Original Article

CAPACITY OF ADAPTATION AND SEXUAL ESTEEM IN PHYSICALLY DISABLED ATHLETES

Caroline Pereira Martins, Aline Knepper Mendes and Fernando Luiz Cardoso

[1]Master. Human Movement Sciences of the Center of Health and Sports Sciences of Santa Catarina State University.
[2]Doctor. Professor at the Department of Health and Sports Sciences of Santa Catarina State University.

ABSTRACT
The present study aimed to analyze the capacity of adaptation and the level of sexual esteem in 69 physically disabled athletes. The scales used were resilience and sexual esteem. For data analysis, descriptive and inferential statistics were adopted. The average age of the subjects was 30 years old, and the average time of physical disability was 18.5 years. The participants were classified as subjects with acquired disability (68.1%) and congenital disability (31.9%). They presented high level of resilience (90.9% of men and 87.5% of women) and high level of sexual esteem (70.7% of men and 80% of women). Comparing the levels of resilience and sexual esteem between men and women and between congenital and acquired disability, no significant differences have been found. Among the 25 questions on resilience, 5 presented correlations with economic class; the same happened with the sexual esteem instrument (4 out of 10 questions). It is believed that these results are related to the participation in sports competitions.
Key-words: Disability. Adaptation. Self-esteem. Sport.

INTRODUCTION

Historically, disabled people have been going through a situation of exclusion from society, which has an impact on their physical and mental health. After a long period of obscurantism followed by a phase of discourses little put into practice, it is observed a greater attention to these people all over the world. The eyes of the world have been especially turned to the social inclusion of disabled individuals; however, to understand inclusion, it is necessary, first, to consider that social exclusion is linked to unbalances in society, which involves unequal income distribution and opportunities. After defining the concept of exclusion, it is possible to observe the utopic dimension of social inclusion (AZEVEDO; BARROS, 2004).

In 1960, in northern countries, a principle called integration arose. The specific literature on special education attempts to explicit what constitutes such principle in order to provide subsidizes to change the segregationist practice, still present in our days, proposing the insertion of disabled people in all activities performed within society. This principle would become more acceptable or horizontal in comparison with the emphasis only on social inclusion (MARQUES; OLIVEIRA, 2002).

There is a strong connection between capacity of adaptation and the principle of integration of physical disabled people in general. This capacity, measured through resilience, can demonstrate to what extent these subjects, inserted into a new condition, are able to accept their disability and set themselves free from prejudice towards their integration in society. In face of the lack of integration between society and the physical disabled population, it seems to be necessary to study the social relationships in the determination of the behavior of these people, since they can manifest emotional changes. By doing so, it becomes possible to verify ways of contributing to an adequate adaptation to the social context aiming a better quality of life (SANTIAGO; SOUZA; FLORINDO, 2005).

Resilience, in this context, is a concept related to adaptation, consisting of individual variations of response to risk factors. Adaptation can be defined by the comprehension of the

consequences from the exposure of adults and children to risk factors. Some people may develop problems, while others may overcome adversities, adapting to the context; however, the concept of vulnerability refers to an individual predisposition characterized by poorly adapted responses that result in negative consequences to the individual's psychological development, in opposition to resilience (CECONELO; KOLLER, 2000)

Changes in sexual esteem are also deeply rooted in the individual, because the most common psychological reactions in people who become disabled involve emotional dependence, attitudes evidencing rejection of reality, alternate phases of depression and euphoria, loss of self-esteem, lack of confidence and satisfaction with their bodies, feelings of inferiority and abandonment, decrease in sexual desire or excessive concern with sexuality (PUHLMANN, 2000). By knowing better what people feel when faced with a physical disability and the way they adapt to and deal with their sexuality, it is possible to intervene more effectively in the actual difficulties, improving the quality of life of each one of them. In this context, the purpose of this study was to investigate the level of resilience and sexual esteem in physical disabled subjects, comparing the findings between men and women with congenital or acquired physical disability.

METHODOLOGY

This field research, of comparative and non-probabilistic nature, investigated the level of resilience and sexual esteem of people aged between 18 and 70 years old with some type of physical disability. The participants of the study were 69 physical disabled subjects living in southern Brazil (states of Rio Grande do Sul, Santa Catarina and Paraná), among which 44 were men and 25 were women. The main places and occasions for data collection was sports events (wheelchair basketball, track and field and swimming), in which the subjects were invited to answer two research instruments: Resilience Scale and Sexual Esteem Scale.

1. The Resilience Scale, developed in the United States and validated by Wagnild and Young (1993), is composed of questions based on which the participants inform, on a 7-point likert scale, their perception on each question presented. This scale was also validated in Brazil by Pesce et al. (2005).
2. The Sexual Esteem Scale (The Physical Disability Sexual and Body Esteem – PDSBE), developed in the United States and validated by Taleporos and McCabe (2002), is composed of 10 questions based on which the participants inform, on a 5-point likert scale, their perception on each question presented. This scale was validated to the Brazilian physical disabled population in an article under evaluation.

The research was submitted to the Ethics and Research Committee of the Santa Catarina State University (CEP/UDESC) and approved under the reference number 03/2007 (9 July, 2007). All participants signed an informed consent form. For data processing, descriptive statistics (median, percentage and quartiles) and inferential statistics (Kolmogorov-Smirnov test, Fisher's exact test, Mann-Whitney U test and Spearman's rank correlation coefficient) were used.

RESULTS

Profile of the subjects of the research

The participants were questioned about some general aspects, which can be viewed more clearly in Table 1. Among the participants of this study, 63.8% (n=44) is men and 36.2% (n=25) is women, and all of them are athletes and practice physical activity regularly (at least twice a week).

Table 1 – General characteristics of the participants

N	Age[1]	Marital Status [2]		Educational Attainment [3]		Consumption items[4]	Nature of the PD [5]	Time of PD [6]
	30.00	Single or widower	59.4%	Elementary school	17.4%	2,00	Acquired 68.1% n=47	18.50
	$Q_{1/4}$ = 6922.00	Married or SU	36.2%	High School	50.7%	$Q_{1/4}$ = 1.00		$Q_{1/4}$ = 6.00
	$Q_{3/4}$ = 36.50	Divorced	4.3%	College Degree or more	31.9%	$Q_{3/4}$ = 3.00	31.9% Congenital $_{n=22}$	$Q_{3/4}$ = 26.75

$Q_{1/4}$ = lower quartile; $Q_{3/4}$ = upper quartile; PD = physical disability; SU = stable union.
1 Median of age in years;
2 Percentage by category of the participants;
3 Percentage by education category.
4 Median of a scale with four items.
5 Percentage by type of disability;
6 Median of time of physical disability in years.

To test the normality of the variable "age", the Kolmogorov-Smirnov test was performed, whose p value (0.01) was lower than the α value (0.05). For this reason, the null hypothesis was rejected, that is, data is not normal. For this variable, we have adopted median and quartiles as descriptive measures.

To test the normality of the variable "age", the Kolmogorov-Smirnov test was performed, whose p value (0.017) was lower than the α value (0.05). For this reason, the null hypothesis was rejected, that is, data are not normal. For this variable, we have adopted median and quartiles as descriptive measures.

Initially, the participants were classified according to the type of physical disability: spinal cord injury (n=17), amputation (n=12), poliomyelitis (n=11), spina bifida (n=11), cerebral palsy (n=6), congenital malformation (n=3), muscular dystrophy (n=2), total hip replacement (n=1) and Ehlers-Danlos syndrome (n=1). Since many types of physical disability have appeared, dividing the participants by the type of their disability became doable, because the groups were very small. For this reason, we have chosen a division based on the nature of the physical disability: acquired or congenital.

Level of resilience and sexual esteem

The participants answered both research instruments and, after that, received two scores (one for resilience and one for sexual esteem). For the resilience instrument, the higher the score achieved the higher the resilience; as for the sexual esteem instrument, scoring was different: the lower the score achieved, the higher the sexual esteem. Besides, three score bands were created for each instrument: high, moderate and low. In the resilience instrument, the bands determined were: 126 to 175 points (high), 76 to 125 points (moderate) and 25 to 75 points (low). In the sexual esteem instrument the bands were: 10 to 22 points (high), 23 to 36 points (moderate) and 37 to 50 points (low). The findings are presented in Table 2.

Table 2 – Level of resilience and sexual esteem vs gender of the participants and nature of the disability.

Variable	Levels	Gender		Nature of the Disability	
		Men	Women	Acquired	Congenital
Level of resilience	High	40 90.9%	21 87.5%	42 91.3%	19 86.4%
	Moderate	4 9.1%	3 12.5%	4 8.7%	3 13.6%
	N	44	24	46	22
Fisher's exact test		0.477 [p=ns]		0.406 [p=ns]	
Level of Sexual Esteem	**High**	29 70.7%	20 80%	33 75%	16 74.2%
	Moderate	12 29.3%	5 20%	11 25%	6 27.3%
	N	41	25	44	22
χ^2		0.404 [p=ns]		0.842 [p=ns]	

Abbreviation: χ^2 = chi-square; p = significance; ns = not significant.

In the first section of the table (data on the subjects' level of resilience), since more than 25% of the cells had less than five subjects, the appropriate statistical tool was Fisher's exact test. The test resulted in p=0.477 for gender and p=0.406 for nature of the disability; therefore, there was no sufficient evidence to state that there is some relationship between level of resilience and gender or, also, between level of resilience and nature of the disability.

In the second section of the table (data on the subjects' level of sexual esteem), since no cell had less than five subjects, we could choose to use the Chi-square test. The test resulted in p=0.404 for gender and p=0.842 for nature of the disability; then, it is possible once again to observe that there is no sufficient evidence to state that there is some relationship between level of sexual esteem and gender or, also, between level of sexual esteem and nature of disability.

Table 3 – Comparison of the level of resilience and sexual esteem between gender and nature of the physical disability (Mann-Whitney U test).

	Gender							
	Men			Women			U Test	p
	md	$Q_{1/4}$	$Q_{3/4}$	md	$Q_{1/4}$	$Q_{3/4}$		
Resilience Score	140.50	131.50	151.75	141.00	133.50	152.00	516.00	0.671
Sexual Esteem Score	17.00	12.00	27.00	13.00	10.00	19.50	400.50	0.079
	Nature of the Disability							
	Acquired			Congenital			U Test	p
	md	$Q_{1/4}$	$Q_{3/4}$	md	$Q_{1/4}$	$Q_{3/4}$		
Resilience Score	141.00	131.00	151.00	139.00	133.75	156.25	479.00	0.624
Sexual Esteem Score	14.00	10.00	23.25	16.50	12.50	27.25	438.50	0.372

Q1/4 = lower quartile; Q3/4 = upper quartile; md = median; p = significance (considering values <0.05).

In the first section of Table 3, we have established a comparison between the resilience and sexual esteem scores and the gender of the participant. With the result presented by the U test, we have observed that, in both cases, p was higher than 0.05 – therefore, there is no sufficient evidence to state that there are differences between men and women regarding the resilience and sexual esteem scores.

In the second section of Table 3, there is a comparison with the nature of the physical disability. Again, by means of the results of the U test, it was possible to observe that, in both cases, p was higher than 0.05; thus, there is no evidence to state that there are differences between the resilience and sexual esteem scores of people with acquired and congenital disabilities.

Aspects correlated with resilience and sexual esteem

Some correlations have also been found between resilience and sexual esteem.

Table 4 shows that several items of both instruments used in thestudy presented correlations with the participants' economic class. Moreover, some other correlations were also evidenced, namely: the time of disability correlated positively (.246*) with the subject's independence (question of the resilience instrument: "I can live on my own if I need to"); the age of the subject correlated negatively (.240*) with the subject's perception regarding the sexual interest from others in him/her (question of the sexual esteem instrument: "I feel that people don't have sexual interest in me because of my disability") and two important correlations with economic class, that is, the resilience score (.357**) and the sexual esteem score (.329**).

Table 4 – Correlations between the economic class and resilience and sexual esteem variables

Instrument	Questions	Correlations with economic class[2]
Resilience	"I feel I can deal with many things at the same time."	.380**
	"I am disciplined."	.258*
	"I can usually find reasons to laugh."	.273*
	"I can usually look at a situation in different ways."	.235*
	"I have enough energy to do what I have to do"	.280*
Resilience Score		.357**
Sexual Esteem	"My sexual expression is limited because of my disability."	-.259*
	"I feel that people do not have sexual interest in me because of my disability."	-.282*
	"I believe that I am rejected by possible sexual partners because of my disability."	-.333**
	"If I could, I would exchange my body with a person without disability."	-.272*
Sexual esteem score		-.329**

[1] Spearman's rank correlation coefficient

[2] Economic class: verified in the question "Among the following items, which of them do you have in the house you live? Cable TV, car, computer, air conditioner, etc."; the subjects could check as many items as they wanted. The higher the number of items, the higher the purchase power.

* Level of significance 0.05.

** Level of significance 0.01.

DISCUSSION

Based on the average age of the subjects and the time of physical disability, it is observed that most of them have been living with the disability, averagely, for more than 18 years, considering also that the estimates confirm the prevalence of accidents among individuals aged between 18 and 20 years old.

According to Winnick (2004), in an American estimate, it was verified that there are about 310 thousand amputees in the United States, out of which 7% is younger than 21 years old. The indicators say that the losses of limbs caused by congenital disorders are twice as high as those caused by acquired disorders. The author reports that 7,800 people suffer spinal cord injury every year and that a high percentage of these injuries assails school-age students (high school, in general), with higher incidence between men (82%) than between women (18%).

Another important point to highlight was the homogeneity of the group studied. Although the participants present different natures for their physical disability (acquired and congenital), no significant differences have been found among the themes studied. Perhaps the time of physical disability has been a determinant of this homogeneity because, with an average time of disability of

18.5 years, the subjects of both disability categories begin to behave in a similar way regarding the aspects studied.

Level of resilience and sexual esteem

Table 2 shows that both men and women achieved high level of resilience. The same happened with the level of sexual esteem, in which most of the participants (more than 75% of men and women) concentrated in the high level. The high level of resilience of the subjects, regardless of gender, can be related to the practice of physical activity performed by them (at least twice a week) and to the participation in competitions, since in this context the individuals need to overcome challenges every match. High sexual esteem, in turn, can be equally related to the practice of physical activity because, when exercising their bodies, these individuals learn not only to know it better, but also to accept it better.

According to a study conducted by GralinskiBakker et al. (2004), lower levels of resilience were found in men hospitalized in a psychiatric hospital, when compared with men and women of the control group. This study constitutes a 20-years longitudinal research that analyzes the life of young adults in a hospital psychiatric environment and of high school students.

In another study, which investigated resilience between genders regarding empathy (aspect described as a protection factor in resilience), demonstrated that girls tend to be more empathetic than boys, achieving better results in confidence, self-efficacy and social competence scales. This difference leads to the assumption that the variable "gender" is associated with the capacity of adaptation in stressful situations (CECONELO; KOLLER, 2000).

Pesce et al. (2004) discuss in their analysis the relationship between resilience, unfavorable life events and protection factors. The research was conducted with 997 adolescents of a public education network by means of the resilience scale developed by Wagnild and Young (1993). In this study, the variable "gender" was the only one associated with resilience, and the girls presented a greater capacity of overcoming difficulties than the boys did.

Taleporos and McCabe (2002), in a study that investigated the association between sexual esteem, body esteem and sexual satisfaction with 1,196 participants, assessed 748 participants with physical disability and 448 without physical disability. The results demonstrated that these three factors would be strongly connected with self-esteem and depression. Among women, body esteem was associated with self-esteem, while among men sexual esteem would be related to sexual satisfaction.

According to Melo, Carvalho and Pelá (2006), in a research with individuals with onco-hematological diseases, the subjects of the research presented 60% of commitment in the psychological aspects that involve sexuality and that relate to sexual self-image, not feeling attractive to their partners due to physical changes caused by the disease. As for the variable gender, women reported using accessories and constantly making questions about the feelings of their sexual partner about them. Such behavior was also mentioned by men, who used to ask their partners if the feelings for them still existed in spite of the change in their physical appearance.

Regarding the practice of physical activities, the participation in competitions and the increase in resilience, Neill and Dias (2001) emphasize that controlled exposure to challenge can improve the participants' resilience. In a sample of 41 adults (average age of 21 years old), composed of 22 men and 19 women participating in an instructional program for adventure sports— as experimental group — and 31 Psychology students — as control group —, the authors observed that all participants of the experimental group reported positive

changes in the resilience scale, while the members of the control group presented only a small/moderate change in the same scale. The authors also used the Wagnild and Young (1993) scale.

Still about Table 2, it is necessary to stress that the level of resilience separated by the nature of the physical disability presented no significant differences either because, both for congenital and acquired disabilities, most participants presented high level of resilience. This fact may be due to the high average time of physical disability, which applies to all participants.

Aspects correlated with resilience and sexual esteem

The correlations found between the resilience and sexual esteem scores and the economic class reinforce the hypothesis of an influence of the economic class in high levels of sexual esteem and resilience.

It is worth pointing out some correlational findings: out of the twenty-five questions of the resilience instrument, five correlated positively with the economic class of the subjects. The same happened with the questions of the sexual esteem instrument: four out of the ten items presented negative correlations with the economic status of the subjects. The fact that an instrument presents positive correlations and the other presents negative correlations is due to the measurement of the scores, whose values are ascending for resilience and descending for sexual esteem. This suggests that economic aspects interferes with good levels of resilience and sexual esteem and that economic class can be determinant of these two aspects studied.

The positive correlation between "time of disability" and the "subject's independence" is pretty clear: the greater the experience of the situation lived, the greater is the independence achieved. Although there was the belief that the time of physical disability was a determinant of high level of resilience, no correlation has been found.

The existing negative correlation between the age of the participants and their perception about the lack of sexual interest from other people in them due to their disability demonstrates that the confidence of any person passes through an important process over the years, that is, the older the subject, the less he/she
will feel that other people do not have sexual interest in him/her because of the disability.

CONCLUSIONS

The analysis of the data of this study allows observing clearly that the high levels of resilience and sexual esteem have demonstrated no significant differences between genders. This result can be related to the constant participation in sports competitions, when physical disabled people experience the overcome of challenges.

Further studies should be conducted in order to verify the impact of sports on the variables assessed from a control group.

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Auhtor address: Caroline Pereira Martins. Rua Desembargador Pedro Silva, 2034, Bloco 03-14, CEP 88070-700, Florianópolis-SC, Brasil. E-mail: czinha21@gmail.com