Introduction

- The finals between Spain and the Netherlands in the 2010 FIFA World Cup beat all records of viewers in TV history in both countries [1,2].
- Previous study: an increase in testosterone levels among fans of the winning team of the 1994 World Cup final after their team’s victory [3].
- Goal study: to investigate testosterone and cortisol secretion in male and female Spanish fans watching the finals.
- Moderators: sex, age, and fandom.

Methods

- Crossover design:
  A. Experimental condition: Spanish fans watched the final soccer match of the 2010 FIFA World Cup.
  B. Control condition: similar to experimental condition but without any exciting stimuli.
- Participants: 25 men (Mean = 37.8 years, s.e.m. = 2.8) and 25 women (Mean 34.0 years, s.e.m. = 2.2).
- Three salivary cortisol and testosterone measurements: before the match, during halftime and 20 min after the end of the match.
- Fandom questionnaire (e.g. How much of a fan are you of the Spanish national soccer team during this world championship).

Results

1. Testosterone and cortisol levels were higher when watching the match than on a control day, but did not increase after the victory of the Spanish team (see Figures 1A-2B).
2. The increase in testosterone secretion was not related to participants’ sex, age or soccer fandom.
3. The increase in total cortisol secretion during the match was higher among men than among women (see Figures 2A and 2B) and among fans that were younger.
4. Increases in cortisol secretion were greater to the degree that people were a stronger fan of soccer (see Figure 3). Level of fandom accounted for the sex effect, but not for the age effect.

Discussion

- Testosterone data from this study are in line with the challenge hypothesis [4], since total testosterone levels of fans were higher during the match to prepare their organism to defend or enhance their social status.
- No replication of the finding that testosterone increases after victory in fans of the winning team[3].
- The elevated cortisol secretion during the match is in line with social self-preservation theory [5]. Higher cortisol secretion among greater soccer fans suggests that especially these fans perceived that a negative outcome of the match would threaten their own social esteem.

References


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