

# Mindfulness Based Stress Reduction Program (MBSR-SP) on Elite Soccer Players: Psychological Inflexibility versus Acceptance



Bruno Carraça<sup>1</sup>, Sidónio, Serpa<sup>1</sup>, Joan Palmi<sup>2</sup>, & Catia Magalhães<sup>3</sup>

<sup>1</sup> Faculty of Human Kinetics - University of Lisbon, Portugal, (psidicas@gmail.com)

<sup>2</sup>INEFC – University of Lleida, Spain

<sup>3</sup>ESEV – Polytechnic Institute of Viseu, Portugal

## Introduction and Framework

The difference between success and failure has become increasingly smaller in sport. A “third wave” approach in sport psychology, is been recently used for the first time to increase the performance level of the elite athletes with very well defined programs (Birrer, Rothlin, & Morgan, 2012). Study findings yielded that high-level athlete’s meta-awareness and effective refocusing training by mindfulness based programs were identified as important factors on performance training and competition (Solé, Carraça, Serpa, & Palmi, 2014). Mindfulness training proposed to, an influence attention regulation (Gardner & Moore, 2012; Shapiro, Carlson, Astin, & Freedman, 2006). In contrast to the traditional psychological skills training view, more recent models, which are based on the dichotomy experiential avoidance / psychological flexibility, focus the importance of intervention in reducing the experiential avoidance and promoting acceptance of internal experiences. There is evidence that experiential avoidance is a vulnerability factor for anxiety disorders and not just a consequence thereof (Hayes & Feldman, 2004; Kashdan, Barrios, Forsyth & Steger, 2006).

This study investigated changes in experiential avoidance and psychological inflexibility following an 8-week mindfulness based stress reduction (MBSR-SP) intervention on Portuguese elite soccer players sample.

Awareness

Attention on purpose

**Mindfulness**

(Kabat-Zinn, 2013)

(MBSR -8 week sessions)

Non judgementally

Present moment

## Methods

### Participants:

MBSR was applied in 2 groups ( $n=28$  experimental group and  $n=29$  control group) in a total of 57 male participants – elite soccer players (2<sup>a</sup> Portuguese League)

### Measures:

Changes in psychological inflexibility/experiential avoidance (pre-post) measured using Acceptance and Action Questionnaire-II (Bond, Hayes, Baer, Carpenter, Orcutt, Waltz, & Zettle, 2007; Portuguese version of Pinto-Gouveia, & Gregório, 2007), the instrument, in our study presented a good internal consistency ( $\alpha =.878$ ). Before and after the MBSR-SP the following self-report measure were completed by all the subjects.

## Sample

Table 1- Sample characteristics

	Experimental (n=28)		Control (n=29)	
	M	SD	M	SD
Age	25.68	3.42	25.9	3.18
Years of practice	3.82	1.85	4.00	1.49
Gender	n	%	n	%
Male	28	100%	29	100%

## Results

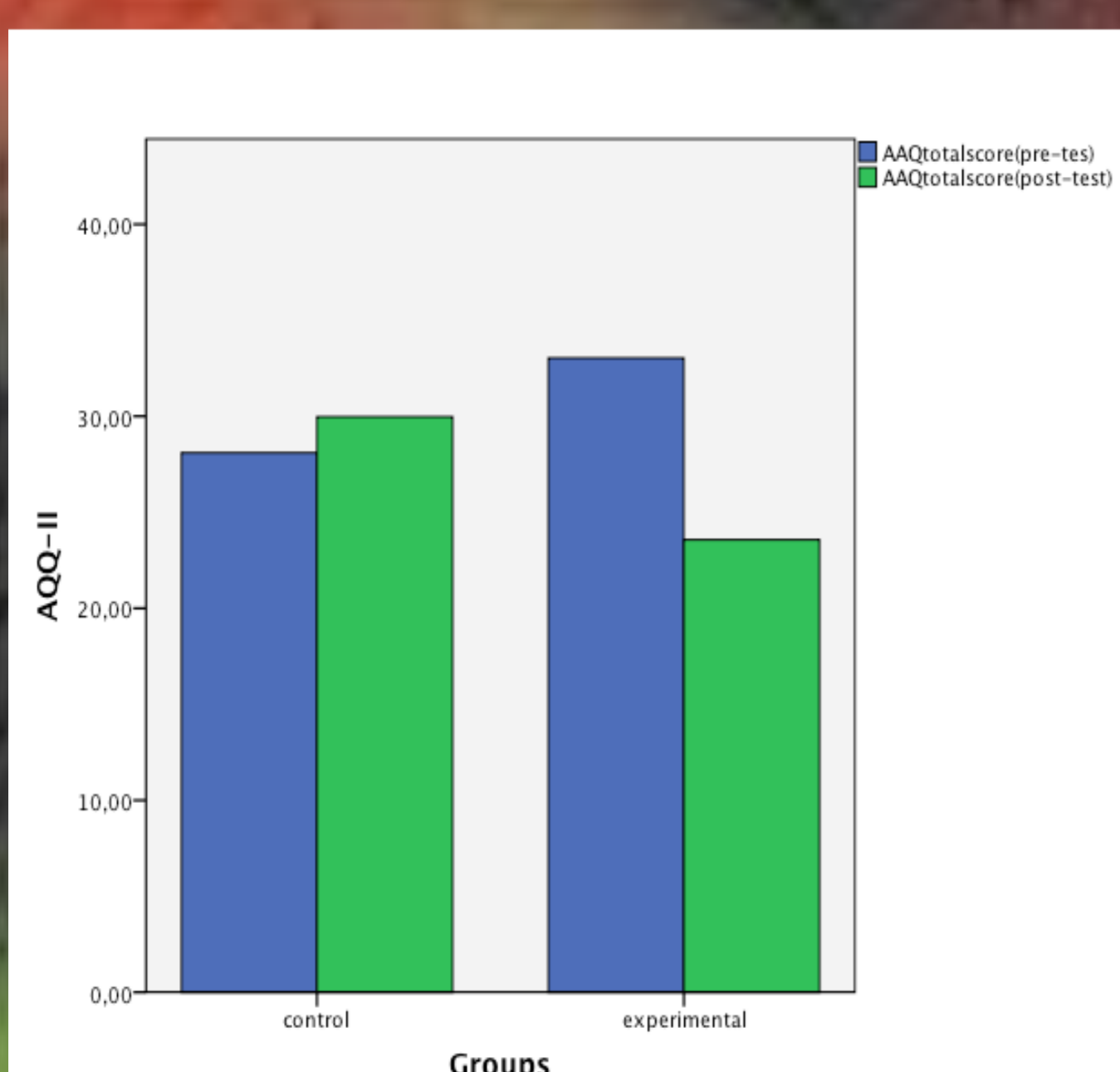


Fig 1 - AAQ-II total score (pre and post-test)

Table 2- Paired samples T Test in experimental group before and after program application

	Experimental_1		Experimental_2		t	p
	M	SD	M	SD		
AAQ-II	33.04	4.46	23.57	1.83	10.58	0.00

As can be seen in fig 1 control group reflect higher AAQ-II scores than experimental group indicating greater psychological inflexibility/experiential avoidance.

Table 3- Paired samples T Test in the control group

	Control_1		Control_2		t	p
	M	SD	M	SD		
AAQ-II	28.10	3.19	29.97	3.21	-2.655	0.013

As can be seen in table 2 and 3, experimental group present a statistically significant decrease in psychological inflexibility/experiential avoidance.

## Conclusions

- Mindfulness-based interventions show positive changes with (statistically significant) in psychological inflexibility and experiential avoidance associated with intervention. Athletes on experimental group develop more acceptance and commitment skills that can flexibly complement physical performance (Gardner & Moore, 2012 ; Kauffman, Glass, & Arnkoff, 2009).
- Mindfulness training as a process to direct attention increases the sense of psychological flexibility, which allows effective use of coping strategies and increase the flexibility of behavioral response to the high performance demands (Moghadam, Sayadi, Samimifar, & Moharer, 2013; Birrer, Rothlin, & Morgan, 2012).
- Future recommendations and limitations: Further research needs to determine causality (e.g. staggered baseline, dose response, and randomized control trials) and to explore more deeply the mechanisms through which mindfulness acceptance and commitment protocols may influence psychological flexibility, dispositional flow states and performance (Garner & Moore, 2012). It would be necessary to, conduct similar studies to other populations of elite athletes, both collective and individual sports ( indoor soccer, basketball, handball, chess, athletics, etc.), with larger samples to test the efficacy of such ACT and mindfulness programs (Castilla, & Ramos, 2012).

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