

COACH-PARENT RELATIONSHIP IN SPORT INCLUSION: A WHEELCHAIR FENCING PILOT STUDY

LA RELAZIONE ALLENATORE-GENITORE NELL'INCLUSIONE SPORTIVA: UNO STUDIO PILOTA SULLA SCHERMA IN CARROZZINA

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Abstract

In recent years, the sport phenomenon has taken new forms especially regarding inclusion. Sport, health, and disability are now constructs intertwined in a relational model that also involves the family of the person with a disability. However, there is still a lack of in-depth knowledge about the relationship between coach, parent and athlete and the educational models useful in making this relationship effective both for the sporting result and, above all, for the quality of life of the person with a disability. Starting from the concept of disability offered by the ICF and from the idea of sport as a social model, and on the track the Athletic Triangle the present work, as a pilot study, aims to investigate this relationship in order to offer a model for sport inclusion in wheelchair fencing.

Negli ultimi anni il fenomeno sportivo sta assumendo nuove forme soprattutto riguardo all'inclusione. Sport, salute e disabilità sono ormai concetti che si intrecciano in un modello relazionale che coinvolge anche la famiglia della persona con disabilità. Tuttavia, ancora manca una conoscenza approfondita sulla relazione che si instaura tra allenatore, genitore ed atleta e sui modelli educativi utili a rendere efficace questa relazione sia per il risultato sportivo che, soprattutto, per la qualità della vita della persona con disabilità. Partendo dal concetto di disabilità offerto dall'ICF e dall'idea dello sport quale modello sociale, e sulla traccia l'Athletic Triangle il presente lavoro, in forma di studio pilota, si propone di indagare questa relazione per offrire un modello di inclusione sportiva nella scherma in carrozzina.

Keywords

Sport inclusion – Disability - Wheelchair fencing – Parents - Athletic Triangle

¹ conceptualization; data analysis; writing (Subjects and methods, Results, Discussion and conclusion) original draft preparation, revision and editing; *corresponding author.

² conceptualization; training organization and data collection.

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Inclusione nello sport – Disabilità - Scherma in carrozzina – Genitori - Athletic Triangle

Introduction

The inclusion spectrum in sport disability

Sport is a social and economic phenomenon that over the years has been at the growing attention of the strategic objectives of all countries around the world, framed in an evolution of legislation, both European and international, which is mainly expressed in two documents: the White Paper on Sport, officially adopted in 2007 by the European Commission, and in the International Charter of Physical Education and Sport of the United Nations Educational Scientific and Cultural Organization (UNESCO, rev.2015). In both documents, the role of sport practice is considered for its social, educational, and pedagogical content and it is shaped as a right for all citizens, an interest for the entire community and a strategic value for all countries. This normative evolution has increasingly outlined the right to sport as connected and instrumental to the right to health, therefore undeniable and to be guaranteed to all, including people with disabilities (Thomas & Smith, 2009).

The normative link between sport and health help us to also emphasize the evolution of the concept of sport, which has shifted from a model defined in a merely medicalized context to a bio-psycho-social one. This model also allows us to embrace the evolution of the concept of disability offered by the International Classification of Functioning, Disability and Health (ICF): we no longer discuss of a disabled person but of a person with a disability, where the latter represents the result of a complex interaction between the individual's health conditions and the environmental factors in which he or she lives. Disability is not in the impairment but in the individual's interaction with the world. The Paralympic movement itself was born out of the insight and commitment of Jewish neurosurgeon Sir Ludwig Guttmann, who perceived that the needs of a person with a disability went beyond mere cure, which could also be pursued through participation in competitive sports for the sense of motivation and empowerment (Thomas & Smith, 2009).

Within this theoretical framework, the concept of inclusion makes its way. This is an evolving topic, widely debated in educational contexts, that recently has been theme of reflection also in sport: the participation of people with disabilities in physical and sport activities, whether at the recreational or competitive level, is no longer considered a rehabilitative or curative moment, where sport is closely connected with disability, but becomes a moment of social participation. Thus, the power of sport comes out of a reductionist and body/oriented view to take a person/oriented path where even the distinction between adapted and inclusive sport (Agosti, 2020) will probably require challenging, as well as a repositioning in the broader context of social inclusion (Kiuppis, 2018; Dugkas, 2018; Richarda, 2022).

In fact, inclusion in sport has different characteristics and nuances. Kiuppis (2018), refers to the concept of sports inclusion by incorporating it into that of social inclusion, but differentiating it from the educational context: "the question we have to answer is to what extent and how the principle of inclusion can be translated to the activities of sport, because obviously education and sport cannot be easily compared, they are not functionally equivalent. So, in other words, what inclusion in education means is something else than what inclusion in sports means". He describes the participation of people with disabilities in sport activities within an inclusion spectrum, which must include the levels of "access, participation and success" in order to become a real instrument of that process of transformation of life, their families and the community. This inclusion spectrum in sport recalls the holistic concept of health expressed by the World Health Organization (WHO) and becomes a social moment but also a moment of pursuit of psycho-physical wellbeing. In this perspective, participation

in sport becomes an individual and free choice of the person with a disability, which, to be so, needs to be supported by the family and englobed in the context of life.

The reference to sport as a model of social inclusion and at the same time of health unfortunately still remains anecdotal, and there is now a need to pursue an organizational level that serves as an interface between medical and social conceptions of disability, where sport for the athlete with disability can be a balance between competition and socialization, in an ecological reading of the definition of sport understood as "a human activity characterized by a particular organization and functioning in certain performance contexts [...] that is distinguished not only by the characteristics of the people and places in which the sporting activity takes place but also by its social significance and cultural aspects" (Richarda et al., 2022). In this way, the relationship between family context, sport context and personal context has the possibility to define itself as a virtuous circle, useful in drawing liquid margins, therefore liable to continuous change, of the inclusion spectrum in sport disability.

The coach-parent-athlete triade in Wheelchair fencing

The level of relationship that is established between coach, parent, and athlete was defined as the Athletic Triangle (AT) (Smith et al., 1989) and was conceptualized as a social system in which components interact with each other in a complex way; the nature of these interactions can have significant consequences for a child's physical, psychological, and social development in the sport context (Wylleman et al., 1997; Lisinskienė & Šukys, 2014). The core idea is that coaches should be able to channel parents' genuine anxieties and good intentions in ways that enhance the value of athletes' sport experiences, and that parents should instead influence the quality of the dyadic coach-athlete relationship, defined by feelings of closeness, commitment, and complementarity. The final aim is to support coaches to collaborate effectively with parents, thereby increasing harmony and minimizing problems for all concerned. In this way, a virtuous coaching model is activated, which considers not only the performance level but also the educational and social level and it is established an effective two-way communication system with parents such that it will spill over positively to the outlook on the athlete's prospects. This model has been particularly studied and applied in contexts for youth sport but, to our knowledge, never in the context of disability sport.

Wheelchair fencing (WF) is one of the earliest sports practiced by people with disabilities, present as early as 1948 among the sporting activities offered at Sir Guttmann's Stoke Mandeville. Since the first Paralympic Games held in Rome in 1960, the original rehabilitative nature of WF quickly evolved becoming a widely practiced adapted competitive sport, also in Italy (Garetto & Bosco, 2017). However, the focus on WF, as witnessed by the growing scientific literature, is increasingly orienting to the technical/physiological aspects, to the link between the technology of the equipment used for practice and the performance of the athlete with disabilities (Iglesias et al., 2019; Borysiuk et al., 2020; Derman et al., 2018); as with other Paralympic sports, this is probably due to the purely agonistic setting, that needs a continuous evolution of the performance model. In addition, to ensure fair competitions, the WF adopts a complex system of disability classification, resulting in competition categories, structured on three levels (A, B, and C), the evaluation of which is left to ad hoc functional tests, internationally recognized and validated, which mainly concern limb and trunk control abilities with respect to the weapon and wheelchair (IWAS, 2016).

To look beyond the agonistic model, in recent years the Italian Fencing Federation has promoted an inclusive model of WF and has encouraged local clubs and associations to engage specific projects involving young athletes with disabilities in an educational purpose, applying inclusive practices that considered the participation of the athlete with respect to the familial and social context above all.

In line with this point of view, our study aims at analyzing an experience carried out in fencing clubs in southern Italy, collecting data regarding parents' satisfaction with the participation of their children with disabilities in an inclusive WF sport context, in which athletes with and without disabilities had the opportunity to train together. The final aim was to explore the relationships between parents' satisfaction with social and pedagogical inclusion (Wilhelmsen et al., 2019), their characteristics (e.g., degree of education, gender), and the disability characteristics of the young athletes (type and degree of disability). We believe that this kind of information, to our knowledge not yet explored in a WF sport context, could be a valuable contribution to the personalization of activities and to making firm relationships in the AT, also expanding the inclusion spectrum of the sport-specific context such that it becomes an educational environment for all, including parents.

2. Subjects and methods

22 parents (11F/11M) with a high educational level (77.3% at least Bachelor's degree) participated in the study. Each parent referred on (Tab.1):

- their educational degree (ED) as Middle school (1), High School (2), Bachelor's degree (3), Master's degree (4), Doctoral Degree (5);
- the type of disability of their child (DT) as Physical congenital (Phys-c), Physical acquired (Phys-a), Developmental (Dev);
- the subjectively perceived degree of disability of their child (DD) as mild (1), moderate (2), severe (3);
- the child's previous sports experience (PSE) as yes (Y) or not (N);
- the evaluation of the child's previous sports experience (e-PSE) as Negative (1), Partly negative (2), Neither positive nor negative (3), Partly positive (4), Positive (5).

After an 8-week WF program involving their children with disabilities, all parents responded to satisfaction with social and pedagogical inclusion by a 14-item survey using a five-level Likert-Scale (Disagree (1), Partially disagree (2), Neither disagree nor agree (3), Partially agree (4), Agree (5)) (Wilhelmsen et al., 2019). WF's program included at the same time children with and without disabilities in two weekly training sessions lasting 50 minutes; all children, aged 10-14 years, were at their first fencing experience. The training sessions were held by a master of arms (MoA) of the Italian Fencing Federation and organized in accordance with the Federation's rules and equipment. The proposed exercises took into account the possibilities and limitations (in terms of motor skills) of each athlete, regardless of the presence or absence of disabilities and respecting the competitive (but not agonistic) spirit of the sport context. Data were collected by sport organizations and then processed in adherence to all privacy policy procedures and authorization.

Tab.1 – Demographic and descriptive data

Subjects number	Gender (f/m)	Age (yrs) (mean ±SD)	ED (lvl) (mean±SD)	DT (Phys-c/Phys-a/Dev)	DD (lvl) (mean±SD)	PSE (Y/N)	e-PSE (lvl) (mean±SD)
22	11/11	47±3.56	3.32±0.95	10/12/0	2.05±0.72	22/0	2.82±0.96

Note: yrs: years; m: male; f: female; lvl: levels; SD: standard deviation.

Descriptive and inferential statistical analyses were conducted by using the software package jamovi (2021). Specifically, for quantitative variables, the main numerical descriptive indices

were evaluated, and for qualitative variables, frequencies were evaluated. To evaluate internal consistency of the satisfaction scales Cronbach's α and McDonald's ω were assessed; Shapiro-Wilk test was conducted to evaluate normal distribution. Factors potentially impacting this outcome were then analyzed at both bivariate and multivariate levels through the construction of 4 linear regression models based on the ordinary least squares (OLS) method.

3. Results

The Shapiro-Wilk for SI was significant; for PI, the distribution deviated from a comparable normal distribution (Tab.2). Furthermore, we explored the interactions between items using the Pearson correlation. First, item with a correlation coefficient $r \leq 0.30$ on the marker item was excluded (PI(a)). The 8-item SI scale and the 5-item PI scale showed sufficient internal consistency (SI Cronbach's $\alpha = 0.65$; PI Cronbach's $\alpha = 0.73$) and fit (Tab.2) for all the items (data not shown).

Tab.2 – Descriptive satisfaction and Scale Reliability Statistics

Scale	Mean	SE	Median	SD	IQR	Mini	Maxi	Shapiro-Wilk		Cronbach's α	McDonald's ω
								W	P		
SI	4.35	0.08	4.38	0.4	0.59	3.38	5.00	0.97	0.62	0.65	0.76
PI	4.35	0.08	4.40	0.4	0.35	3.20	4.80	0.84	0.00	0.73	0.79

Note: SE: standard error of mean; SD: standard deviation; IQR: interquartile range.

Our preliminary results show an overall high parental satisfaction with SI (mean 4.35 ± 0.4) and PI (mean 4.35 ± 0.4) (Tab.2) evident also in the descriptive analysis for each item (means > 3 ; medians ≥ 4) (Tab.3). In detail, for SI, items (b) and (c) although expressing lower mean values of satisfaction (3.45 ± 1.34 ; 3.86 ± 0.94), had a median =4; the same for item PI(b) (3.77 ± 0.75 ; IQR=0.00) for which a frequency analysis indicated, instead, a percentage of 68.2% for parents which expressed a positive value (=4) and 9.1% a very positive value (=5) (data not shown).

Tab.3 - Items in the social and pedagogical inclusion scales (modified from Wilhelmsen et al., 2019)

	Mean	SE	Median	SD	IQR
Satisfaction with social inclusion (SI)					
(a)... I feel that my child's abilities are appreciated in WF	4.55	0.17	5.00	0.80	1.00
(b)... my child has good friends	3.45	0.28	4.00	1.33	1.75
(c)... my child feels like a part of the team	3.86	0.20	4.00	0.94	1.75
(d)... the children enjoy themselves	4.09	0.15	4.00	0.68	0.75
(e)... the MoA has worked hard to create a climate that everybody experiences as good	4.23	0.11	4.00	0.53	0.75
(f)... all athletes are equally valued	4.68	0.10	5.00	0.48	1.00

	Mean	SE	Median	SD	IQR
(g)... there is little bullying	4.95	0.05	5.00	0.21	0.00
(h) *... my child is bullied	4.95	0.05	5.00	0.21	0.00
Satisfaction with pedagogical inclusion (PI)					
(a)... the MoA is good at adapting the activities so that everyone can participate	4.27	0.10	4.00	0.46	0.75
(b)... my child gets to use his/her abilities	3.77	0.16	4.00	0.75	0.00
(c)*...are there many activities in which my child cannot participate	4.91	0.06	5.00	0.29	0.00
(d)... he/she collaborates with the other athletes	4.14	0.14	4.00	0.64	0.75
(e)... the athletes learn a lot	4.82	0.08	5.00	0.40	0.00
(g)... the athletes collaborate a lot	4.14	0.14	4.00	0.64	0.75

Note: IQR: interquartile range; SE: standard error of mean; SD: standard deviation *The responses on the item are reverse

To evaluate correlations with parental characteristics (age, gender, ED) and disability characteristics (DD, DT, e-PSE), 4 linear regression models were used for both dependent variables (SI and PI). Results showed a significant ($p<0.05$) difference between the parents' gender ($b=-0.57$ F/M) only for the SI (Fig.1)

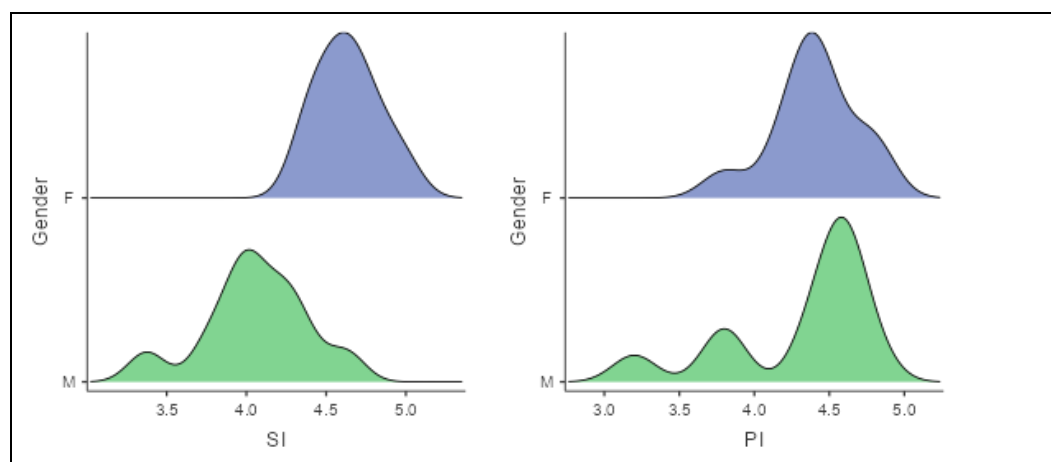


Fig. 1 – Density representation in gender distribution for SI and PI

To better identify the variables' impact on parental satisfaction, a frequency analysis was conducted (data not shown) by splitting descriptive statistics of SI and PI data for:

- DD, for SI(e) and PI(a) data showed higher values for higher DD; parents who reported a higher DD for their child tended to be more satisfied with how and how much the MoA worked
- DT, for SI(d) and PI(a) data showed higher values for Phys-c compared to Phys-a; parents of Phys-c athletes tended to be more satisfied with their child's enjoyment and the quality of the teacher's work than those with Phys-a;
- ED, for SI(c,f) and PI(b,d,e) data showed lower values for higher ED but for SI(e) and PI(a) were higher; parents with a higher ED tended to be less satisfied about their child's

membership and equities, ability to use skills, cooperation and learning but more satisfied with how and how much the MoA worked, that those with a lower ED;

- Gender, for SI(b,f) and PI(a) data showed higher values for F compared to M; the female parents tended to be more satisfied particularly for their child's friendship;

-e-PSE, for SI(e) and PI(a) data showed higher values for negative e-PSE; parents who evaluated as negative the PSE tended to express more satisfaction with how and how much the MoA worked.

4. Discussion and conclusion

As emphasized in the international literature, the context of sport disability needs an important reconceptualization. As a pilot project, our study aims to engage by proposing, on the idea of the AT, an analysis of parental satisfaction on social and pedagogical inclusion within an adapted sport context. With the specific idea of creating a sport system as a social institution, where the family plays a key role in creating and managing that "*system of social relationships or a network of positions and roles embodying the values people hold in common*" (DePauw & Gavron, 2005), the project aimed to bypass the constraint that defines participation in adapted sport, such as WF, within a classification system that relegates the athlete to a category defined by his or her disability. Previous work analyzed this variable referring to the context of school-based physical education (Zanobini et al., 2018; Wilhelmsen et al., 2019), and to our knowledge, there are no previous studies referring to the sport context.

As a social institution, sport cannot disregard the contribution of the family, particularly parents, who have the key role of support and management and are the *primum movens* responsible for the participation in sport activities of their children, with and without disabilities (McGarty & Melville, 2018; Arakelyan et al., 2019; Ku & Rhodes, 2020; Columna et al., 2020). In their role as agents of socialization, parents of children with disabilities play a key reinforcing role in sport participation, which is amplified to the extent that they are able to create a relationship system which constitutes both a sport and socio-cultural experience for the athlete (Richarda et al., 2022), particularly with the coach (DePauw & Gavron, 2005). The present study, albeit on a limited sample, made it possible to highlight the importance of this relationship by going to analyze parental satisfaction on two levels, social and pedagogical (Wilhelmsen et al., 2019), in an adapted sport instructional model where to "adapt" was not the sport but the behavior strategy emerging from the coach-parent-athlete triad.

In fact, statistical analysis, which compared the SI and PI with parental characteristics, their perception of their child's disability and assessment of previous sports experience, showed a very high degree of overall satisfaction, which was more evident for the female parents who tended to be more satisfied particularly for their child's friendship (SI b,f) and for the MoA teaching skills (PI(a)), than the male parent. The results obtained for the items that concerned the MoA's social (SI(e)) and teaching (PI(a)) skills, are particularly interesting, with a very high level of parents' satisfaction that was directly related to DD, emphasizing that the training activities were equally organized for all, regardless of the degree or type of disability. Even when comparing with the previous sports experience (e-PSE), parents expressed a very high level of satisfaction for items SI(e) and PI(a) and directly proportional to DD, emphasizing the high level of relationship established between coach and parent. In an AT-oriented reasoning in sport disability these data, in addition to supporting our hypothesis, are in line with what emerges from the international literature: the main problem for participation in sport of people with disabilities lies in the organization of formal pedagogical environments. This organization is identified in the quality and nature of training activities

that are directly related to the attitude and knowledge of coaches as well as the supervisory capacity of parents (Dagkas, 2018).

This is a preliminary study with the limitation of small sample size study population and does not provide results about the data from the parents of athletes without disabilities.

Further validation should be investigated in the context of a trial with a larger population, also comparing surveys proposed to the athlete and coach as parts of the AT.

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