraining (Sundgot-Borgen, 1994) as the situation where dancers consider they work their bodies besides what is reasonable or acceptable, which sometimes is related to *injuries*.

You have to work hard, but not by hurting your body. (Paulo, 17-year-old boy)

Absolutely. We push our bodies... (Henrique, 17-year-old boy)

I have classmates who got injured, and said *I can't stop because I have goals to achieve!*, but then there were consequences! (Diana, 13-year-old girl)

Injuries are considered risk factors for ED in the literature because of their influence on rhythm and training habits. Athletes who stop training for some time frequently gain weight. As a consequence, they may adopt restrictive behaviors to compensate for the lack of exercise or over-exercise when they get back to training, as referred to by our participants.

When we have to stop, we sometimes don't burn as many calories every day (...) and then when we get back to work we have to give 110, 120% to lose it. (Carolina, 12-year-old girl)

Schedules. Dance school schedules are considered too excessive by older ballet students. These are associated to a great *time demand* (65%) for dancing and, consequently, to *social isolation* (60%), because of a withdrawal from social contacts or task-centered social contacts.

I don't have time for myself. (...) I miss something else! (...) having fun! Of hanging out with other people too, because we're in this school 12 hours a day around the same people! (Henrique, 17-year-old boy)

Classical Dance World: This source is particularly related to the *pressure for thinness* (44.3%; risk factor for ED), as well as to *dependence on public approval* (8.5%; risk factor for problems in general).

We work for the audience (...) We can look in the mirror and not like what we're doing, but if the audience likes it, we'll keep up that work. (Paulo, 17-year-old boy)

At the same time, *social support* (10.4%), as a consequence of appreciation of dancers' performances by those who watch their auditions is cited as an important encouragement.

If we get a compliment from the teachers or even from the audience, it's an incentive! (Ana, 16-year-old girl)

Parents: Our participants cited *social support* from parents (25.5%; protective factor for ED) as a good way to deal with *emotional distress* caused by auditions or by important episodes at school.

(...) my parents have been suffering a lot because of school, because when we suffer they suffer too and they always try to help us as best they can. (Henrique, 17-year-old boy)

However, the category most frequently mentioned regarding parents is the *pressure to pursue a dancing career* (38.3%), often reflecting their parents' ambitions rather than their own.

[my mother] tried [to be a dancer] when she was little, but it didn't work out...! So she put me in this school, I didn't want to come here! (Leonor, 15-year-old girl)

Results for Gymnasts

Gymnastics Club: Four principal categories emerged within the gymnastics club: coaches (56%), peers (2%), training (13%), and schedules (7%).

Coaches. The majority of references to risk factors for ED related to coaches are *pressure for thinness* (27.7%), associated to *weight control* (30.4%), especially through advice on *food restriction*, *monitoring athletes' weight*, and *negative comments* (22.3%), particularly about eating and, with fewer references, about *weight and body image*.

We've had our last training session, we're going on holiday [4 days], and she weighed everybody—as if she meant to say *I'm weighing you so you won't be heavier when you come back!* (Susana, 17-year-old girl)

While dancers have made many more references to the *negative relationship between teacher and students* than to the *positive relationship*, the number of references among gymnasts was very similar (17.6% and 18.9%, respectively). It is important to underline that the *negative relationship between coach and gymnasts* is more related to *female gymnasts* and also seems to provoke higher *emotional distress* in female gymnasts, especially related to *negative comments about eating* and *control of eating* by coaches.

Sometimes, the girls are afraid of coaches (...) we respect them... the girls mind what the coaches say a lot more. (Mário, 16-year-old boy)

(...) once I went with a friend of mine to McDonald's after an event, and... I think I'm so used to it I was eating and keeping a look to see if any coach was coming! And

then, to make fun of me, she said *There's the coach!*, and I started looking and I got very nervous! (Catarina, 13-year-old girl)

On the other hand, almost all male gymnasts made references to an *absence of eating control* by coaches (12.2%). This factor was considered an ambiguous factor of influence because of the deficiency of this aspect in the reviewed literature, as well as of possible effects on athletes' health from a total lack of eating control.

We simply, I mean, eat a lot at breakfast and at lunch and nobody says anything! We eat chocolates in front of the coaches and it's okay. (Mário, 16-year-old boy)

Despite showing little expression in terms of number of references, the fact that gymnasts talked about *knowledge of ED cases* among their female coaches, even specifying some symptomatic behaviors, is indeed alarming.

I've noticed she keeps weighing herself (...) I think I see her weighing herself at every practice! (Miguel, 16-year-old boy)

Peers. The more relevant category is related to a protective factor, the *low competitiveness* (58.3%) that gymnasts feel among peers inside their own club, between different clubs, and at competitions.

There was a group where there was more competitiveness and more pressure, but otherwise... basically it was *if everything goes right they win*. (Susana, 17-year-old girl)

Training. There were two ambiguous factors related to this source of influence—*intensive training* (38.5%) and *physique and body composition changes* (35.9%)—associated to each other because daily intensive training has some effects on physique and body composition.

I think we know from the start we're never going to be like that [like models] (...) we have a different life. (Susana, 17-year-old girl)

We look fuller. (Rute, 15-year-old girl)

Despite the fact that regular training could result in different body shapes compared to their nonathlete peers (e.g., muscular hypertrophy of thoracic and arm musculature in male gymnasts), this factor does not appear excessively related to emotional distress.

Sometimes they make fun of me and call me 'shorty', 'pygmy' (...) It's good for a gymnast, but... sometimes I don't like being like this. (Carlos, 14-year-old boy)

Schedules. To this source of influence are associated, essentially, *time demands* (79.2%)—3 to 4 hours of training a day, after school—but not so much social isolation, as is the case with dancers. This probably has to do with the fact that their social contacts are not too centered on gymnastics, contrary to that of ballet students (who attend dance classes, in addition to completing a high school curriculum, at the same place, and with the same colleagues). Nevertheless, gymnasts also feel some limitations, when comparing themselves to their school peers, specifically concerning the common activities of adolescents.

If our friends want to do something in the afternoon, we can't because we have practice. And at night we shouldn't go either because we have practice the next day. But I usually go out at night anyway! (Miguel, 16-year-old boy)

Elite Gymnastics World: Pressure for thinness is associated to the elite gymnastics world, with the same frequency of references as *weight control* (19.4%)—specifically *food restriction*. These behaviors are seen as "normal", especially to *female* gymnasts, and are considered important risk factors for ED.

They don't eat, that's it. But with girls it's different! (Mário, 16-year-old boy)

Parents: When asked about the way parents deal with the demands of elite gymnastics, gymnasts' answers seemed to indicate a *dismissive relation family pattern* (47.8%), showing poor involvement of parents in gymnastics issues.

It's convenient for them, because we're here every day (...) (Daniel, 15-year-old boy)

I sometimes tell what my parents when I disagree with my coach. And my parents pretend they're kind of not listening. (Carlos, 14-year-old boy)

However, our data also reflect a protective factor for ED—*parental support* (30.4%)—, although very different from the almost "unconditional" support that dancers talk about.

She [mother] supports us [me and my sister] (...) my dad isn't like that, but because we only live with our mom, she lets us do what we want. (Susana, 17-year-old girl)

Discussion

Our data show that risk factors (58%), for ED or problems in general, are twice as referred to as protective factors (29%). This fact underlines dance and gymnastics as risk contexts and suggests a need to investigate them, even besides ED issues. Using the dance school and the gymnastics club as sources of influence, there emerged the same essential categories, except the sub-category related to the system, which is only mentioned by dancers. The gymnastics club is not referred to by gymnasts as having a specific culture or rules which influence them, probably because they spend much less time inside this system, compared to dancers and their dance school (about 3-4 hours vs. 10-12 hours a day, respectively). So, for gymnasts the coaches are seen as the principal source of influence (56% of gymnasts' references vs. 31% of dancers' references) and even peers seems to have much less influence among gymnasts than among dancers (2% vs. 13%, respectively).

Specifically related to ED, the main risk factor is, undoubtedly, the pressure for thinness, which is similar to what happens in these contexts in other countries (e.g. Neumärker, Bettel, Dudeck, & Neumärker, 1998; Sundgot-

Borgen, 1994; Toro et al., 2005). Among gymnasts, this pressure comes essentially from coaches, who often make negative comments about eating, monitoring of athletes' weight, and advice on food restriction. For ballet students, thinness is experienced as an implicit rule of the world of classical dance and the system itself (Dance School), but it is viewed also as an explicit rule because of critical comments from teachers and peers about eating, weight, and food. Since this pressure comes from different sources, the demand to maintain their bodies as thin as possible seems to be more internalized among dancers, reflecting a centenary institutional habitus of the Balletic world (Gvion, 2008). Different studies have demonstrated a strong association between the pressure from coaches of elite athletes to lose weight (Donohue, Miller, Crammer, Cross, & Covassin, 2007; Kerr, Berman, & De Souza, 2006), dieting behaviors, and the clinical and subclinical syndromes of ED (Toro et al., 2005). We believe the same could happen with dancers and their teachers. Sundgot-Borgen, Skårderud, and Rodgers (2003, p. 390) support the idea that "the important factor may not be dieting *per se*, but rather the situation in which the performer is told to lose weight, the words used and whether the athlete receives guidance." Our sound data about the impact of the negative/positive relationship with their tutors (teachers or coaches) on well-being, attitudes, and behaviors, reinforce this idea. The positive relationship referred to by our participants can, eventually, be considered to be a protective factor for ED, especially if teachers can encompass health and overall well-being and not just performance. Therefore, preventive actions should promote and improve positive relationships among athletes and their respective tutors, particularly based on empathy, trust, an open dialogue, and more attention to the individual differences and idiosyncrasies of each athlete. It is also important that coaches and teachers learn about the effect of their comments on athletes' self-esteem and body image (Kerr et al., 2006). Besides that, the dancers' idea that extra-thinness (and even Anorexia Nervosa) is sometimes interpreted by the professional community as a way to achieve success and perfection (Sundgot-Borgen et al., 2003), reinforces the hypothesis that, in these contexts, there is a normalization of some ED symptoms, and bodies are seen as "machines" independent of physical needs (Gvion, 2008). Although pressure for thinness and weight control are also associated to the elite gymnastics world—indicating that these factors are grounded at this elite gymnastics subculture—they do not emerge as such an undervaluing of health as with dancers. Moreover, because of the crucial role coaches play in athletes' lives (Dosil & González-Oya, 2008; Kerr et al., 2006; Lopiano & Zotos, 1992), the fact that coaches present ED symptomatic behaviors in front of their athletes is alarming and should be carefully evaluated in future research.

Are there any differences related to the age of participants? Older dancers and gymnasts (ages 15 to 17

years) felt under more pressure to reduce weight and to be thin. However, it was the younger dancers and gymnasts who made more references to negative comments highly related to emotional distress. This could be a sign of such an acceptance of the thinness "rule" that the pressure to attain it is no longer felt as such by older athletes. It is something totally accepted, respected, and unquestionable. On the other hand, it also could be a sign that they have found different ways to deal with this kind of pressure that do not translate into emotional distress. The fact that older dancers do not make references to negative comments from peers could be a sign of a stronger relationship between them (perhaps because of the rapport they have been building for at least four years) and could protect them more effectively against this influence. Thus, promoting emotional and social skills since their entry into dance school and gymnastics clubs would help to prevent ED among elite athletes. Another theme was only referred to by the ballet students from higher artistic degrees—maturity—which is something new in research in this field, as we know. Although somewhat expected, it is the first time we hear adolescents talking about it and referring to implications for their lives. An early demand of maturity is felt from the beginning of their "career" at ballet school, although this is only realized when they get older, when comparing themselves with other adolescents, and in some way, feeling they are best prepared to go through the real professional world. However, because of the relationship they establish between maturity and emotional distress, they do not seem to be "emotionally mature", which can be a risk factor for ED and other problems in their future lives. Future studies should focus on this, as well as preventive actions.

The major differences between female and male athletes are related to the pressure for thinness and other factors related to that, like negative comments from teachers and coaches (independent of tutors' gender) or the rules "imposed" by the subculture of the classical dance and gymnastics worlds. In fact, female athletes appear to be more at risk for ED, which is in accordance to other empirical studies. As happens in society in general, female dancers and gymnasts are also the most frequent targets of critical comments and rigid rules related to low weight and a thin body image. Interestingly, these gender differences are also clearly mentioned by male athletes, even if this pressure to be thin is not directed through them. However among male athletes, the dancers seem to be more pressured to be thin than gymnasts (who often cited an absence of control about their weight or eating, contrary to the dancers), showing differences related to the ballet and gymnastics male aesthetic ideal.

Different levels of competitiveness were found among dancers and gymnasts. Ballet students feel a lot of competition between peers and also during their professional careers, as was expected according to the literature. Indeed, high levels of competitiveness at ballet schools (especially

in national schools, such as the one we are studying) are associated with an increased risk of disordered eating (e.g. Garner & Garfinkel, 1980; Levine & Smolak, 2002; Thomas et al., 2005). With regards gymnasts, it was interesting to find that, despite them being from a club with some of the best Portuguese athletes, they revealed low level of competitiveness (justified by the prestigious and excellent results from their club), which has been considered a strong protective factor for ED among them. We think that these differences could be related to the fact that high school also has a central role in their lives, contrary to the ballet students, for whom dance is “everything” in their lives. In fact, their references to time demands and social isolation are related to that, as it may influence the development of problems such as lack of identity in other roles besides being an “athlete” or “dancer” (Lopiano & Zotos, 1992). Thus, we consider these two aspects as important risk factors for ED, which should be taken into account in specific research and psychotherapeutic interventions with ballet students from professional schools.

As referred to by Gvion (2008, p. 79) regarding Israeli dancers who are “trained to communicate through performance, disregard pain and aim toward extra-thinness, reinforcement from either an audience or significant others compensates for the difficulties dancers encounter.” Among significant others, parents are particularly important to help ballet students in coping with emotional distress. As in the general population (Crago, Shisslak, & Ruble, 2001), parental support can also be an important protective factor of ED to dancers. As girls who feel closer to their parents and spend more time with them report fewer weight and eating concerns (Swarr & Richards, 1996), the role of parents in supporting their athletic children should be further explored, especially among gymnasts, who revealed poor involvement of their parents in gymnastics issues. A final factor related to parental influence which we have considered in our study to be an important risk factor for ED is the pressure to pursue a dancing career. In fact, a study with adolescent girls (ED patients, psychiatric patients, and healthy adolescents) demonstrated that the only experience that distinguished ED patients from other girls was inappropriate parental pressures, such as being forced to engage in activities that reflect parents’ ambitions (Horesh, Apter, Ishai, & Danziger, 1996).

Bronfenbrenner ecological model (1979) is useful to understand and systematize the diverse levels of influence among elite athletes (see Figure 1). We have focused on the *microsystem* settings where these adolescents live—mainly the dance school or gymnastics club (we described the complex activities, roles, and relations established there) and also their families and high school, especially in the case of gymnasts because dancers only attend one school, which integrates both *curricula*—where we identified specific risk and protective factors for ED. The interrelations among family, high school, and dance school or gymnastics club

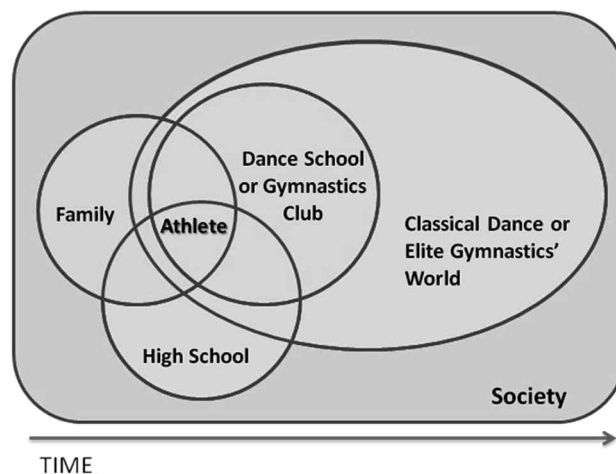


Figure 1. Levels of influence among elite athletes (adapted from Bronfenbrenner, 1979, 1998).

(*mesosystems*) are considered very relevant to the development of adolescents, namely because the social support received is an important protective factor for ED. The world of classical dance or elite gymnastics is considered a specific area among the *macrosystem* (society), where the values and beauty ideals shared by an industrialized culture roughly have the same influence among adolescents. As said by Striegel-Moore and colleagues (1986), this specific world is a subculture where the influence of environmental and sociocultural factors is amplified, with additional characteristics that we have identified here. Finally, the dimension *time* (Bronfenbrenner & Morris, 1998) seems to have an extremely important role, as highlighted by the age differences found in our data.

There were a number of limitations in this study. Firstly, the methods of analysis did not allow direct causality to be established. Secondly, we had a restricted participation of gymnasts at focus groups, only from one gymnastics’ club. Also, ballet students were all from one professional classical dance school, the only one in Portugal that prepares young dancers for professional dance careers. Nevertheless, purposive sampling was adequate for a first qualitative approach to these Portuguese contexts, and the study presents some practical implications for family and teachers/coaches in charge of athletes.

Conclusion

Ballet students see their school environment as a system of specific rules and culture, more so than gymnasts. However, the pressure to be thin and food restriction as a way to attain the ideal body are important ED risk factors that are shared by dancers and gymnasts alike, and are characteristics that they themselves associate with classical dance and elite gymnastics worlds in general.

Teachers and coaches are clearly essential sources of influence on young dancers and gymnasts, especially regarding their body and eating attitudes and behaviors. The pressure to be thin exerted by them, essentially through negative critical comments, advice on food restriction and monitoring of athletes' weight, is the risk factor most referred to by both dancers and gymnasts. Among dancers, specifically, this pressure appears to be framed in a negative relationship between teachers and students (low supportive relationship, frequently associated with negative emotions). On the other hand, more positive relationships (based on empathy and trust) seem to be more frequent among gymnasts, particularly male ones.

It seems essential to us that all participants in these contexts value athletes' health more, respect the body's limits and needs, and become aware of the need to eat adequately, especially with regard to female dancers and gymnasts. Because some characteristics of the classical dance and elite gymnastics worlds cannot be easily changed, factors such as social support or positive relationships between athletes and tutors could be vital to prevent the development of ED in these contexts and contribute to the well-being of dancers and gymnasts. Based on this work, further research should focus on a wide range of gymnastics clubs and dance schools, both in elite/competitive and recreational environments, and evaluate the risk for disordered eating among these athletes.

References

- Aalten, A. (2004). 'The moment when it all comes together': Embodied experiences in ballet. *European Journal of Women's Studies*, *11*, 263–276. <http://dx.doi.org/10.1177/1350506804044462>
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Massachusetts, MA: Harvard University Press.
- Bronfenbrenner, U., & Morris, P. A. (1998). The ecology of developmental processes. In W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology* (5th ed.) (Vol. Theoretical models of human development, pp. 993-1028). New York, NY: John Wiley.
- Byrne, S. M., & McLean, N. (2002). Elite athletes: Effects of the pressure to be thin. *Journal of Science and Medicine in Sport*, *5*, 80–94. [http://dx.doi.org/10.1016/S1440-2440\(02\)80029-9](http://dx.doi.org/10.1016/S1440-2440(02)80029-9)
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London, England: SAGE Publications.
- Crago, M., Shisslak, C., & Ruble, A. (2001). Protective factors in the development of eating disorders. In R. H. Striegel-Moore & L. Smolak (Eds.), *Eating disorders: Innovative directions in research and practice* (pp. 75-89). Washington, WA: American Psychological Association. <http://dx.doi.org/10.1037/10403-004>
- Davis, C., & Strachan, S. (2001). Elite female athletes with eating disorders: A study of psychopathological characteristics. *Journal of Sport and Exercise Psychology*, *23*, 245–253.
- Donohue, B., Miller, A., Crammer, L., Cross, C., & Covassin, T. (2007). A standardized method of assessing sport specific problems in the relationships of athletes with their coaches, teammates, family, and peers. *Journal of Sport Behavior*, *30*, 375–397.
- Dosil, J., & Díaz, O. (2008). The importance of weight in some sports. In J. Dosil (Ed.), *Eating disorders in athletes* (pp. 23-40). Chichester, England: John Wiley & Sons.
- Dosil, J., & González-Oya, J. (2008). Eating disorders and the athlete's environment. In J. Dosil (Ed.), *Eating disorders in athletes* (pp. 41-63). Chichester, England: John Wiley & Sons.
- Engel, S. G., Johnson, C., Powers, P. S., Crosby, R. D., Wonderlich, S. A., Wittrock, D. A., & Mitchell, J. E. (2003). Predictors of disordered eating in a sample of elite Division I college athletes. *Eating Behaviors*, *4*, 333–343. [http://dx.doi.org/10.1016/S1471-0153\(03\)00031-X](http://dx.doi.org/10.1016/S1471-0153(03)00031-X)
- Garner, D. M., & Garfinkel, P. E. (1980). Socio-cultural factors in the development of anorexia nervosa. *Psychological Medicine*, *10*, 647–656. <http://dx.doi.org/10.1017/S0033291700054945>
- Gvion, L. (2008). Dancing bodies, decaying bodies: The interpretation of anorexia among Israeli dancers. *Young*, *16*, 67–87. <http://dx.doi.org/10.1177/110330880701600105>
- Hausenblas, H. A., & Carron, A. V. (1999). Eating disorder indices and athletes: An integration. *Journal of Sport and Exercise Psychology*, *21*, 230–258.
- Horesh, N., Apter, A., Ishai, J., & Danziger, Y. (1996). Abnormal psychosocial situations and eating disorders in adolescence. *Journal of the American Academy of Child and Adolescent Psychiatry*, *35*, 921–927. <http://dx.doi.org/10.1097/00004583-199607000-00019>
- James, D. C. S., Rienzo, B. A., & Frazee, C. (1997). Using focus groups to develop a nutrition education video for high school students. *The Journal of School Health*, *67*, 376–379. <http://dx.doi.org/10.1111/j.1746-1561.1997.tb07180.x>
- 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. <http://dx.doi.org/10.1080/10413200500471301>
- Koutedakis, Y., & Jamurtas, A. (2004). The dancer as a performing athlete: Physiological considerations. *Sports Medicine*, *34*, 651–661.
- Krasnow, D. H. (2005 December). *Sustaining the dance artist: Barriers to communication between educators, artists, and researchers*. Paper presented at the Dance rebooted: Initializing the grid, Toronto, Canada.
- Levine, M. P., & Smolak, L. (2002). Body image development in adolescence. In T. Cash & T. Pruzinsky (Eds.), *Body image: A handbook of theory, research and clinical practice* (pp. 74-81). New York, NY: The Guilford Press.
- Lopiano, D., & Zotos, C. (1992). Modern athletics: The pressure to perform. In K. Brownell, J. Rodin & J. Wilmore (Eds.),

- Eating, body weight and performance in athletes. Disorders of modern society* (pp. 275-292). Malvern, England: Lea & Febiger.
- Machado, P. P. P., Machado, B. C., Gonçalves, S., & Hoek, H. W. (2007). The prevalence of eating disorders not otherwise specified. *International Journal of Eating Disorders, 40*, 212–217. <http://dx.doi.org/10.1002/eat.20358>
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, CA: SAGE Publications.
- Morgan, D. (1998). *Planning focus group-Focus group kit* (Vol. 2). Thousand Oaks, CA: SAGE Publications.
- Neumärker, K.-J., Bettle, O., Dudeck, U., & Neumärker, U. (1998). The eating attitudes test: Comparative analysis of female and male students at the Public Ballet School of Berlin. *European Child and Adolescent Psychiatry, 7*, 19–23. <http://dx.doi.org/10.1007/s007870050040>
- Petrie, T. A. (1993). Disordered eating in female collegiate gymnasts: Prevalence and personality/attitudinal correlates. *Journal of Sport & Exercise Psychology, 15*, 424–436.
- QSR. (2006). NVivo7: QSR International Pty Ltd.
- Ringham, R., Klump, K., Kaye, W., Stone, D., Libman, S., Stowe, S., & Marcus, M. (2006). Eating disorder symptomatology among ballet dancers. *International Journal of Eating Disorders, 39*, 503–508. <http://dx.doi.org/10.1002/eat.20299>
- Schluger, A. E. (2010). Disordered eating attitudes and behaviors in female college dance students: Comparison of modern dance and ballet dance majors. *North American Journal of Psychology, 12*, 117–128.
- Smolak, L., Murnen, S. K., & Ruble, A. E. (2000). Female athletes and eating problems: A meta-analysis. *International Journal of Eating Disorders, 27*, 371–380. [http://dx.doi.org/10.1002/\(SICI\)1098-108X\(200005\)27:4<371::AID-EAT1>3.0.CO;2-Y](http://dx.doi.org/10.1002/(SICI)1098-108X(200005)27:4<371::AID-EAT1>3.0.CO;2-Y)
- Striegel-Moore, R. H., Silberstein, L. R., & Rodin, J. (1986). Toward an understanding of risk factors for bulimia. *American Psychologist, 41*, 246–263. <http://dx.doi.org/10.1037/0003-066X.41.3.246>
- Sundgot-Borgen, J. (1994). Risk and trigger factors for the development of eating disorders in female elite athletes. *Medicine and Science in Sports and Exercise, 26*, 414–419. <http://dx.doi.org/10.1249/00005768-199404000-00003>
- Sundgot-Borgen, J., Skårderud, F., & Rodgers, S. (2003). Athletes and dancers. In J. Treasure, U. Schmidt & E. v. Furth (Eds.), *Handbook of eating disorders* (pp. 385-400). Chichester, England: John Wiley & Sons.
- Swarr, A. E., & Richards, M. H. (1996). Longitudinal effects of adolescent girls' pubertal development, perceptions of pubertal timing. *Developmental Psychology, 32*, 636–646. <http://dx.doi.org/10.1037/0012-1649.32.4.636>
- Thomas, J. J., Keel, P. K., & Heatherton, T. F. (2005). Disordered eating attitudes and behaviors in ballet students: Examination of environmental and individual risk factors. *International Journal of Eating Disorders, 38*, 263–268. <http://dx.doi.org/10.1002/eat.20185>
- Thompson, R. A., & Sherman, R. T. (1993). Reducing the risk of eating disorders in athletics. *Eating Disorders, 1*, 65–78. <http://dx.doi.org/10.1080/10640269308248268>
- Thompson, R. A., & Sherman, R. T. (1999). "Good athlete" traits and characteristics of anorexia nervosa: Are they similar? *Eating Disorders, 7*, 181–190. <http://dx.doi.org/10.1080/10640269908249284>
- Tiggemann, M., Gardiner, M., & Slater, A. (2000). 'I would rather be a size 10 than have straight A's': A focus group study of adolescent girls' wish to be thinner. *Journal of Adolescence, 23*, 645–659. <http://dx.doi.org/10.1006/jado.2000.0350>
- Toro, J., Galilea, B., Martinez-Mallén, E., Salameiro, M., Capdevila, L., Mari, J., ... Toro, E. (2005). Eating disorders in Spanish female athletes. *International Journal of Sports Medicine, 26*, 693–700. <http://dx.doi.org/10.1055/s-2004-830378>

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