

DEMANDS STATED BY ARTISTIC GYMNASTICS COACHES AT THE BEGINNING OF THEIR CAREERS

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Abstract

High quality performance of sports coaches involves the use of professional, interpersonal and intrapersonal skills (Côté & Gilbert, 2009). The complexity of the work of sports coaches, especially in Artistic Gymnastics (AG), due to the profound technical and physical demands right from the basic categories, can be magnified for coaches with little experience entering the field. Thus, this study aimed to identify the perceptions of coaches at the beginning of their careers regarding the types of skills required for their professional routine. We interviewed five coaches affiliated with the Santa Catarina Gymnastics Federation (Brazil) with less than 10-year experience in AG. During the interviews, indicators, such as professional routine and knowledge required in this context, were addressed. We used Braun and Clarke's (2019) reflexive thematic analysis to analyze the data. The results show that the complexity of coaches' work requires an expanded repertoire of knowledge. In general, coaches realize that relevant professional and interpersonal skills to teach gymnastics are the most required types of knowledge in daily practice. Intrapersonal skills, on the other hand, seem to be less needed, which may contribute to the preservation of an authoritarian culture in sports training. The requirements discussed in this study lead to implications for and reflections on AG coaches' training programs, especially in the structure of the body of knowledge that provides a good basis for dealing with their daily challenges.

Keywords: *artistic gymnastics, professional development, coaching knowledge, professional practice*

INTRODUCTION

Artistic Gymnastics (GA) aims to bring together complexity and perfection in gymnasts' execution of movements (Costa, Marques, Oliveira, & Nunomura, 2020). The coach's role is even more complex, since she must also create a safe environment in which the teaching-learning process of new acrobatics takes place while it is inevitable that some manual help and closeness between the coach and the gymnast will occur (Barker-Ruchti & Tinning, 2010). In their studies, Côté, Salmela, Trudel, Baria, & Russell (1995)

and Dowdell (2010) were the first to focus on AG coaches and provide an insight into the complexity of performance in this sport. Subsequently, several other studies have advanced this theme by investigating, for example, the intervention of AG coaches through the relationships established with the athletes (Costa et al., 2020; Oliveira, Bortoleto, & Nunomura, 2017); the coaches' level of knowledge about the motivational factors of athletes (Nunomura, Okade, & Carrara, 2012), and the knowledge required for teaching

gymnastics skills (Irwin, Hanton, & Kerwin, 2005). However, considering that the demands coaches face are directly related to the context in which they work (ICCE, 2013) and that most studies on AG focus on expert coaches who work at the most competitive levels (Côté et al., 1995; Irwin et al., 2005; Nunomura et al., 2012), there is a lack of studies looking at coaches at the beginning of their careers or working with athletes from less competitive categories.

In recent years, the model proposed by Côté & Gilbert (2009) has been used to define quality performance of sports coaches and the types of knowledge required to support it. This model indicates that coaches must master three groups of skills: (1) professional knowledge (comprising the specific contents of sports science and the processes that are part of the sport in which the coach works, such as knowledge about its technical-tactical aspects, physical preparation, training methodology, etc.); (2) interpersonal skills (including, for example, knowledge about people management, leadership and communication needed to establish relationships with various stakeholders in the sports context, such as athletes, parents, judges and other coaches), and (3) intrapersonal skills (including coaches' ability to reflect on, self-evaluate and think about their own behavior and professional performance).

When we think about the current AG situation, the training process has gained visibility in recent years because of the criticism and scandals related to sexual abuse and harassment reported in several countries (Novkov, 2019; Pinheiro, Pimenta, Resende, & Malcolm, 2014). This may be the result of unreasonable appreciation of coaches' for their professional knowledge due to AG's characteristic pursuit of perfection for competitive success (Costa et al., 2020). For Bortoleto & Schiavon (2016), advancement of scientific investigations may be one of the ways to minimize excessive striving for

competitive results by gymnasts and moderate the authority of coaches while promoting more appropriate behaviors and a healthier sport environment. Given the emergence of this topic, this study can contribute to a broader understanding of coaches' early career and lead to reflections for the future work in AG. Thus, in this study, we aimed to identify the perceptions of coaches at the beginning of their careers regarding the types of knowledge required in their professional work.

METHODS

This is a descriptive study with a qualitative approach in which the focus is on the subjectivity of the experiences reported by the participants. We adopted the epistemological and ontological dimensions of the constructivist investigative paradigm, as we consider the relativity of the nature of knowledge and its construction from the interaction between the unique realities experienced by the participants (Denzin & Lincoln, 2018). With regard to the axiological dimension, the direct involvement and influence of researchers in the data collection and analysis process through their idiosyncratic experiences with the subject of the study is highlighted (Denzin & Lincoln, 2018). In this case, the researchers are part of the social reality studied and, therefore, do not separate themselves from the theme in order to present different perspectives on the subject (Rehman & Alharthi, 2016). This research was approved by the Human Research Ethics Committee of the Federal University of Santa Catarina under Opinion No. 4.079.059.

AG coaches from Santa Catarina (Brazil) participated in the research. The criteria adopted for the selection of participants were as follows: (1) affiliation to the Santa Catarina Gymnastics Federation (Brazil); (2) a maximum of 10 years of tertiary studies in Physical

Education¹, and (3) less than 10 years of professional experience in the sport. We chose these criteria to define a group of participants at the beginning of their careers, unlike other studies, such as those by Côté et al. (1995) and Irwin et al. (2005), which selected coaches with at least 10 years of practice, and Nunomura et al.,

(2012), in which the participants had on average 12.2 (among women) and 14.5 (among men) years of experience as a coach. The description of the participants is presented in Table 1, using pseudonyms to ensure anonymity.

Table 1.
Coaches' profile

	Age (years)	Gender	EG	EC (years)	PTT	Discipline	Competitive level	Judge
Ella	25	F	11	6	4	WAG	State	State WAG
Sarah	24	F	13	6	3	WAG	State	-
John	31	M	10	7	9	WAG	State	-
Beth	23	F	8	5	2	WAG	State	-
Peter	26	M	6	5	5	MAG	State	State MAG
Average	25.8	-	9.6	5.8	4.6	-	-	-

Legend: C = Coach; F = Female; M = Male; EG = Experience as a Gymnast; EC = Experience as a Coach; PTT = Professional Training Time; WAG = Women's Artistic Gymnastics; MAG = Men's Artistic Gymnastics

We emphasize that the coaches participating in the research train athletes for state-level competitions. The state of Santa Catarina is not among the states with the greatest representation on the national level. The coaches work with all age groups, from children to adults, except Sarah who only trains in the children's category.

Initially, the participants answered a brief sociodemographic questionnaire prepared by the authors. In the next phase, the first author conducted semi-structured interviews with the aid of an online audio and video platform. Although the script was developed from Côté and Gilbert's (2009) study, we sought to elaborate general questions about daily requirements, (instead

of influencing the participants to name the requirements with references to professional, interpersonal, and intrapersonal skills). Examples of such questions are: "How is your routine structured?"; "When you enter the gym, what are your first actions?" and "Could you describe what your training session is like?" The interviews lasted 62.6 ± 7.65 minutes on average. The data were transcribed verbatim with the help of the Microsoft Word software, totaling 47 pages with Arial font, size 12, single spacing, and two-centimeter margins. Due to the ontological characteristics of the paradigm adopted in the study, where subjectivity is also present in the researchers' interpretation of the coaches' reports, we chose to use the

¹ Due to the professionalization of sports coaches in Brazil, a university degree in Physical Education is required.

reflexive thematic analysis technique (Braun & Clarke, 2019). In this analysis procedure, the researcher is responsible for identifying, analyzing and reporting patterns found in the data using the six stages described by Braun e Clarke (2006) as a guide. Initially, the first author transcribed, read, and reread the interviews. Using an inductive approach, the analytical process proceeded with initial codes, generated to identify relevant points of interest based on the study aims. During this step, using Microsoft Word, the most relevant statements were grouped into codes. Next, we conducted a search for common topics among the initial codes, generating broader themes. In the fourth and fifth stages, respectively, the initial codes were revised within the themes to ensure the representativeness of the broader categories and to facilitate their naming. The last stage resulted in the analysis report presented in the results section.

It is noteworthy that the first author led the analysis, and the second author played the role of a "critical friend" during all stages. In addition, because of the coauthors' expertise in coaches' performance and qualitative research, frequent meetings were held to discuss the analytical process. These actions were intended to provide the first author with critical reflections on the analyzed data (Smith & McGannon, 2018). Thus, the authors identified three themes and ten sub-themes.

RESULTS

Applying sports science to professional practice

Planning development and adaptation

When planning, coaches need to consider the time of the year to define the content of the training process. As Beth points out, planning goes through major modifications in a pre-competitive or competitive period: "Outside of competition periods, we focus on physical

preparation; separate elements. When we are close to the competition period, we practice sequences; so, it changes a lot". Furthermore, it seems necessary to integrate the aspects of physical conditioning with technical development to optimize the gymnast's training time: "I have to mix the strength part with the gymnastic moves part, because otherwise I don't have time to train" (Sarah). Planning adaptation is also a constant process in coach's work. John reports that changes to his initial plan are sometimes necessary even to maintain the gymnast's physical integrity: "If you know she got hurt in the previous training, you ask if she is okay, if she can do it, or if she is still in pain. If she says she is in pain, you must check what you had planned for her and change it".

Understanding gymnasts' personality

Understanding athletes' personality is perceived as a coach's duty and seems to be related to the long-term development process. Beth believes that her work must meet the physical needs of her athletes to facilitate their sports development: "Understand the biotype of the children, understand the difficulties they have, and work to improve". Moreover, understanding of gymnasts' personality also includes gymnasts' mental state. Ella comments that there is a need to expand the biological look to include psychological variables that are present beyond the training routine: "In competition, much more than in training, we have the psychological part, the emotional part, the parents in the bleachers, their [gymnasts] nervousness, being too hard on themselves, which we end up finding out only during the competition".

Building the teaching-learning process

All the coaches highlighted the need to master the AG-specific knowledge as a prerequisite for working in the sport. Beth addresses the importance of knowing the correct execution of gymnastic elements: "I think that, first of all, she [the coach] has to

know the technique of artistic gymnastics, because it's no use being a good teacher if you don't know the sport. The technique involves exercises, moves, their execution". Ella adds that, by knowing each gymnastics element, the coach must develop teaching-learning processes and use manual aids with the athletes so that they can safely perform new moves: "So, we take a skill, we divide it into several types of educational activities and, generally, in these educational activities, we use a lot of aids to correct the movement, and then the athlete can perform the whole move with an appropriate

technical design". In this teaching-learning process, Peter also highlights different ways to ensure the safety of gymnasts, especially with the use of manual aids and mats:

"I guess I always surround myself with every possible security measure. I grab a gymnast, because if he falls, I can lessen the weight on the arms and prevent a fall on the neck. I try to get him as close to the mat as possible. I use a lot of mats."

Figure 1 presents the themes and sub-themes concerning the requirements mentioned by the AG coaches.

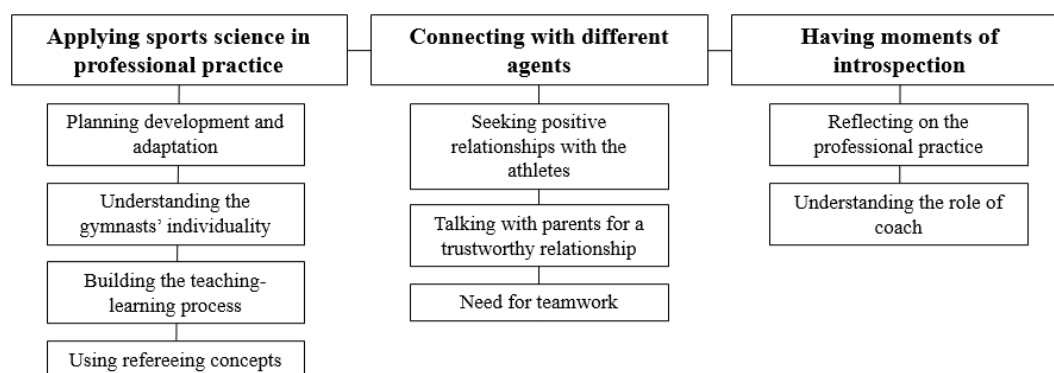


Figure 1. Requirements for coaches' professional practice

Using judging concepts

As part of requirements to work as a coach, the use of judging concepts is also considered an indispensable skill in the training routine and in competitions, from setting up gymnasts' presentation sequences to their final performance: "You don't necessarily need to be a judge, but you have to understand when there will be a deduction or not. It is part of the rules of the sport." (Sarah). Although Sarah highlights that being a coach does not imply being a judge, John confirms that judging knowledge is present in the construction of gymnasts' sequences and in competitions where the coach needs to check the score obtained:

"The coach has to put together a sequence and see if the child meets the requirements of the apparatus, see if he/she has a connection between the elements and check the Code for the grade of difficulty [...]. Thus, in a competition, if the grade is too different, you can question it."

Connecting with different stakeholders

Seeking positive relationships with athletes

Building positive relationships with athletes is seen as a necessary effort, especially given the cases of abuse that have occurred in high performance AG in recent years²: "The approaches nowadays have to be much more attentive, we need to be

² Distinct forms of abuse (physical, sexual and emotional) in the context of artistic gymnastics have gained visibility in recent years in several countries

such as Brazil (Globo Esporte, 2019), the United States (Washington Post, 2015), Japan (Japan Times, 2018), Australia (Fox Sports, 2021), among others.

mindful of the athletes, of the feedback" (Ella). Such care is perceived as indispensable to strengthen the relationship between the coach and the athlete and contribute to athletes' long-term engagement in AG. Sarah believes that effective communication and understanding of how gymnasts feel about their training routine should be a set of interpersonal skills that every coach possesses: *"This communication with athletes needs to exist as well. Knowing if an athlete is happy performing a move"* (Sarah).

Talking with parents for a trustworthy relationship

Parents' participation in athletes' trajectory is a recurring theme in the statements of all coaches. However, this task can be even more challenging than the training sessions themselves: *"It's much harder to manage the part with parents than the training itself"* (Ella). Due to this, the coaches clarify that constant communication with parents is the key to establishing a trusting relationship:

"I always talk to the parents. And in the same way as I am talking to you now, I always discuss everything with them. Because, I think, for the parents, they are leaving their child, so precious to them, in my hands. I want to always assure them that they are leaving them in the hands of someone who cares about them."

As coach John points out, it is important, through this communication, to make parents understand the specifics of the sport and the presence of manual aids in teaching the moves, so that they know how to differentiate the physical contact necessary for safety in gymnastics from what could be sexual abuse or aggression: *"You apply some pressure, you push, you squeeze, and sometimes you end up leaving a bruise because you use some strength. But it is not like you are hitting or caressing. So, all of that needs to be explained to the parents. I will have to touch her. It is a professional physical contact"*.

The need for teamwork

Coaches working with different professionals in AG is common considering the complexity of athlete's development. Our coaches report working with assistant coaches, ballet professionals, and psychologists. According to Peter, this multidisciplinary intervention helps the coach delegate different jobs: *"For me, having a team to share tasks with is fantastic, especially the team I have today. I had other colleagues before who were not that professional; that didn't work out. I ended up doing most jobs."*

Teamwork is also important since younger coaches can learn from those who have been working in the gym longer, as coach Beth says: *"I plan a lessons and Max [head coach] helps, corrects and shows what works best. For me, it is very important, because he has been working longer and I am just starting"*. Moreover, the relationship with more experienced coaches is fundamental for younger coaches' professional development, as John highlights: *"When difficulties arise, I try to reflect on the moment and also talk to the people who work with me. How would they deal with this situation? What would be the best way? Sometimes, what they would do is not what I did, so I think: 'I should have done that'"*.

Having moments of introspection

Reflecting on the professional practice

Reflecting during practice itself is an action present in the coach's work, whether through the process of self-knowledge or the evaluation of the effectiveness of the teaching-learning process. Ella explains that she uses training courses as moments to reflect on her own practice, even if the course is not related to AG: *"It is a self-knowledge course, where I can look at myself and reflect on how I can use my approaches, words, and temperament in my work, especially with a training team"*.

Still on the reflexive process, John tells us about the importance of seeking to

recognize, through an analytical process, what is behind gymnasts' difficulties and what is his own role in this process:

"Sometimes you can't assign an element and you think: "Am I the problem? Could the problem be the instructions? Or is the problem that the child doesn't want to do it?". If the child doesn't understand, then the problem is in me, because I didn't get it across to him/her, or in the instructions that I gave him/her and he/she didn't understand.

Understanding the role of coach

The fact that coaches work, in some cases, in both the initiation phase and in the specialization and performance phases, causes them to need to recognize precisely what their role as a coach is for different groups of gymnasts, generating adaptations in behaviour and communication: *"I have to separate this, my school teacher version that I need to loosen, and my training teacher version. It's a little difficult, but there's not much I can do"* (Sarah). Still reflecting on the role that should be played, John reflects on his own performance, thinking about what is required and his own weaknesses: *"As a professional I need to be patient, something I am not, but I'm doing my best to improve this [laughs]. I need to be a person who encourages and motivates the child. Who doesn't deceive him/her but is realistic with him/her. Who shows the reality, without deceiving the child"*.

DISCUSSION

This is to identify the perceptions coaches have at the beginning of their careers regarding the types of knowledge required to perform in their professional capacity. The participants of the study described their performance routines in AG and, in this way, it was possible to observe different types of skills, such as those proposed by Côté and Gilbert (2009). According to Quinaud, Backes, Nascimento Junior, Carvalho, & Milistetd (2020), it is common for sports coaches to attribute greater importance to professional and

interpersonal knowledge, since it is more noticeable in the coach's daily practice and in the relationships established. In contrast, intrapersonal knowledge is not consciously present in coaches' routines and, therefore, tends to be less valued (Côté & Gilbert, 2009; Quinaud et al., 2020). Furthermore, the valorization of professional knowledge may be related to the coach training process. According to Bortoleto & Schiavon (2016), in Brazil, the paths taken by AG coaches continue to include passing knowledge from one generation to another; acquiring it through previous experience as a gymnast, and the replication of methodologies that previously generated good results. Milistetd, Trudel, Mesquita, & Nascimento (2014) e Tozetto, Galatti, Scaglia, Duarte, & Milistetd (2017) indicate that there is a gap in the training context of Brazilian sports in general, lacking, above all, systematized opportunities for coaches to learn to reflect on their own practices.

Professional knowledge, understanding gymnasts' personalities, building up teaching skills and using judging knowledge are all requirements for coach's performance. The findings indicate, above all, the importance of mastery of the specifics of AG. This concern seems to also apply to expert coaches, as identified by Irwin et al. (2005), when noticing the need for a high level of technical knowledge and the ability to organize this knowledge to develop effective progressions and sequence them appropriately. This fact may be related to the AG culture, in which the teaching-learning process is historically more coach-centered and, therefore, the coach is fully responsible for decisions about the conduct of training sessions (Irwin et al., 2005; Oliveira et al., 2017) in order to combine the complexity of exercises with gymnasts' execution precision (Costa et al., 2020). In addition, by promoting the technical development of athletes, coaches recognize the risks gymnasts are exposed to when performing more complex skills. Therefore, technical knowledge is a necessity for a coach in

order to pay attention to gymnasts' safety, both physical and mental (Araújo, 2012).

We identified some requirements for coaches so that they can establish connections with other stakeholders involved in the AG environment that are grounded in interpersonal skills. Coaches apparently seek to build positive relationships through communication and by getting feedback from their athletes. These strategies represents a small advance from the previous situation of predominant domination and authoritarianism in the relationships between coaches and gymnasts (Barker-Ruchti & Tinning, 2010; Costa et al., 2020; Oliveira et al., 2017). In contrast, our coaches mention the need to gain the parents' trust, citing the importance of explaining that situations such as "squeezing or pushing gymnasts" are necessary and commonplace when using gymnastics teaching aids. Their intention to develop good relationships with parents seems indispensable, since parents' opinions about coaches or their teaching methods can also influence the relationship between the coach and the athlete (Jowett & Timson-Katchis, 2005; Schiavon & Soares, 2016). However, as Pinheiro et al. (2014) already found, in the context of AG, parents tend to place considerable trust in coaches and consequently there is still some residual concerns that negative and historically normalized practices in the relationship between coaches and gymnasts may still be reproduced and veiled by younger coaches as well since athletes in this sport have great confidence in their coaches and will execute moves in the way they were taught (Barker-Ruchti & Tinning, 2010).

Two other subthemes pointed out the need for the mastery of intrapersonal skills in the coaches' practice. The data indicate that there is a presence of reflective processes during interventions. For Gallimore, Gilbert, & Nater (2014, p. 126), reflection involves "pondering, reviewing and questioning of their experiences that prompts individuals to adapt and change their behaviours in subsequent action". The

potential of the reflective process to break through the AG culture seems limited, since the reflections generated by the study participants are almost always related to the coach's own concerns about the effectiveness of the teaching-learning process. In fact, the theoretical framework proposed by Irwin et al. (2005) points out that during the development of gymnastics skills, coaches record experiences and, through them, when teaching new skills, they reflect and design strategies and educational processes that may prevent future problems. Finally, the results also highlight the process by which a coach understands her role within the context in which she works. Due to this diversity of roles and contexts, acting according to the specifics of each situation is essential to ensure success in coach's activities (ICCE, 2013). Thus, identifying the specifics of the context and understanding the implications of their performance are also important for coaches to develop.

CONCLUSION

The results of this study help us understand that coaches' work in the beginning of their careers in the sport is based on a wide range of skills, mostly related to the specifics of AG. Unlike in other studies, we noticed the coaches' intention to build a positive environment for their gymnasts; however, this does not mean that this has been successfully applied in practice. Similarly, the coaches highlight the need to establish a relationship with parents, although in some cases this means seeking approval for certain behaviors that a coach can continue to display. Furthermore, it should be noted that the manifestation of intrapersonal skills that is largely focused on meeting the performance needs of gymnasts weakens the possibility of developing a new culture in AG that starts with coaches' practice.

Overall, the findings of this study have implications for reflecting on the need for AG coaches' training programs to

understand the complexity and challenges new coaches' face, as well as the culture established in the sport. Thus, by aligning training and practice, it is possible to contribute to a safer and more positive environment in the sports.

This study's aim was solely to understand how new coaches perceived their work through their own accounts by conducting interviews with them. It is important to combine observation instruments with this type of data collection to be able to visualize whether, in practice, what is expressed by coaches actually takes place. Furthermore, we understand the limitations inherent in trying to identify requirements that are not always consciously expressed in coaches' work, but rather in moments of introspection and self-evaluation that make up the intrapersonal skills framework.

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