

Psychophysical benefits of recreational five-a-side football

NICOLA CHRISTIAN SEVERINO¹ ✉, FRANCESCO PELUSO CASSESE², ANDREA CECILIANI³,
FRANCESCA D'ELIA¹, ALFREDO PIO DI TORE⁴

¹University of Salerno, Italy

²University Niccolò Cusano of Roma, Italy

³University of Bologna, Italy

⁴University of Foggia, Italy

ABSTRACT

Nowadays, recreational sports activities are focused on health and wellness aspects for a physiological study on the effects of the elite sport due to the spread of recreational sport, especially football. This work addresses the physical benefits originated from recreational five-a-side football and aims at the perceptions about self-evaluation of the physical and the psychological data. It also proposes a questionnaire in a group of young men aged 23 to 29 who played amateur five-a-side football for 8 weeks just 2-3 times a week. The requests basing on the overall research conclusions on the studies performed on recreational football (Kustrup et al., 2010). The most significant results showed that practicing amateur sports activities makes you feel better both physically and psychologically (respectively 87,3% e 93,3% of the answers) and it is less tiring and stressful than playing football agonistically (respectively 80% e 80% of the answers) or practicing strength training or interval running training. Furthermore, according to the data complex, it can be potentially satisfactory from the point of the view healthy and well-ness sport that can improve general well-being and it can prevent lethal diseases, such as cardiovascular diseases and obesity. In conclusion, it can be affirmed that recreational five-a-side football can produce not only physical benefits, as Kustrup's article shows, but also significant psychological benefits, which makes you feel better and more relaxed. **Key words:** Self-perception; Self-evaluation; Health; Wellness.

Cite this article as:

Severino, N.C., Cassese, F.P., Ceciliani, A., D'Elia, F., & Di Tore, A.P. (2019). Psychophysical benefits of recreational five-a-side football. *Journal of Human Sport and Exercise*, 14(2proc), S206-S214.
doi:<https://doi.org/10.14198/jhse.2019.14.Proc2.07>

✉ **Corresponding author.** University of Salerno, Italy.

E-mail: n.severino3@studenti.unisa.it

Supplementary Issue: Winter Conferences of Sports Science. Costa Blanca Sports Science Events, 25-26 January 2019.
Alicante, Spain.

JOURNAL OF HUMAN SPORT & EXERCISE ISSN 1988-5202

© Faculty of Education. University of Alicante.

doi:10.14198/jhse.2019.14.Proc2.07

INTRODUCTION

Psychophysical Benefits of recreational five-a-side football is the actual issue for health and sports sciences (Kustrup et al., 2010), that deals with both the physiological demands of recreational soccer training and the effects on the fundamental health variables that influence the risk of lifestyle-related illnesses of young and middle-aged men.

Within this study, various physiological parameters are analysed that could be improved through recreational soccer, which is practiced at the "small-sided games" level. It is highlighted that in these "small sided games" it can have a high aerobic component, with average heart rates of 80-85% of the maximum heart rate (Kustrup et al, 2007, 2009), which is similar to values observed in professional football players (Altavilla et al., 2018). Moreover, in these recreational games, there are multiple sprints, jumps and contrasts, changes in direction and high-speed races, which provide a significant impact on muscles and bones (Raiola G, 2013). Improvements in the musculoskeletal system have been found with increased muscle mass (Kustrup et al., 2009, Aagaard et al., 2001) and bone mass (Fredericson et al., 2007), but also at the cardiovascular level, with a decrease in resting systolic and diastolic blood pressure of 8 and 5 mmHg respectively (Kustrup et al., 2009)., thus levels considered normal blood pressure of individuals who have performed this type of training (Cornelissen & Fagard, 2005). An improvement of the VO₂ max is also reported (Impellizeri et al., 2006).

In addition, improvements derived from the practice of recreational football were compared with other types of physical activity that were more widely practiced. And the results show that this type of activity is complete in the various districts examined, always at the same level as other sports and more effective in other fields where others are scarce (Kustrup et al., 2010).

In summary, it can be said that Kustrup's research has shown that a short period (weeks) of recreational football induces significant improvements in performance and effectively stimulates musculoskeletal, metabolic and cardiovascular adaptations that are important for the general health of the individual. Recreational soccer requires aerobic training of medium to high intensity as well as periods of a high anaerobic load for the various intense actions that are performed, such as high-speed sprints, jumps, changes of direction (Raiola G et al., 2013). This aggregation of different types of exercise seems to provide a good impact on the main areas of physical fitness, contributing to the reduction of the risk of contracting diseases related to the sedentary lifestyle (Raiola G, 2015). Aim is to evaluate the physical and psychological perceptions of participants in recreational amateur football. In fact, this type of activity involves the subjects not only on a physical level but also on a psychological level, provoking different emotions depending on the experience lived by each of them. Moreover, we tried to investigate these aspects by comparing them to other types of physical activity, examined in Kustrup's studies.

A random sample of participants in the five-a-side activity was examined, which in the case of this study were 15 male boys, all of whom declared to participate in amateur football as a recreational activity during the research period. 13.3% have also practiced competitive football in the past, whereas in terms of frequency, 80% regularly practice recreational soccer, while 20% practice it with low frequency.

METHOD

Among the various information gathering techniques, it was decided to undertake a quantitative approach by adopting a structured questionnaire as a means of surveying, which was drawn up on the basis of the objectives that the study had set itself to achieve. The questions in this questionnaire are all closed questions.

The questionnaire was built thanks to Google Forms, a Google program that allows you to structure an interview through standardized forms. The questionnaire was sent to the interviewees, who were able to fill it out and then send the answers anonymously, where all the information was collected in the form of graphs using spreadsheets. The definitive questionnaire that has been administered consists of several main thematic sections. Among these, we have some questions that investigate the physical and psychological perception that we have towards this type of recreational activity. While others researching which of the sports that are usually used as a sport of prevention and physical well-being, which have been compared to the "recreational football" in Kustrup's research, can make them feel both physically and psychologically satisfied, and socially.

The answers were re-elaborated as a percentage to make the results more easily usable, so as to allow a smoother discussion with more direct conclusions.

RESULTS

From the first question, the information collected shows us interesting results: in fact, 73.3% of respondents think that football played in a recreational way is a sport in all respects, while 26.7% think the opposite. This is probably due to the fact that they think that a sport must necessarily have an agonistic component to characterize its essence, while for others it is enough its recreational component (Figure 1).

Do you consider football played in a recreational way (amateur non-competitive football) the equivalent of playing sports?

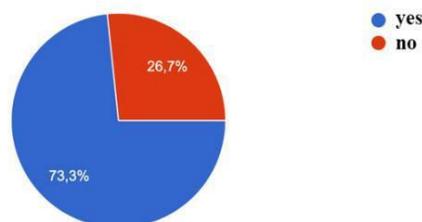


Figure 1

How does playing football in a recreational way make you feel physically?

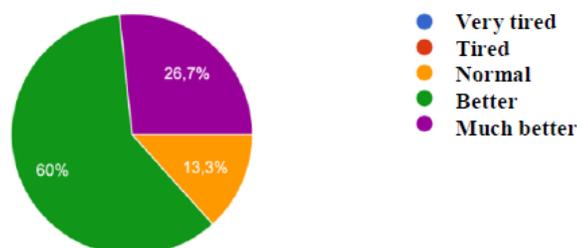


Figure 2

In this first phase, on the other hand, questions were asked to understand how playing five-a-side football in a recreational way make fell psychologically and physically. When it has been asked about the physical aspect, 60% of respondents answered "Better", 26.7% replied, "Much better", while 13.3% replied that they felt "Normal". So, none of the 15 respondents answered that they felt "Tired" or "Very Tired" (Figure 2).

As for the question regarding the psychological aspect, the perception of wellbeing with respect to the physical aspect would seems even more marked. In fact, 73.3% of respondents answered that they felt "Relaxed", while 20% answered "Very relaxed". The remaining 6.7% indicated that they felt "Equal" (Figure 3).

How does playing football in a recreational way make you feel psychologically?

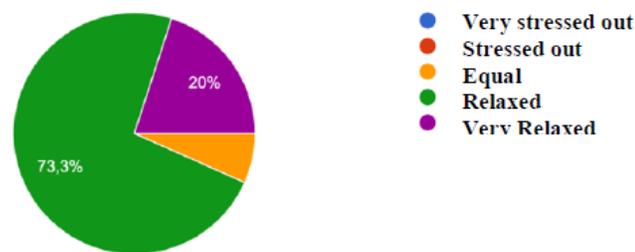


Figure 3

So, 93.3% of the participants answered to try relaxation practicing this activity, and this could be a very important datum because it could be one of the factors that push "to retain" a person to practice physical activity in a constant and lasting way. In the next phase, the aim was to compare recreational soccer with competitive football in terms of physical and mental commitment, asking which of the two types of activity could be more strenuous and more stressful than the other. When asked "whether playing recreational football is more or less tiring than playing competitive football", 80% answered that they believe it is "Less tiring", while 13.3% believe that the same effort should be used physical. 6.7% believe that it is more difficult to play recreational football than agonistic football (Figure 4).

Do you think that playing recreational football is more or less tiring than playing football agonistically?

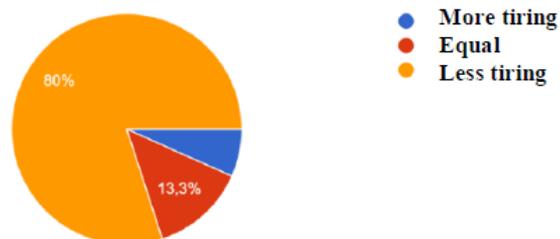


Figure 4

On the same line of thought, however, the answers received to the question that asked: "whether to play recreational football was more or less stressful than playing football agonistically". In fact, 80% of respondents answered that they believe it is "Less stressful" playing football in a recreational way and 20% have answered that they think it is "Equal". However, none of the 15 boys who formed the sample believe the practice of recreational football is more stressful than competitive (Figure 5).

Do you think that playing recreational football is more or less stressful than playing football agonistically?

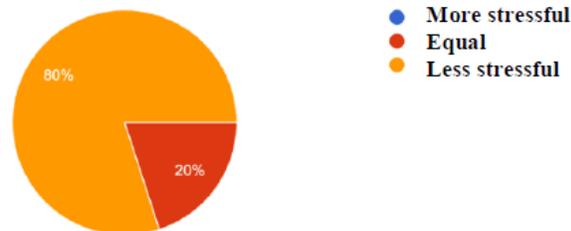


Figure 5

In the next phase of the questionnaire, attention was focused on the benefits that amateur recreational football can provide, trying to keep in line with the arguments presented in Kustrup's research. All 15 guys making up the sample, to the question "Do you think football played in a recreational way can bring benefits to health", they answered affirmatively (100%). While to the question "if they perceive the beneficial effect as a priority psychological or primarily physical", 13.3% responded "Propitiously physical", 20% perceives a beneficial effect "Priority psychological", instead 66.7% believe it is "Equal".

Then they were asked, "which, among the activities indicated, could make feel more physical effort according to the interviewees". The answers showed "Strength training" as the activity that makes you feel more fatigue (53.3%), followed by the "Interval running" with 40%, only one person has selected "Recreational football" (6.7%), while no one has selected "Core control" and "Jogging" (Figure 6).

According to your perceptions, which of these sports do you think can make you feel more physical effort?

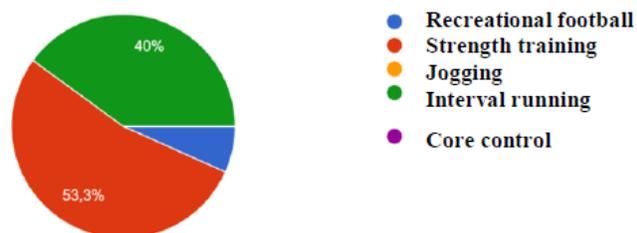


Figure 6

In Kustrup's article, a very interesting part focuses on the perceived fatigue. In fact, he argues that soccer players, despite frequent periods and intense actions with a high aerobic load, report a lower perceived effort

than joggers and interval runners, as it was also found in this questionnaire. This discovery, says Kustrup, can be linked to the fact that football players focus more on the game elements and on interaction with teammates. All these reasons can increase the dedication to this sport, thus decreasing the percentage of abandonment from physical activity.

In the next phase, I wanted to ask some questions regarding the psychological perception of the indicated activities. Those considered are among the most used physical activities to benefit from improvements at the physical level and it was my interest to understand if there could also be psychological benefits in performing these types of training.

For this reason, the first question of this last phase was: "which of the activities indicated is psychologically more relaxing than the others, according to the interviewee's perception". The results showed that 66.7% chose "Recreational Football" as the most relaxing activity, followed by "Jogging" with 26.7%. One person chose "Strength Training" (6.7%), while no one selected "Core Control" and "Interval Running" (Figure 7).

According to your perceptions, which of these sports is psychologically more relaxing?

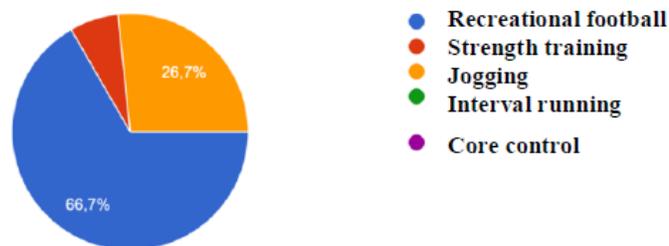


Figure 7

This figure remains in line with the question asked previously, which investigated how playing recreational football makes feel psychologically: 93.3% of participants perceived an improvement. And, even if the questions have been asked to a group that practices amateur recreational football, it shows that this type of activity can make you feel good in all aspects, also improving the psychological sphere of the individual as well as the physical qualities.

In the following question, "which of the activities indicated, according to the participant's perception, is the socially most aggregating one" the results obtained are absolute towards a single activity. In fact, all the participants indicated "recreational football" as a socially more aggregating activity than those indicated, demonstrating that this recreational activity, can also bring social benefits, integrating and aggregating those who practice it. In the end, it was asked "according to the participant's perception, which among the activities indicated, is the most satisfying one, in terms of results achieved both in terms of physical, social and emotional performance", to try to understand what activity can give therefore greater satisfaction in more areas than the others. The results obtained were in favour of "Recreational Football" (66.7%), followed by "Strength Training" (33.3%), which were the only one selected among the five activities indicated (Figure 8).

According to your perceptions, which of these sports is more rewarding in terms of results achieved both in the area of interest of physical, social and emotive performance?

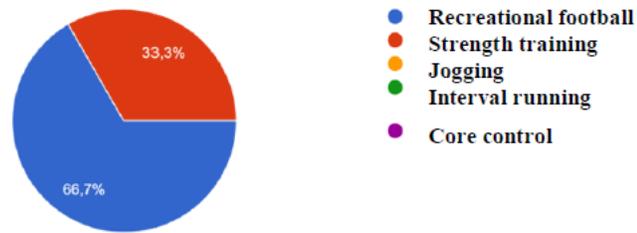


Figure 8

DISCUSSION

The data found showed that recreational soccer is less strenuous and less stressful than other sports such as competitive football, this could be derived from the fact that, as also highlighted by Kustrup (2010), is a sport based mainly on the recreational and not on achieving a specific result or optimal performance, it is, therefore, lighter both physically and psychologically. Most of the participants feel better both physically and psychologically when they practice this type of activity. This could be determined by the fact that the participants, when they practice this activity, relax psychologically, forgetting that they are actually practicing a physical sport, which goes to train some bodily components (Raiola G, 2013). This ultimately determines a general increase in physical endurance, with improved physical training, and a discharge of daily stress, calming the participants' mental perceptions. Furthermore, it was found to be considerably more aggregating and to a lesser extent more rewarding than other healthy sports. The fact of having a greater aggregating characteristic is certainly originated from the properties of the considered sports, since being a recreational amateur five-a-side football a team sport is socially more inclusive, making part of a group feel every single individual.

CONCLUSIONS

In conclusion, it can be said that recreational amateur five-a-side football is a healthy sport that can improve both physical and psychological perceptions, which help the general well-being of the individual. Practicing an activity with the sole purpose of recreation, such as five-a-side football, can, therefore, safeguard some psychophysical characteristics that allow one to live better, also helping to prevent potentially lethal diseases.

REFERENCES

- Aagaard P, Andersen JI, Leffers Am, Wagner A°, Magnusson Sp, Halkjær- Kristensen J, Dyhre Poulsen P, Simonsen Eb., (2001) A mechanism for increased contractile strength of human pennate muscle in response to strength training – Changes in muscle architecture, *J Physiol*, pag. 613–623. <https://doi.org/10.1111/j.1469-7793.2001.t01-1-00613.x>
- Aagaard P, Simonsen Eb, Andersen JI, Magnusson P, Dyhre-Poulsen P., (2002) Increased rate of force development and neural drive of human skeletal muscle following resistance training, *J Appl Physiol*, 93, pag. 1318–1326.

- Altavilla, G., Di Tore, P.A., Riela, L., D'Isanto, T. (2017) Anthropometric, physiological and performance aspects that differentiate male athletes from females and practical consequences, *Journal of Physical Education and Sport*, 17, 2183-2187.
- Altavilla, G., D'Elia, F., Raiola, G. (2018) A brief review of the effects of physical activity in subjects with cardiovascular disease: An interpretative key, *Sport Mont*, 16 (3), 103-106. <https://doi.org/10.26773/smj.181018>
- Altavilla, G., Gaetano, R. (2018) Physiological effects of warm-up and problems related to team sports, *Sport Science*, 11, 83-88.
- Altavilla, G., Mazzeo, F., D'Elia, F., Raiola, G. (2018) Physical commitment and specific work for each role in an elite soccer team, *Journal of Physical Education and Sport*, 18 (2), 570-574.
- Andersen TR, Schmidt JF, Thomassen M, et al., (2014) A preliminary study: effects of football training on glucose control, body composition, and performance in men with type 2 diabetes, *Scand J Med Sci Sports*, 43–56. <https://doi.org/10.1111/sms.12259>
- Babraj Ja, Vollaard Nb, Keast C, Guppy Fm, Cottrell G, Timmons Ja., (2009) Extremely short duration high intensity interval training substantially improves insulin action in young healthy males, *BMC Endocr Disord*. <https://doi.org/10.1186/1472-6823-9-3>
- Bangsbo J, Iaia FM, Krstrup P (2007) Metabolic response and fatigue in football, *Int J Sports Physiol Perform*, pag. 111–127.
- Bangsbo J, Mohr M, Krstrup P (2006) Physical and metabolic demands of training and match play in the elite football player, *J Sports Sci*, pag. 665–674.
- Bangsbo J, Nielsen JJ, Mohr M, Randers MB, Krstrup BR, Brito J, Nybo L, Krstrup P (2009) Performance enhancements and muscular adaptations of a 16-week recreational football intervention for untrained women, *Scand J Med Sci Sports*, Nov 30 [Epub ahead of print].
- Borg G, Perceived exertion as indicator of somatic stress, (1970) *Scand J Rehab Med*.
- Cornelissen VA, Fagard RH (2005) Effects of endurance training on blood pressure, blood pressure-regulating mechanisms, and cardiovascular risk factors. *Hypertension*. 67–675. <https://doi.org/10.1161/01.HYP.0000184225.05629.51>
- Coombs CH, A theory of data, (1964) Wiley, New York.
- Dal Monte A, La valutazione funzionale dell'atleta, (1983) Sansoni, Firenze.
- 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'Isanto, T. (2016) Pedagogical value of the body and physical activity in childhood [Pedagoška vrijednost tijela i tjelesne aktivnosti u djetinjstvu]. *Sport Science*, 9, 13-18.
- D'Isanto, T., D'Elia, F., Raiola, G., & Altavilla, G. (2019). Assessment of sport performance: theoretical aspects and practical indications. *Sport Mont*, 17(1), 79-82. <https://doi.org/10.26773/smj.190214>
- Fredericson M, Chew K, Ngo J, Cleek T, Kiratli J, Cobb K, (2007) Regional bone mineral density in male athletes: a comparison of soccer players, runners and controls, *Br J Sports Med*. 41(10): 664-668. <https://doi.org/10.1136/bjism.2006.030783>
- Gaetano, R., Paloma, F.G., Gaetano, A. (2015) Anxiety in the youth physical and sport activity, *Mediterranean Journal of Social Sciences*, 6 (3), pp. 227-230. <https://doi.org/10.5901/mjss.2015.v6n3s2p227>
- Impellizzeri FM, Marcora SM, Castagna C, Reilly T, Sassi A, Iaia FM, Rampinini E, (2006) Physiological and performance effects of generic versus specific aerobic training in soccer players, *Int J Sport Med*: 27: 483-492. <https://doi.org/10.1055/s-2005-865839>
- Krstrup P, Aagaard P, Nybo L, Petersen J, Mohr M, Bangsbo J, (2010) Recreational football as a health promoting activity: a topical review, *Scand J Med Sci Sports*, 20 (Suppl. 1): 1–13. <https://doi.org/10.1111/j.1600-0838.2010.01108.x>

- Krustrup P, Christensen JF, Randers MB, Pedersen H, Sundstrup E, Jakobsen MD, Krustrup B, Nielsen JJ, Suetta C, Nybo L, Bangsbo J, (2009) Muscle adaptations and performance enhancements of soccer training for untrained men, *Eur J Appl Physiol*, Online published, <https://doi.org/10.1007/s00421-009-1319-8>
- Krustrup P, Nielsen JJ, Krustrup B, Christensen JF, Pedersen H, Randers MB, Aagaard P, Petersen AM, Nybo L, Bangsbo J, (2009) Recreational soccer is an effective health promoting activity for untrained men, *Br J Sports Med*, 43(11), 825–831. <https://doi.org/10.1136/bjism.2008.053124>
- Polidoro, L., Bianchi, F., Di Tore, P.A., Raiola, G. (2013) Futsal training by video analysis, *Journal of Human Sport and Exercise*, 8 (2), pp. 290-296. <https://doi.org/10.4100/jhse.2012.8.Proc2.31>
- Raiola, G. (2013) Body knowledge and motor skills, *Knowledge Cultures*, 1 (6), 64-72.
- Raiola, G., Giugno, Y., Scassillo, I., Di Tore, P.A. (2013) An experimental study on Aerobic Gymnastic: Performance analysis as an effective evaluation for technique and teaching of motor gestures, *Journal of Human Sport and Exercise*, 8 (2 SUPPL), 297-306. <https://doi.org/10.4100/jhse.2012.8.Proc2.32>
- Raiola, G. (2015) Sport skills and mental health, *Journal of Human Sport and Exercise*, 10 369-376. <https://doi.org/10.14198/jhse.2015.10.Proc1.27>
- Saltin B, Lindgarde F, Houston M, Horlin R, Nygaard E, Gad P, (1979) Physical training and glucose tolerance in middle-aged men with chemical diabetes. *Diabetes*: 28(Suppl 1): 30-32. <https://doi.org/10.2337/diab.28.1.S30>
- Stein RA, Michielli DW, Glantz MD, Sardy H, Cohen A, Goldberg N, Brown CD (1990) Effects of different exercise training intensities on lipoprotein cholesterol fractions in healthy middle- aged men. *Am Heart J*, 119(1): 277–283. [https://doi.org/10.1016/S0002-8703\(05\)80017-1](https://doi.org/10.1016/S0002-8703(05)80017-1)
- Shaw BS, Shaw I, (2005) Effect of resistance training on cardiorespiratory endurance and coronary artery disease risk. *Cardiovasc J S Afr*, 16: 256– 259.
- Taylor JL, Gandevia SC (2008) A comparison of central aspects of fatigue in submaximal and maximal voluntary contractions, *J Appl Physiol*. <https://doi.org/10.1152/jappphysiol.01053.2007>
- Tiziana, D., Antonetta, M., Gaetano, A. (2017) Health and physical activity [Zdravlje i tjelesna aktivnost] *Sport Science*, 10 (1), 100-105.
- Vollaard NB, Vollaard NB, Constantin- Teodosiu D, Fredriksson K, Rooyackers O, Jansson E, Greenhaff PL, Timmons JA, Sundberg CJ (2009) Systematic analysis of adaptations in aerobic capacity and submaximal energy metabolism provides a unique insight into determinants of human aerobic performance, *J Appl Physiol*, 106(5): 1479–1486. <https://doi.org/10.1152/jappphysiol.91453.2008>
- Weineck J (2009) *L'allenamento ottimale*, Calzetti Mariucci Editori, Ed.2.
- Zammuner VL (1998) *Interviste e questionari. Processi psicologici e qualità dei dati*, Borla.

