

Rhythmic gymnastics and dyslexia

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ABSTRACT

Rhythmic gymnastics is an Olympic sport with enabling and coordinating features characterized by "small tools" such as rope, hoop, ball, clubs and ribbon. The competitive program sees both individual and team performance. Dyslexia is a learning disorder, the failure of the development of hemispheric dominance or conflicts of dominance between the two hemispheres. In addition to having learning problems, people suffering from dyslexia also have problems in cognition of their bodies within space and with the musical rhythm. The aim is to verify if a dyslexic athlete can succeed in practicing this sport competitively, finding benefits in terms of performance, but especially in the sphere of self-esteem and sociality. Through the case study and ethnographic approach it was found that the gymnast manages to achieve the same results as the other gymnasts who train with her, but showing a small difficulty in teamwork. Moreover, after several steps it was found that the gymnast, already having innate physical qualities, during the competitions will be more valid than his training companions, despite his learning difficulties. These results encourage to deepen the links between physical activity and personal aspects because he is an athlete to all intents and purposes, with potential and weaknesses on a par with other athletes. **Keywords:** Disabled athlete; Learning disorder; Case study.

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INTRODUCTION

Rhythmic gymnastics is a technical-composite sport characterized by "small tools" that are: rope, rim, ball, clubs and ribbon. In the individual program, the competition involves the use of four of the five tools used in this sport and, in turn, one of them is left out: for example, during this four-year Olympic period, the rope was not used. The technical and choreographic compositions of the individual gymnasts are performed on music ranging from 1.15 to 1.30 minutes and the gymnast must perform jumps, rotations and balances and risks, then continue with masteries and finally dance steps. In the team championship, five gymnasts are the protagonists of the platform, which, together, perform movements in sync as if they were a single gymnast. They have to perform jumps, rotations and balances, risks, collaborations, tool exchanges and dance steps. Another characteristic of the composition of the team is that the gymnasts, in addition to performing the exercises on a music that can go from 2.15 to 2.30 minutes, has a routine of two exercises and these routines can be: one with all the same tools and one in which the tools are mixed (i.e. two tapes and three balls, two circles and three pairs of clubs, etc.). The bible of each rhythmic gymnastics technician is the score code (CdP) and the races take place on a 13x13 meter platform.

Dyslexia is essentially the failure of the development of hemispheric dominance or conflicts of dominance between the two hemispheres (Gaetano et al, 2015), but it is reductive to translate it into these terms, so I would like to quote what B wrote. Grasselli in his book on dyslexia, so that we can immediately knot the situation: "If all this is not understood, we end up observing dyslexia only as a problem and neglects all the potential that can and must emerge [.....]. The extraordinary aspect of dyslexia is precisely this unique mix of talents and difficulties and if all this is not understood and focuses attention only on difficulties, the results that will be obtained will be those of creating continuous suffering and frustration that will push these people to make educational choices and in general low level life and that do not correspond at all to their real potential (Gaetano, 2012).

In addition to having learning problems, people with dyslexia also have problems knowing their bodies within space and with the musical rhythm (Martino et al, 2019). The aim of this pilot project is to study a case study. We want to study a case of dyslexic (Ludovico et al, 2015) athlete related to performance, self-esteem and sociality. In the previous study the athlete had difficulty in coordinating and especially in conceiving herself within the competition platform, so this led her to have little self-esteem and consequently to relate little with her classmates (Altavilla et al, 2015). All this has also had a great impact on her relationship with her family, teachers and anyone who has tried to relate with her.

METHODS AND TOOLS

The method used is case study such as in other similar case (Valentini et al, 2018). It is a set of ways of doing research that have in common the decision to focus the cognitive investigation on a "situation" that may be indicative of a larger set of problems. The observation was purely direct and participatory:

- Choose a situation that really happened;
- Collect most of the information on the situation identified;
- The collected material is processed, sorted logically and sequentially;
- A draft of the case is drawn up;
- Information that can cause confusion is eliminated;
- Missing elements and information are identified for a complete understanding of the case;
- The case drawn up is examined by an expert who may recommend any corrections or additions;

- A description of the case is drawn up and any documents referred to in the description are attached;
- Minutes are taken for the presentation of the case and its discussion.

The case study method involves the use of an observer group:

- Coach;
- Family;
- Two course mates.

One tool used is the questionnaire: used in social research, which is used to collect information in a standardized way and on samples of varying sizes, such that you can then build a data matrix, and then perform analysis of a mathematical / statistical type.

The approach

The ethnographic approach is the method by which field research operates. It means going to study for a certain period of time what you are interested in, and using some research techniques (such as observation or interview) to collect a set of data that (Raiola, 2015), once interpreted, allow you to understand the culture in question (Raiola, 2017). It is a method of investigation that uses the use of participatory observation as a privileged technique for the collection of information, uses and consumption behaviour, in specific contexts (Barbara, Francesca, 2018)). This technique allows us to reconstruct from within the symbolic world and the relational dynamics of the group, the community, the object of observation. In reality, the participating observation is often integrated with the use of other detection techniques (i.e. non-standardized interviews, life stories) (Raiola, 2013).

RESULTS

It turned out that the gymnast manages to achieve the same results as the other gymnasts who train with her, but showing a small difficulty in teamwork because she needs more control as well as a higher concentration than the individual work (Senatore et al, 2019).

The gymnast finds these difficulties in teamwork because she cannot learn the difficulties or the technical elements to perform and therefore confuses the rest of the team (Di Tore et al, 2018); but on an individual level, once she has acquired the technical gesture, she performs the same difficulties as all the other gymnasts.

With regard to the social and personal sphere, the gymnast was sent a questionnaire, in which she had to underline the most appropriate answer, which contained the following questions:

- Express your level of satisfaction with your training environment and, if you feel it is appropriate, motivate:
a) insufficient; b) discreet; c) indifferent; d) good; e) very good

Answer: the gym in which we train is very large, contains two volleyball courts and sometimes it seems that I get lost, I prefer the room with mirrors in which we do dance or assemble the choreographies.

- Express your level of appreciation to your teacher and, if you think it appropriate, motivate:
a) insufficient; b) discreet; c) indifferent; d) good; e) very good

Answer: He's always sweet and patient, he always encourages me, but I wish he wouldn't yell at me when I arrive late or when I forget my tools at home.

- Express your level of appreciation for rhythmic gymnastics and, if you think it is appropriate, motivate:
a) insufficient; b) discreet; c) indifferent; d) good; e) very good

Answer: I love this sport, but when I can't do the exercises right away, I get angry because I feel different from the others.

- Express your level of appreciation for your teammates and, if you think it is appropriate, motivate:
a) insufficient; b) discreet; c) indifferent; d) good; e) very good

Answer: with some very good, with others a little less. With some I feel uncomfortable because they look at me like an alien, with others I feel like a superhero.

- Express your level of appreciation for competitive activities and, if you think it appropriate, motivate:
a) insufficient; b) discreet; c) indifferent; d) good; e) very good

Answer: getting on that platform puts me anxious and agitated, I'm always afraid to miss the throws or forget the exercises, but as soon as I turn to my coach and see his smile of encouragement I feel stronger and safer.

- Express the degree of attention you have from your parents and, if you think it appropriate, motivate:
a) insufficient; b) discreet; c) that's good; d) good; e) very good;.

Answer: I feel like one of those cups I want to win in the race.

- Express the degree of attention you would like your parents to give you and, if you think it is appropriate, motivate:

a) insufficient; b) discreet; c) it's okay; d) good; e) very good

Answer: I know that things will never change.

- Write if there is anything that could be improved:

Answer: Everything is fine with me; I am aware that the problem is me.

DISCUSSION

The questionnaire sent to the dyslexic gymnast shows that:

- In her coach sees a figure of reference and on which to become strong;
- Tends to be alienated when it comes to talking about the relationship with his classmates;
- Shows a mix of aggression and guilt when dealing with the topic of "parents";
- Always shows a lot of insecurity and low self-esteem when he has to talk about himself.

CONCLUSION

Rhythmic gymnastics is a very selective sport, but in this case the barriers that have been raised have been broken down by a lot of strength and determination (Raiola et al, 2018).

In addition to working on herself, the gymnast found benefit by relying on a figure who believed in her and her potential and who believed so much in herself because for the first time she was not treated as a "different person", but as an ordinary person who was in that environment to practice a sport (Cassese, Raiola, 2017).

The personal work she has to do on her self-esteem and on the social sphere is still a great obstacle, the family relationship remains a great question mark because it is not possible to understand if she does it to capture the attention or because she really has some shortcomings that, apparently, do not seem to exist (Ceciliani, 2019, Ceciliani et al 2005).

Unfortunately, on an emotional level, the person with such a disorder has a great path to take because his frequent changes of mood, often act as an obstacle at the psychological level so he cannot give the best in sport.

The fact remains that the results collected at a technical level encourage to explore the links between sporting activity and data collected because you have in front of you an athlete to all intents and purposes (Raiola et 2018), with all the pros and cons that every human being can show (D'elia et al, 2018, D'Isanto, 2016), even if in this case the corrections must be done in a more patient way and for the results you have to wait a little 'more time (D'Isanto, 2019).

As far as the relational and emotional side is concerned, the road to follow is still steep and tortuous, it will certainly take a little more time, but in life we must never say never, everything is possible (D'elia, 2019).

REFERENCES

- Altavilla, G., Furino, F., Marika, D.P., Raiola, G. (2015) Physical skills, sport learning and socio-affective education, *Sport Science*, 8, pp. 44-46.
- Barbara, S., Francesca, D. (2018) Rhythmic gymnastics and dyslexia: A two-year preliminary case study, *Journal of Physical Education and Sport*, 18, art. no. 320, pp. 2122-2126.
- Cassese, F.P., Raiola, G. (2017) The importance of sport in disability management, *Sport Science*, 10, pp. 7-11.
- Ceciliani, A., Di Carlo, M., Tentoni, C. (2005) Mental process learning *Medicina dello Sport*, 58 (1), pp. 43-52.
- Ceciliani, A. (2018) From the embodied cognition to the embodied education in the physical and sports sciences, *Encyclopaideia*, 22 (51), pp. 11-24.
- D'Elia, F. (2019). The training of physical education teacher in primary school. *Journal of Human Sport and Exercise*, 14(1proc), S100-S104. <https://doi.org/10.14198/jhse.2019.14.Proc1.12>
- D'Elia, F., Mazzeo, F., Raiola, G. (2018) The core curriculum in the university training of the teacher of physical education in Italy, *Journal of Human Sport and Exercise*, 13, pp. S413-S420. <https://doi.org/10.14198/jhse.2018.13.proc2.25>
- D'Isanto, T. (2016) Pedagogical value of the body and physical activity in childhood, *Sport Science*, 9, pp. 13-18.
- D'Isanto, T. (2019) Physical and sport education between Italian academic system and European Research Council structure panel, *Journal of Human Sport and Exercise*, 14, pp. S66-S76. <https://doi.org/10.14198/jhse.2019.14.proc1.08>
- Di Tore, A.P., Raiola, G., D'Isanto, T. (2018) Situation awareness in sports science: Beyond the cognitive paradigm *Sport Science*, 11 (1), pp. 44-48.

- Gaetano, R. (2012) Motor learning and didactics into physical education and sport documents in middle school-first cycle of education in Italy, *Journal of Physical Education and Sport*, 12 (2), pp. 157-163.
- Gaetano, R., Domenico, T., Gaetano, A. (2015) Physical activity and its relation to body and ludic expression in childhood, *Mediterranean Journal of Social Sciences*, 6 (3), pp. 293-296. <https://doi.org/10.5901/mjss.2015.v6n3s2p293>
- Ludovico, L.A., Di Tore, P.A., Mangione, G.R., Di Tore, S., Corona, F. (2015) Measuring the reading abilities of dyslexic children through a visual game, *International Journal of Emerging Technologies in Learning*, 10 (7), pp. 47-54. <https://doi.org/10.3991/ijet.v10i7.4625>
- Martino, L., Fonzo, E., Cassese, F.P., D'isanto, T. (2019) Principles of adaptation of the rules for disabled athletes for an inclusion sport, *Journal of Human Sport and Exercise*, 14 (Proc2), pp. S215-S220. <https://doi.org/10.14198/jhse.2019.14.proc2.08>
- Raiola, G., D'elia, F., Altavilla, G. (2018) Physical activity and sports sciences between European Research Council and academic disciplines in Italy, *Journal of Human Sport and Exercise*, 13, pp. S283-S295. <https://doi.org/10.14198/jhse.2018.13.proc2.13>
- Raiola, G. (2017) Motor learning and teaching method, *Journal of Physical Education and Sport*, Raiola, G., Di Tore, P.A. (2017) Motor learning in sports science: Different theoretical frameworks for different teaching methods, *Sport Science*, 10, pp. 50-56. <https://doi.org/10.14198/jhse.2015.10.proc1.28>
- Raiola, G. (2015) Inclusion in sport dance and self perception *Sport Science*, 8, pp. 99-102.
- Raiola, G. (2015) Sport skills and mental health. *Journal of Human Sport and Exercise*, 10 (Specialissue), pp. S369-S376. <https://doi.org/10.14198/jhse.2015.10.Proc1.27>
- Raiola, G. (2013) Body knowledge and motor skills, *Knowledge Cultures*, 1 (6), pp. 64-72. 17, art. no. 236, pp. 2239-2243.
- Senatore, B., Valentini, M., Federici, A., D'elia, F. (2019) Pilot case study on rhythmic gymnastics and dyslexia, *Journal of Human Sport and Exercise*, 14 (Proc2), pp. S198-S205. <https://doi.org/10.14198/jhse.2019.14.proc2.06>
- Tore, A.D., Altavilla, G., D'Isanto, T. (2018) Situation awareness in sports science: Beyond the cognitive paradigm, *Sport Science*, 11 (1), pp. 25-28.
- Valentini, M., Riccardi, F., Raiola, G., Federici, A. (2018) Educational research: Motor area and relational area during children's personality development, *Journal of Physical Education and Sport*, 18, art. no. 327, pp. 2157-2174.
- Valentini, M., Bernardini, C., Beretta, A., Raiola, G. (2018) Movement and language development as an early childhood twin strategy: A systematic review, *Sport Mont*, 16 (3), pp. 107-112. <https://doi.org/10.26773/smj.181019>

