

ARTISTIC GYMNASTICS AND FEAR: REFLECTIONS ON ITS CAUSES

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Abstract

In the field of sports psychology it is nearly unanimous that both positive and negative emotions directly affect sports performance. In the case of artistic gymnastics (AG), it is not uncommon for athletes to face one specific, characteristic emotion: fear. In this study, we will conduct an analysis of fear felt by gymnasts in training in order to detect subjective perceptions about the causes of fear and the strategies utilized to control it. Sixteen gymnasts who compete in the pré-infantil (9 – 10 years) category of the Sao Paulo State Championship were interviewed. Content analysis was selected as the methodological technique for data. We detected four units of registry for analyzing the causes of fear: fear of injury, fear of error, fear of apparatus and fear of coach. Regarding strategies for controlling fear, we detected seven units: social support (friends and family), instructional support, attention and concentration, positive thinking and self-confidence, mental practice, and relaxation techniques. In general, coaches can interfere as much in the manifestation of fear as in its control. Among possible pedagogical strategies, we can highlight adjustments to the training environment and instructional procedures that facilitate the teaching-learning process, particularly in regards to the athletes' feelings of security.

Keywords: *gymnasts, sport, competition, emotion, psychological approach, qualitative research.*

INTRODUCTION

The highly desired sports performance of elite athletes has started to be analyzed in terms of a variety of factors, such as skill level of the athlete (Hanton, Thomas, & Maynard, 2004; Waples, 2005), competitiveness in a specific context, (Mellalieu, Hanton, & O'Brien, 2004), the gender of the athletes (Woodman & Hardy, 2003) and the type of sport (Hanton, Thomas, & Maynard, 2004). Following this

line of inquiry, Hanin (2010) indicates that in the field of sports psychology it is nearly unanimous that both positive and negative emotions produce direct effects on sports performance.

In artistic gymnastics (AG), it is not uncommon for athletes to face one specific, characteristic emotion: fear. The motor skills and movements typical of this modality make the positioning of the

gymnasts' centers of gravity more dynamic, and executing supports, hangings, inversions, flights and rotations are part of this dynamicity. The aerial actions in AG challenge and motivate the athletes, elevate and enrich the presentations, but they can also startle athletes new to the sport and push them away from the sport.

Fear can be described as the state of apprehension and the emotional reaction to threat or stimuli, real or imagined, (Gullone & King, 1993) which lead the individual to flee or avoid the provoking situation (Gray, 1987).

In the practice of sports, understanding the origin of fear, as well as the responses to its manifestation, can aid coaches in adopting strategies to prevent the interference of fear in the athlete's performance (Moll, Jordet, & Pepping, 2010).

In addition to considering the emotions involved in the practice of AG, certain characteristics, such as the early age at which training begins (the Brazilian Gymnastics Federation (CBG) recognizes 7 years as the first category in the sport), should guide conduct and procedures for both training and competition. To this end, the coach needs to understand the profile of the group in order to make successful interventions.

In this study, we conduct an analysis of fear felt by *pré-infantil* (9-10 years) gymnasts in training in order to detect subjective perceptions about the causes of fear and the strategies utilized to control it.

The manifestation of fear is common in AG and present in the daily practice of the gymnasts (Nunomura, Carbinatto, & Duarte). In order to maintain the quality and longevity necessary for an athletic career to reach the elite level it is important to understand the situations which are most responsive to direct intervention. In Brazil it is not yet possible to encounter evidence of this concern for reinvigorating main teams and the qualitative increase in athletes (Schiavon, Paes, Toledo, & Deutsch, 2013). Furthermore, there is of dropout around the age of 15, which is to say, at an opportune

moment for the athlete to reach his / her peak (Arkaev & Suchilin, 2004).

Fear in Artistic Gymnastics

In general, emotions influence the person's objectives and motivations (Lench, Flores & Bench, 2011) and are regulated, consciously or unconsciously, according to the context and prior experiences of the subject.

Studies from Augustine and Hemenover (2008) and Koole (2009) emphasize that there are more than 400 distinct strategies for dealing with emotions, with the most frequently used in sports being self-talk (Tod, Hardy, & Oliver, 2011) and mental practice (Guillot & Collet, 2008).

In this article we focus our attention on the emotion of "fear". Huber (2000) argues that this emotion is related to perception, expectation and imagination that are associated with an unpleasant excitement. Also, it can be described as a state of scared or being apprehensive and as an emotional reaction to the threat of punishment- a stimulus, which one will work to terminate, escape or avoid.

The emotion "fear" can impede the continuity of an action. In some cases the athlete gives up on carrying out the skill, and in others he / she avoids the threatening situation. There is also the possibility that the individual becomes immobilized (frozen) mid-action in specific cases. These reactions to fear can cause diminished self-esteem, as well as discomfort or shame in front of colleagues, and can compromise the athlete's physical well-being.

Fear of injury is the most common in sports and can produce negative effects in the athlete's performance (Magyar & Chase, 1996; Giotis & Nilsson, 2006) and can provoke "mental blocks," or situations in which the athlete refuses to carry out a specific movement which is perceived as a threat to his / her physical health (Marini, Sgambati, Barni, Piazza, & Monaci, 2008).

Gymnasts constantly challenge gravity and any error is evident, particularly when the movement and sequence's fluidity are

interrupted, such as during a fall. In these situations, the fear of losing points can interfere with overall performance and, as such, define the classification of the gymnast (Martinent & Ferrand, 2007).

Fear can also unleash other emotions which affect the athlete's performance, such as anxiety and stress. Hanton, Thomas and Maynard, 2004 and Cerin, 2003 defend that when there is fear and a potential threat, there will be anxiety, which is developed in four domains: physical harm, loss of self-esteem, social evaluation and uncertainty the fear of injury and that of failure (Harringe, Renstrom, & Werner, 2007).

Woodman and Hardy (2003) and Martinent and Ferrand (2007) suggest that although anxiety is traditionally treated as unfavorable to performance, competitive state anxiety can both promote and debilitating functions. It is important to emphasize that high self-confidence, self-efficacy, and positive thinking can, somewhat, control or dismiss the apprehensive emotions for anxiety.

Fear can be perceived subjectively as tension, nervousness and oppression. It is detected more intense activity of the autonomic nervous system. The fearful person has a behavior disturbed by the apprehension of failure and always puts in question his/her abilities, which avoid achieving the best performance. In this regard, the individual is stressed. Despite being associated with a negative phenomenon, stress allows understanding the body limits, and may be considered necessary for life (Machado, 2006).

Elite gymnasts manifest pronouncedly greater fear in competitive context as compared athletes at a similar professional level in other sports (Kolt & Kirby, 1996).

Finally, the constant changes involved AG can be demonstrated by the high level of skill complexity on different apparatus and increasingly demanding rules, facts which increase the level of difficulty in all competitive categories. The number and categories of AG difficulties has indeed increased since 70's where there were only three kinds of difficulties (A,B and C),

whereas they are nowadays more than seven (A to E + super E). This increase in the level of difficulties is shown in the code of point that was updated ever Olympic cycle, where more and more elements are being included.

METHODS

This study represents transversal field research of a qualitative nature. We have opted for a non-probabilistic, or intentional, sample; that is to say, we were interested in the opinion of a specific group.

Data collection was carried out at a training facility and we conducted semi-structured in-depth interviews with questions about fear, training and competition. All interviews were systematically transcribed and analysed by the three investigators separately. A cross-results analysis was then followed to check for accuracy. Themes that did not have a common opinion were sent to two experts in this methodology to accomplish our table results. When disagreement, two more independent experts were requested to give their own opinion and make a final statement.

Subjects

Participants in this study were sixteen female children (round age 9 years \pm 1 year; 4.28 ± 1.34 years of practice), who competed for clubs in the cities of São Caetano do Sul, São Bernardo do Campo and Barueri in the *pré-infantil* (9 – 10 years) category of the São Paulo State Championship in women's AG. Accordingly to Seil, Rupp, Tempelhof, & Kohn (1998), the experience of injury of these girls were between mild (absence from practice less than one week) to serious (absence among 2 to 4 weeks).

Gymnasts were identified with the letter G plus the number indicating the order of the interviews.

Data Analysis

The methodological technique selected for examining the data was Content Analysis (Bardin, 2010; Corbin & Strauss, 2015), specifically its thematic modality in

which assertions made about a determined topic can be represented by a simple sentence, a group of sentences or a paragraph. This technique also incorporates, with greater or lesser intensity, the personal aspect attributed by the respondent about the meaning of a word and / or the connotations attributed to a concept. It involves rational components, as well as ideological, affective and emotional ones.

The technique is made up of the following steps: pre-analysis, exploration of the material, and categorization. Each of these, in turn, is organized into units of register and context.

a. Units of Register (UR): content segment for categorization and counting frequency, when necessary. In our study the unit of register adopted was 'theme', defined as "a unit of meaning that is released freely from a text" (p. 14). It is important to highlight that the counting frequency is characterized as an essential condition, since extremes were considered and could stimulate significant discussion within and with the literature.

b. Units of Context (UC): segments of text or message that confirm the units of registry which, in this case, will be a word, a group of words, a phrase, multiple phrases or a paragraph.

RESULTS

We detected four units of registry for analyzing the causes of fear among gymnasts in the *pré-infantil* (9-10 years) category: fear of injury, fear of error, fear of apparatus and fear of coach. Regarding strategies for controlling fear, we detected seven units of analysis: social support (friends and family), pedagogical support, attention and concentration, positive thinking and self-confidence, mental practice, and relaxation techniques.

DISCUSSION

On the causes of Fear

Injury fear was the most iterant answer among the gymnasts. In general, the age at which AG practice and the process of sports training begin is increasingly younger (Silva, Fernandes & Celani, 2001). Even when the gymnasts are inserted into an instructionally appropriate environment, they can still be susceptible to exaggerated training times and expectations. These factors could potentially be associated with injury, as they would increase the time exposed to risk and different risk factors, such as the excessive repetition of the same element (Dally, Bass, & Finch, 2001; Caine, Caine, & Lindener, 1996) and the amount of time allotted for rest. Furthermore, according to Kolt and Kirky (1996) the higher frequency and longer duration of training sessions coincided with a higher incidence of injury.

Table 1

Causes of fear among gymnasts in the pré-infantil (9-10 years) category.

Units of Register (UR)	Frequency	Units of Context (UC)
Fear of injury	n=12	I'm afraid of hitting my back" (G2)
Fear of error/ Fear of failure	n=9	I feel ashamed to do something wrong in front of my coach and friends (G11).
Fear of apparatus and new skills	n=7	I'm afraid of the parallel bars (G8)
Fear of coach	n=7	Well, I'm afraid of my coach, because he gets angry (G12)

Table 2
Strategies for controlling fear.

Units of Register (UR)	Frequency	Units of Context (UC)
Social support	Family: n=4 Friends: n=12	When we are at the championship we talk a lot to each other, we encourage each other (G7)
Pedagogical Support	n=10	When I first did it I was afraid (flic-flac) (... my coach) said I should do it on trampoline and I get better and then I lost my fear (G5)
Attention and Concentration	n=7	There was a time I got late to a championship and so I was really nervous and felt down. I cried. At that day I had three different commitments (...) I had to concentrate harder to do my elements (G3)
Positive thinking and self confidence	n=5	I talk to myself "I can, I'll do it, I'm good" (G4)
Mental practice	n= 2	Before doing somer salt, I thing about it, I see myself doing it (G7)
Relaxation techniques	n =2	We do what our psychologist say: we breathe the blue air and then we feel calmer (G4).

On the causes of Fear

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Fear of injury exists when the gymnast loses confidence in his / her ability to successfully carry out a skill when faced by a threatening or demanding situation (Magyar & Chase, 1996). This fear was revealed to be commonplace in AG (Cartoni, Mingati, & Zelli, 2005; Chase, Magyar, & Drake, 2005). Manifestations of this type of fear can be so compromising as

to cause high-performing athletes to abandon their training in the sport (Duda & Gano-Overway, 1996).

The gymnasts who fit into this unit directly associated the injury to a previous fall. G2 related her worry about the consequences of a more severe injury. "Of doing things incorrectly and getting hurt, then having to leave the competition and see a doctor. That is what I am most afraid of." An additional account corroborated this idea. "I was going to perform a vault and I rammed my belly (*into the vault*). It really hurt (...) I was afraid to make another mistake (...) to hit myself the same way" (G4).

AG at a high level is characterized by intensive practice, high competitive demand, public exhibition / exposition and evaluation by others (Duda & Gano-Overway, 1996).

At some point in his / her sporting career, a gymnast will be faced with an accident, her own or one suffered by a colleague. This fact was cited by three gymnasts, who felt fear after observing an accident, even when they had not suffered a similar event themselves.

In the literature, the development of a fear in this way is known as conditioning or

indirect experience (Rachman, 1977), in which observation influences behavior. The cases described by the gymnasts seem to have significantly impacted their training routines, considering that the same accidents were mentioned at various moments. G11 cited fracturing her arm on the balance beam; G7 witnessed this accident and then feared executing the same skill.

The fear of re-injury made the gymnasts avoid certain elements or even new skills that might compromise the previously injured body part, as with G6, "And then, because I had hurt both knees...in one I already had a problem there and the other happened when I fell doing a stretching. When I am learning something new, then I have to stop because of the pain in my knee." Throughout her statement, the athlete highlighted that she is recovered but still feels uncomfortable whenever she has to perform some movement that places demands on the knees. G11 highlighted the fear generated by previous experience. "I am afraid because I have already broken my arm (doing a handspring on the balance beam This latest indicates that the gymnasts is, either not fully recovered from an old injury or still fear the skill because of the accident that occurred when performing the skill.

Research from De Pero, Mingati, Pesce, Capranica and Piancentini (2013), which analyzed the fear of injury among athletes from Team Gym, participants in the European Championship, verified significant increases in this emotion among those who had suffered followed injury in a same part of the body. After all, this injury has a reputation for being one of the most responsible for *pars interarticularis* deformities in gymnasts (Martin, Polster, Jackson, Greenleaf, & Jones, 2008). It is interesting to note that even after a contusion, G7 competed, "with pain and everything, but I had to vault (...). They (*the coaches*) said that if 'you are fine by the competition, you will go. And if you are really feeling a lot of pain, then you will not go. Because it is better not to force it so that you don't break it completely'". Care must

be taken because a child could ignore symptoms and pain in order to not disappoint parents, coaches and peers, or even to avoid losing a place on the team.

Another complicated case involved G4 who felt embarrassed and therefore continued with her practice despite the pain. "I couldn't do a *jete* because my groin was hurting. Then (coach's name) sent me to the bleachers. I felt awful."

Caine, Caine and Lindender (1996), point out that in AG the lower limbs have the greatest incidence of injury, with the region of the tibial-tarsal joint being the most affected, followed by the knee. This comes as no surprise since these regions receive the most impact from landings (Hunter & Torgan, 1983; Petrone & Ricciardelli, 1987). This fact was observed in six gymnasts, and all pointed out that the fear is of injury during dismounts. "The thing I think about most is the dismount from the balance beam" (G7); "Dismounting from the uneven bars with a layout, back flip, sticking the landing is difficult" (G11).

Falls were the main concern declared by ten gymnasts, whose worries are reflected in the following account, "...I was afraid to do a tuck. Then tried it and landed short. That hurt. Then after that, I had to do a handspring-tuck, which I was even more afraid of" (G9); "before I was afraid of doing a round-off, back handspring, back handspring. So I started to cry, gave up in the middle, fell on my back and hurt myself," (G8).

Considering the array of studies demonstrating the rate of injury in AG and related consequences, it is possible to understand the fear of injury as legitimate and justified among gymnasts.

Fear of error and *fear of failure* were defined by the cases in which gymnasts demonstrated fear in regard to evaluation. Fear of failure is inherent to the human being. In sports, it is also present in all levels of practice and can cause irreparable social consequences (Conroy, 2001). For example, this emotion- can be associated to burnout among judges (Rainey, 1995),

dropout of young athletes (Orlick, 1974), drug use by competitors (Anshel, 1991), and also stress (Gould & Maynard, 2009).

According to Treasure (2001), despite the fact that sports are important in the development of children and youth, the pressure to reach maximum performance considerably elevates the fear of failure in this population.

In the cases mentioned previously, G1 reported feeling nervousness during competitions. She described a competition when she had fallen from the balance beam without injury but got a low score. In that same competition, when vaulting, the gymnast successfully completed her first vault. However, on her second try, she gave up and was not able to vault. This fact could be associated to the fear of failure when manifests during competitions

Competitions are highly stressful, especially when the result is important but uncertain, as in a meeting or training session that determines classification to join the team, for example, (Murray & Janelle, 2003).

In the age-group investigated, the win-lose binomial has become more important than the process of sports training and future expectations (Mcauley, 1985). As such, results and even the competition itself effectively influence the emotional state of the athletes.

The other gymnasts also felt nervousness, an emotion which appears to be related to the fear of error (Sagar, Lavalley & Spray, 2007). This manifestation is evidenced by the frustration of the gymnast and, possibly, as a consequence of flaws in the presentation and of disappointing those closest to them. Duda and Gano-Overway (1996) demonstrated that stress-generating sources for gymnasts were related to the fear of evaluation (by parents, judges, coaches, and other significant people), the fear of error and their own and others' expectations.

Studies demonstrate that the fear of error and the fear of evaluations from the social environment foster feelings of shame and humiliation which, in turn, contribute to

the dropout of the sport (Feltz & Albrecht, 1986). In the end, the athlete's reduced self-esteem and motivation become incentives for seeking out new horizons (Conroy, 2001), as G11 points out, "Ah, I don't know how to explain it. I feel...I feel sad. I feel a little ashamed" (referring to how she feels around the coach and friends).

Fear of failure is even more emphasized during adolescence (Gullone & King, 1993), a time when the gymnasts start to think about the importance of their professional futures, when the fear of pessimistic evaluations about a career in sports and the athlete's physical condition become more evident.

The next unit of register detected was *fear of a specific skill*, or in other words, the fear of executing a particular skill for the first time. We considered the cases in which fear manifested itself due to a lack of ability with a determined skill. Fear of the unknown tends to diminish as the athlete becomes familiar with the situation. According to Duda and Gano-Overway (1996), young American gymnasts reported stress upon learning new skills. The gymnasts referred to this fear and indicated that not knowing what consequences an action could generate created anxiety about their results. G5 declared that she felt fear, "The first time I did a round-off, back handspring and when I didn't know how to do a tuck on the trampoline. I would go really high and then really far forward." G4 reported, "...when you go to do it for the first time you are afraid to fall, to get hurt." Despite knowing the physical abilities necessary for using the apparatus, she stated that she is learning and that is why it is normal and permissible to feel fear.

The attitude of the coach also revealed the fear that the gymnasts developed for him, which we have defined as *fear of the coach*.

Smith and Smoll (1996) and Poczwardowski, Barrott and Henschen (2002) recognized that the relationship between the coach and the athlete is important for good performance and

personal satisfaction, since it influences and interferes in the work to be carried out.

When well-managed, that relationship is associated with the satisfaction of the athlete, self-esteem and cohesion in the team (Gardner, Shields, Bredemeier, & Bostrom, 1996) and when antagonized, it results in stress, distraction, lack of communication and respect in all aspects of the sport (Gould & Maynard, 2009).

G1 declared, “(I am) afraid of not being able to do some things. (...) Because sometimes you have to stick with it until the end, until you get it. (...) (If you don’t) you have to climb the rope.” This account exemplifies the punishment generated by the athlete’s error.

Many gymnasts witnessed extreme attitudes and in some contexts, quite out of normal behavior from their coaches. These behaviors could be witnessed following mistakes made by the gymnasts. In normal conditions, coaches should provide positive support rather than “violent verbs” or “yelling”. Some of the interviewed gymnasts mentioned “ he gets mad on me, when I make mistakes”, other said “ he punishes me and/or stops me from training as a punishment.

Upon being questioned about the attitude of her coach while in the gym, G13 said, “The *coach* is sometimes a little stressed out.” In another section, she reports, “(He *scolds*) the girls who are playing. He yells and gets really mad at us.”

As such, the gymnasts were also able to manifest their fear of being evaluated by this coach. G13 confirmed the fact that, “He would fight with us if we fell right in front of him...He makes a face like this ... (when *observing the athlete’s error*).” For this gymnast it seems difficult to dissociate the coach from the judge and sometimes she imagines that she could be reprimanded for making a mistake during competition.

In another case, G12 declared that in addition to aggressive attitudes, the coach inflicted verbal punishment and physical violence. “He (*scolds us*), yells, sometimes pulls our hair. Hits my leg if I make too many mistakes. He has already (*pulled my*

hair). many times. Like this. On the vault he told me to look at my hands, and then I looked but didn’t look at my hands. And then I tried it again but didn’t look at my hands. And then he says, ‘Look at your hands’ and (*then she demonstrates how he pulled her hair*). When we questioned this gymnast about how her parents and colleagues have helped her control her fears, she again referred to the coach, “(My mother says) ‘the next time, if you make a mistake, try to do it again’.” She adds, “I’m not supposed to worry about getting scolded by the *coach*.”

The facts above relate to the delicate situation in the relationship between coach and athlete or, rather, to the failure of this relationship. When the coach’s inappropriate conduct comes in contact with the athletes’ failure, it starts to shake the core of this relationship, which can lower self-esteem and cause depression on the children, in addition to generating an apprehensive atmosphere.

According to Becker Junior; Teloken (2008), the coaches should support their athletes in these situations and, subsequently move on to correct the skill that was unsuccessful during the competition. In this way, the coach can preserve the self-esteem of the athlete and help him/her deal with failure.

The fact that he/she fears the coach can discourage the athlete from seeking help during training. Furthermore, when the coach perceives and understands this feeling, he can help to change the interpretation of the situation, making it more positive for the athlete (Webb, Miles & Sheeran, 2012). A competition can be seen as a threat or a challenge and depends on the objective and importance attributed to it (Cerin, 2003; Jones, Meijen, McCarthy, & Sheffield, 2009).

Strategies utilized

We have registered the strategies utilized by the gymnasts in the attempt to control their fears, among them: family support, social support (friends), pedagogical support, attention /

concentration, positive thinking and self-esteem, mental practice, and relaxation techniques.

Studies point out that children and adolescents who perceive that they have support from family and friends feel like they have better skills for overcoming barriers that come up during the practice of AG and considerably increase their chances of prolonging their time in the sport (Nunomura, Carbinatto, & Duarte, 2009; Peterson, Lawman, Wilson, Fairchild, & Van Horn, 2013).

As the athlete becomes more involved in the sport, his/her dedication and commitment increase, and therefore, friends and family members should be in agreement with this change.

We have identified that gymnasts find solace in their friendships in order to deal with their fears. In the first place, they feel encouraged by their gymnasts' friends. G3 commented, "They (*friends*) tell me not to let the fear get inside of me." G4 stated, "When we are afraid, we tell our friends first." G7 told us, "I tell them when I am afraid, and they tell me that I have to think before doing anything. Not to be afraid, because if I do I will think I am going to fall." G13 said, "With (*name of friend*), with all of my friends (...) that you have to be calm in order to get it, you have to keep trying."

The gymnasts feel better about sharing their fears with friends from AG because they show them empathy. They have lived through similar situations in their own training. "Sometimes they say that they cry, that they are afraid, that they got hurt," comments (G6). "Only with (*friend's name*). She also tells me when she is afraid (...) she says, 'I'm also afraid to do a back walkover on the balance beam'," adds (G12). Competitive situations were also mentioned. "During competition, we talk a lot with each other. We help each other. When one of us finishes a routine after falling, we tell her not to be nervous, not to go to the next apparatus nervous, not to think about the apparatus that she just competed on, make sure the competition

does not end with the previous apparatus," (G4) said.

Family has a major responsibility in orienting children in the sport and can play a highly negative or highly positive role in the sporting experience (Cogan & Vidmar, 2000).

Some of the gymnasts pointed out how their families helped them with their fears and mentioned two different ways this happened: being able to disclose the emotion and trusting their parents. G1 exemplifies the first, "Later, when I get home, I talk to my mom." G5 exemplifies the second, "She says I have to improve and that I will be able to do better the next time".

We discovered that despite the fact that gymnasts indicate support from their friends as essential for dealing with fear, their statements show that they avoid this strategy. G1 states, "You can't talk a lot during training. Just a little." G4 affirms, "We talk, but sometimes we move apart and can't really talk very much. He (*the coach*) says that if we talk too much we are going to have to sit in the bleachers. I've had to sit out for 30 minutes before."

We believe that good discipline is necessary for training, but the coaches should understand the importance of communication amongst the gymnasts, since unpleasant situations, like feeling fear, could be shared, which in results could affect performance. Sometimes it would be better to let the gymnasts talk to each other for a while and share these feelings when moving from one apparatus to another, or maybe to let a more experienced gymnast talk to a beginner when learning a new skill and share his or her own experiences.

The *pedagogical support* strategy is one of the strategies that can be used to minimize fear by improving the quality of practice and safety equipment, by using instructional sequences (go from the simple to the complex) and through the changes and adaptations between apparatus (carry out the same skill on the low beam and on the trampoline). These can be seen in the following statements: "The first few times,

they held me. When I started to do it by myself, I started to be afraid because I did it wrong. Then later, he trained me on the trampoline. Then when I went to the mat I saw that I got better and I lost my fear” (G5); “(coach’s name) kept working with me and I couldn’t even jump correctly, because of my foot (...) he stayed on the trampoline with me, helping me” (G2). “I fell, went to drink a little water, and then went back to working on the low beam. Then I went back to the high beam” (G7); “When I do a front tuck, I am more afraid. Then he tells me to do it from a balance beam” (G9).

Spotting (Gerling, 2009) can also be considered as one of the variations in this unit of registry. We have noticed that the gymnasts depend on assistance from the coach to deal with fear. “Then (coach’s name) helped me do it. When we make one mistake, he helps us twice. Then we do it on the low beam” (G4); “When I make a mistake, I get afraid. I ask for help and then I do it.” (G6); “Before I was afraid of doing a round-off, back handspring. Then I started to cry, gave up in the middle, fell on my back and got hurt. Then another coach stayed next to me, trying to let me do the handspring by myself. He said he was going spotting, I thought he was going to put up his hand and then, *hup*, I did it” (G8).

Attention and concentration was another strategy for control identified. G6 constantly displayed her need for attention, practice and overcoming her nervousness. “...I have to pay more attention, you know, and practice.”

The fear of injury also relates to the athlete’s low level of confidence in his / her abilities. As such, a high level of self-confidence, self-efficacy and positive thinking improve or even eliminate the negative consequences that emotions have on athletic performance (Martinent & Ferrand, 2007).

Another strategy for controlling fear is *self-confidence*. It is important to highlight the importance of the coaches in helping to raise the gymnasts’ self-confidence. Furthermore, it is vital that the gymnast

recognize her capability to carry out the required task. In this way, the coach can make the gymnast to feel secure and stimulate a positive mental attitude.

Cogan and Vidmar (2000) and Machado (2006) have indicated that positive and negative thinking have enormous power over athletes’ performances. Athletes who succeed in their careers demonstrate higher rates of positive thinking about themselves and their own performance and obtain better results. On the other hand, athletes that demonstrate negative thinking show disappointing results.

The utilization of *positive thinking* as a strategy for controlling fear has been widely used in AG, and it appears to have a relationship to heightened levels of self-confidence in gymnasts. When the gymnasts keep their thinking geared towards completing a skill or a series of skills, they dismiss the idea that something bad could happen. In order to do this, they utilize expressions like, “I am capable of doing this,” or, “I have done this skill before,” or even, “I am ready” (Cogan & Vidmar, 2000).

“Mental practice” was another strategy cited by the gymnasts. Mental practice utilizes the imagination and mental representation in the process of learning, memorizing and developing physical capabilities (Connaughton, Hanton, & Jones, 2002). The athlete simply imagines the movements that would be carried out in a real performance situation and repeats this virtual action over and over.

This type of practice is widespread in AG (Brandão, 2005; Chase, Magyar, & Drake, 2005; Cogan & Vidmar, 2000), and it can be helpful to gymnasts of all levels to improve their performance. Through this strategy, the gymnast learns to calm himself / herself and feels prepared to carry out the required task (Chase, Magyar, & Drake, 2005).

An additional strategy utilized by two of the gymnasts was named *relaxation techniques*. Unlike the other strategies, this technique was taught to the gymnasts by the sports psychologist working at the club we

did the research. The objective of this training is to relax the body and allow for muscle control so that the athlete can maintain relaxed during a difficult situation. This technique utilizes breath control and rational evaluation of the feared situation. In this way, relaxation can be used as a basic step in other types of training, like visualization, improving concentration, and controlling stress (Machado, 2006). The relaxation process prepares the athlete to perform the skill more efficiently than if he / she were to be under a tension process.

Giving her account of the process, gymnast G4 said, "We do what the psychologist told us. For us to breathe in the 'blue air'. (...) We breathe in the normal air. We breathe it in to be calm. Then after we have breathed in the 'blue air', we exhale air of any color." Gymnast G3 explained, "We have to think about what we are going to do three times and then we get it right." However, one of the gymnasts who learned the technique, G2, commented, "The psychologist told us to breathe to get it. (...) Breathe and think about the work you want to do and not get it...Well that won't work. I always try, but right at the moment I can't do it." Upon feeling relaxed, the gymnasts were able to concentrate better which helped them conserve their energy and control fine details of their performance (Duda & Gano-Overway, 1996).

The remarks made by G2 were placed into two other units of registry, mental practice and relaxation techniques. However, the gymnast reported that even though she knows and tries to apply these two strategies, they do not produce any effect, that is to say, the techniques were not productive for her. She reported, "I always try, but at the time it doesn't go anywhere. (...) Then, I can never manage to do it. Because I can never manage to do it, I always fall. Now when there is a competition with a tuck like this, I won't do it. I will take out the tuck." In regards to the other gymnast, the main factor observed was the insecurity in relation to the execution to the various skills. We can observe this fact in the G9's response to our

question, *what do you think about when you are performing the skill?* "About falling. (...) Yes. I think about the skill, but I think about falling."

When faced with a threatening situation, these gymnasts demonstrated having negative thoughts. Cogan and Vidmar (2000) cite accounts of gymnasts who presented the same problem and permitted negative thoughts to take on maybe even greater proportions. As observed in the accounts cited above, these types of thoughts increased anxiety and the appearance of fear.

CONCLUSIONS

In this study, the emphasis was particularly on one emotion: fear. Nevertheless, it is only one of many factors involved in sports performance (Cerin, 2003). Connaughton, Hanton and Jones (2002), Gould and Maynard (2009), Jones et al (2009) defend the idea that the ability to control one's emotions is an important requirement to be successful in the sport.

Motor complexity and potential risk to the gymnast's physical integrity are constant consideration to insure safety in AG.. This risk is part of practice and gymnasts should be prepared to encounter this situation. Fear is an emotion that reveals itself in a variety of situations within the modality. And the way in which the gymnast deals with its occurrence will have a fundamental role in his / her development.

Coaches have the responsibility to consider the social and pedagogical environment of the class and the competition in order to minimize fear. They should be attentive to the readiness of their athletes in all aspects – physical, motor, psychological, and social –as well as consider the quality of apparatus resources.

Nunomura, Okade and Tsukamoto (2009) add that coaches can and should strive to provide training centered on each athlete that respects the particularities and individuality of the gymnasts, in order to benefit their overall training. In this way,

promoting positive experiences in the sport should be the focus of the coaches.

It is necessary to understand and view the athlete from a holistic perspective, with all of his / her diversity, uniqueness and experiences. Upon identifying some of a gymnast's symptoms and fears, coaches can project and implement programs geared towards injury prevention, support recovery more successfully, promote healthy relationships between athletes and coaches, and avoid burnout or negative stress (Cremades & Wiggins, 2008; Giotis, 2007).

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