

*Editorial*

## Proposal to reach a consensus on challenges of sports sciences research for health.

**Rafael Martín-Acero<sup>1</sup>**<sup>1</sup> Faculty of Sport Science and Physical Education, University of A Coruña, Spain

\*Correspondence: (RMA) [rafael.martin@udc.es](mailto:rafael.martin@udc.es)  ORCID ID n° 0000-0002-7117-8055

**Keywords:** Gender Bias, Naturalistic Argumentation, Medicalization Effects, Activity Adherence

It is both an honor and a responsibility to write an editorial for the European Journal of Human Movement, the official journal of the Spanish Association of Sports Sciences, of which I am one of the founding members. The aim of the European Journal of Human Movement is to publish high-quality research, theoretical and technical studies, short articles, and other relevant contributions. In this editorial, I will outline some critical challenges for research activities in the cognitive domain of Physical Activity and Sports Sciences, as I presented at the 2023 Congress of the Spanish Association of Sports Sciences.

It is essential to remember that the construction of knowledge, adhering to the rigor of the scientific method, is a continuous process involving observation, testing, experimentation, analysis, and the reformulation of questions and hypotheses.

**Naturalistic argumentation and expectations with a low probability of being met.**

Professionals and researchers in Sports Sciences have advocated for the recognition of the importance of Sports Sciences students in the education and health of individuals, presenting arguments of significant socio-political relevance. This advocacy has predominantly relied on naturalistic argumentation. However, from an academic and research perspective, is it time to refine our formulations?

These messages have been effective, achieving important objectives for both the profession and society. They were constructed using naturalistic argumentation, drawing analogies between the moral properties inherent in the activity and its social effects (promising, preventive). These statements seem correct, reaffirming our stance while also appealing to those who accept and use them. Nevertheless, caution is



advised. While naturalistic arguments can persuade, they can also create false expectations among people and entities. Additionally, when such statements are made "from the academy," they take on the form of authoritative arguments, reinforced by citing experts or by the speaker's own authoritative position, using the magister dixit approach. Therefore, as **Challenge #1**, we propose that, by consensus, we base the importance of our interventions on explicitly stated essential observable values (biological, psychological, and social) intrinsic to the human condition, supported by gradients of established knowledge<sup>1</sup> (scientific evidence) for each gender and life stage.

#### **Argumentation, medicalized language and difficulty in acquiring and maintaining the habit of exercise**

The link between systematic exercise and the pursuit and management of health is as intrinsic and essential as movement is to human nature.

For many decades, the phenomenon of medicalization has permeated all fields of knowledge and intervention (Blech, 2004; Conrad, 2007; Bianchi, 2019). In the 19th century, hygienic, medical, and educational gymnastics emerged in Europe. In Spain, in the late 1970s, rehabilitation services within the public health system created professional positions for Physical Education Teachers<sup>2</sup>, which have since been discontinued. This phenomenon, along with naturalistic thinking, manifests among scholars and professionals in physical exercise and sport by equating what is natural with what is healthy, and subsequently, what is healthy with medicalization. This relationship, sharing historical roots with exercise,

influences its rigor and brings it prestige and recognition. Given this premise, there is a temptation to believe that to ensure the healthy effects of exercise, each person must participate in "medicalized" programs. This tendency is evident in expressions like "exercise prescription," "exercise is a pill," "exercise dosage," "sports prescription," and "therapeutic exercise." While this bias towards healthcare has benefited CAFDs in the short term, will it continue to do so? **Challenge #2** proposes that, *by consensus, we develop a specific and technical-scientific language for CAFDs to promote, program, apply, and evaluate exercise for health.*

To encourage the population to become active, excessive reliance has been placed on fear, a powerful cognitive motivator, though its influence is not sustained over time. The effectiveness of these messages is based on the negative consequences of not becoming physically active. According to WHO studies, such cognitive messages (regarding alcohol, tobacco, and food) are ineffective in attracting large groups to healthy habits. Many people perceive them as accusatory and blaming for not having "good" habits or being socially responsible. Furthermore, many beginners abandon exercise due to the perception of physical and psychological effort without immediate reinforcement (Martín-Steel and Ezquerro, 2023). Exercise programs for those who are not ill or have non-serious health conditions should prioritize adherence to voluntary and continuous movement.

Exercise programs contributing to medical-health treatments for those with diseases should result from interdisciplinary guidelines agreed upon by groups of specific scientific societies and the Spanish

Association Of Sports Sciences. **Challenge #3** suggests that we, *by consensus, establish strategies (content, procedures, and instructions) to ensure that practitioners perceive immediate positive rewards for their efforts, enhancing their feelings of joy, vitality, and satisfaction, which would motivate them to repeat the activity in similar contexts (repetitions, methods, sessions, etc.).*

Throughout compulsory education, students should progressively assume more responsibility and autonomy concerning their perceived well-being, as part of their health and integral development. They should improve and maintain their habituation to physical activity, systematic exercise, sport, rhythmic-expressive activities, and/or activities in natural environments. By the end of secondary school, students should manage and solve the problems preventing regular physical and sporting activity and be able to self-evaluate their personal model of a healthy active life. Any educational activity aims at the autonomy of the individual, but "it is necessary to specify the scope of autonomy to be developed, the level of autonomy to be achieved, and the means available to achieve it" (Mierieu, 1998). Identifiable and quantifiable learning outcomes in Physical Education and school sports are necessary, particularly concerning students' habits. It is morally and legally mandatory to address and resolve **Challenge #4** *by investigating and defining evidence-based technical/scientific procedures for intervention in physical education and school sports, focusing on promoting adherence and autonomy, with special attention*

*to strategies to prevent dropout, especially among girls and young people.*

### **Bias and Gender Gap in Sport Science Research**

Gender bias in Sports Sciences research is a fact, as in other fields of application, such as Biomedical Sciences (Valls Llobet, 2021), where the male subject has generally been the object of study, and that information is extrapolated to females, assuming an often-impossible equality.

The exhaustive study by López Villar and Alvariñas Villaverde (2011) objectively identified gender bias in CAFD publications. They reported that in sports training studies, the largest exclusive samples of both men and women were found, with more than five times the proportion relating to the male gender. Moreover, in the areas of recreation, leisure and tourism, and sports management and direction, none of the articles used a female-only sample. They found no increase in the number of articles with female samples but did find a progressive increase in the number of mixed or male samples. Not only have women been excluded from the studies, but also in studies that appear to be differential by including female samples, they do so by comparing the values of their variables with those of male samples, using the male model as a reference. This comparison considers the male model as a unisexual "phantom" in anthropometry (Ross and Wilson, 1974) or the "gold standard" (Rudd, 1979) of tests, interpreting any difference as a deficit of the girl, young or adult woman. It is very late, and therefore urgent, to tackle **Challenge #5**: *by consensus,*

<sup>1</sup> Gradients constructed with Bayesian epistemic dialogic.

<sup>2</sup> <https://www.boe.es/eli/es/res/1984/12/21/2>: Resolución de 21 de diciembre de 1984, de la Secretaría de Estado para la Administración Pública, por la que se ordena la publicación del acuerdo del Consejo de Ministros de 19 de diciembre de 1984, de adscripción de Cuerpos y Escalas de funcionarios de la Administración del Estado a los Departamentos ministeriales.

*we must establish criteria and research strategies with female samples and address important practical problems (biological, psychological, and social) in their physical-sports practice throughout the life cycle.*

**Conflicts of Interest:** The author declares no conflict of interest.

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