

# Self-Esteem and Aggressive Behaviours in Team Sports in Congo-Brazzaville

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## Abstract

The aim of this study was to characterize the esteem and aggressive behaviors among Congolese practitioners of team sports during the semi-final and final matches of the national championship according to gender, competitive stakes, and type of sport. A total of 168 players (80 footballers, 48 handballers, and 40 basketball players) participated in the study. These subjects were surveyed during the semi-final and final matches of the national championships, 2022-2023 sports season, in the men's and women's versions, organized by the sports federations concerned. Aggression was measured using the Buss and Perry Questionnaire (2001), composed of 20 items assessed according to a 9-point Likert-type scale. The self-esteem assessment was based on the 25-item questionnaire by Ninot et al., comprising two parts: physical self-esteem and global self-esteem. A significant gender effect was found for global self-esteem during the semi-finals and finals, with greater emphasis during the finals. We also found a significant "type of sport" effect and the "sex × type of sport" interaction. Handball players were characterized by a high level of global self-esteem ( $p < 0.001$ ). Regarding physical esteem, a significant "sex" effect was also found, but more pronounced in the finals. As for hostility, the "sex" effect was lessened during the final matches. Finally, negative correlations were found between the level of self-esteem and aggressive behaviors. Our study thus provides data on the effect of gender and team sport on self-esteem and aggressive behavior among Congolese basketball, football, and handball players.

## Keywords

Aggressive Behavior, Football, Handball, Basketball, Self-Esteem

## 1. Introduction

Violence has always existed, it is consubstantial with man because "the human

relationship is a violent relationship” (Pain, 2006). A defining halo surrounds this term because violence is protean and declines differently depending on the point of view adopted and the times. On the etymological level, violence is expressed as a vital force, which, nowadays, is connoted negatively because it represents the abuse of this force. In other words, originally, this vital and primitive force gradually evolved towards the negative facet of a destructive force, thus increasing the defining span and the associated representations. So much so that violence, in a commonly accepted way, is characterized by an action on a person (or the fact of making the person act against their will) by using force and intimidation; in other words, it is an imposed constraint that causes pain, sorrow or humiliation. Moreover, depending on the scientific references to which one refers, it is possible to evoke sometimes fundamental violence (Bergeret, 1984), sometimes natural violence, like an impulse linked to a defensive violent instinct (Freud, 1949), and for others human violence that has remained close to the animal world (Lorenz, 1969). However, over time, the process of civilization has led to a greater decline in bloody and physical violence (Elias & Dunning, 1986). Nowadays, if this type of direct violence, amplified by the media, crystallizes fears and anger, other more insidious ones are taking hold in our daily lives. We now more easily evoke different forms of violence: individual or collective, physical but also verbal, symbolic, remote (cyberviolence), against the institution, property or even moral harassment in human relationships in the family, at work, at school, etc.

Violence is often associated, or even confused, with the concept of aggressiveness and especially “aggression”. To this end, Pain (2006) specifies that “the Anglo-Saxons include violence in aggression, while in the French language, aggression is included in violence”. And for Karli (1987), from a psychological perspective, the concept of aggression “also constitutes a means of expression and action that can be implemented in very diverse circumstances and contexts” in order to control situations and relationships. As for aggressiveness, which generally involves relationships with others, it is not linked to an impulse but, according to the point of view of psychologists, to external aggression or a reaction to frustration (reactive aggressiveness).

Sport, like all human activities, has had and still has its unconditional defenders and its fervent detractors. However, no one is supposed to be an informed observer to notice that practitioners of team sports do not always respect the rules constituting the activity. Messner also states that “*in most of our popular sports, the achievement of the objective (scoring goals and winning) is based on an effective use of violence*” (Messner, 1990: p. 203).

As for team sports such as football, handball, and basketball, they seem to have to crystallize this convergence of position regarding the effect of sports on aggressive behavior. Indeed, from the perspective of social learning theory, they appear more like any other activity as a factor in the development of aggressive behavior. They offer, contrary to the process of civilization put forward by Elias (1975), to transgress one of the most significant social prohibitions (Clément, 1995) which

is physical contact in a confrontational relationship. On the other hand, if it is accepted that handball and basketball have the reputation of making the individual acquire better control of anger and impulsive intentions, to the point that they are practically prescribed in the case of children or adolescents who are too turbulent or impulsive (Gurav, 2023), the same is not true of football.

In relation to football and basketball, the vast majority of studies suggest a consensus that the level of practice (in terms of competitive stakes) has an effect on the psychological or behavioral variables measured. Thus, Nosanchuk (1981) notes an increase in aggressiveness and a deterioration in self-esteem with the practice of high-level football. However, this first psychological factor deserves to be explained.

Indeed, self-esteem is defined today by most professionals as the overall assessment of one's worth as a person, that is, the degree of satisfaction felt towards oneself (Harter, 1998). However, Harter considers self-esteem in a multidimensional manner, since the subject evaluates himself differently depending on the domain considered. Thus, studying self-esteem in athletes is important because it plays an important role in their conduct during the game. Self-esteem plays an important role in explaining human behavior, particularly aggressive behavior. However, opinions on the relationship between aggression and sport, although interrelated, diverge in light of current observations and related studies. Indeed, the work undertaken on the relationship between self-esteem and aggression gives rise to contradictory results. Some authors report a negative correlation: high aggression is linked to a low level of self-esteem (Anderson, 1994; Oates & Forrest, 1993). On the other hand, other studies highlight a positive correlation (Blaine & Crocker, 1993). Finally, Bruchon-Schweitzer (1984) noted that a low level of self-esteem often results from a lack of self-confidence in the success of a project or the achievement of a sporting performance, which can be the origin of aggressive behavior. However, most of these studies only focus on sedentary subjects. Thus, we note the rarity of work on athletes. Hence, to our knowledge, no studies have been carried out in Africa on this theme or the relationship between aggression and self-esteem in the most popular team sports on the continent.

In line with this perspective, we can therefore set ourselves the following research question in our Congolese socio-cultural environment, which is different from that of Western countries and in view of the ever-increasing impoverishment of the juvenile and adult population accompanied by a loss of traditional moral values: Are aggressive behaviors in the three sports disciplines associated with a specific level of self-esteem? Given the scarcity of studies devoted to aggressive behaviors in sub-Saharan black Africa, the aim of this study is to characterize the esteem and aggressive behaviors among Congolese practitioners of team sports during the semi-final and final matches of the national championship according to gender, competitive stakes and type of sport. The specific objectives assigned are: (i) to determine self-esteem and aggressive behaviors among handball, football, and basketball players according to gender; (ii) to analyze the effect

of competitive stakes on self-esteem and aggressive behaviors; (iii) to explore the “sex  $\times$  type of sport” interaction on different aggressive behaviors. In view of the above and drawing on the work of other authors (Eagly & Steffen, 1986; Erol & Orth, 2011; Kirker et al., 2000; Tucker & Parks, 2001), we hypothesize: 1) men exhibit more self-esteem and aggressive behavior than women; 2) players in all three sports exhibit more aggression during finals matches than semi-finals; and 3) differences in self-esteem and aggressive behavior between men and women depend on the type of sport played.

## 2. Materials and Methods

### 2.1. Framework of the Study

The study, quantitative and cross-sectional, was carried out in Brazzaville (capital of the Republic of Congo) from July to September 2023 during the national handball, football, and basketball championships, 2022-2023 sports season. However, only the semi-final and final matches were the subject of our observations. This choice is explained by the high level of stakes in the matches and the championship, which can impact the level of esteem and aggressive behavior of the players. The various sports competitions took place in stadiums and fields approved by the African confederations of the three sports disciplines.

### 2.2. Participants

The target population came from the three sports falling into two classes of sporting activities: sports with “*hard violence*”, socially and culturally “*poor*” (football, basketball), and sports with “*soft violence*”, socially and culturally “*rich*” (handball), in accordance with the terminology of Mandala et al. (2022). According to this author, inequality in violence is linked to social and cultural inequality in the sports field. Thus, the players recruited were footballers, handball players, and basketball players from the twelve teams (6 men’s and 6 women’s) that participated in the semi-finals and finals of the national championships of the aforementioned disciplines. Based on the lists provided by the technical staff of each team, 174 players were initially selected. However, only players who met the following inclusion criteria were selected: belong to the senior category, have at least three years of seniority in participating in the national championships, and have played at least one match during the current semi-finals. In addition, written consent to participate in the study was a prerequisite. Ultimately, 168 athletes took part in 18 sporting events (12 semi-finals and 6 finals) during the experiment, including 84 men (50%) and 84 women (50%). They were divided into 48 handball players (28.6%), 80 footballers (47.6%), and 40 basketball players (23.8%). The number of weekly training hours imposed on these athletes within their club exceeded 15 hours/week. The choice of players participating in the semi-finals, therefore, made it possible to avoid interference, the “conflicts” that could have been generated by an overly full “portfolio of practices” (Mignon & Truchet, 2002). These handball, football, and basketball players played in clubs at the national level, affiliated with

the Congolese Football Federation, the Congolese Handball Federation and the Congolese Basketball Federation. All subjects belonged to the senior category during the study period. The empirical studies were carried out during the national championships of the 2013 sports season, during the semi-finals and finals.

These clubs selected for each given discipline did not differ from each other with respect to the criteria used by [Nosanchuk and McNeil \(2009\)](#) to distinguish between modern and competitive training. All team coaches had a 2nd degree coaching qualification from the International Federation to which they belonged.

## **2.3. Measuring Tools and Experimental Protocol**

### **2.3.1. Assault Questionnaire**

Initially, it was planned to film the matches coupled with questionnaires in accordance with the recommendations of several authors ([Kirker et al., 2000](#); [Ostrov & Keating, 2004](#)), as well as semi-directed interviews conducted with players. However, the lack of funding for the study did not allow the purchase of appropriate cameras in sufficient numbers. It is in this context that the tool used to assess players' aggression was the Buss and Perry aggression questionnaire, the French version of the Buss-Perry Aggression Questionnaire ([Buss & Perry, 1992](#)).

This is a questionnaire consisting of 20 items, assessed according to a 9-point Likert-type scale (from 1: not at all true for me; 9: completely true for me). This gave rise to four scales: (i) physical aggression (e.g., I do not hesitate to use force to defend my rights); (ii) verbal aggression (e.g., when I do not agree with someone, I do not hesitate to criticize them); (iii) hostility (e.g., it sometimes seems to me that people laugh at me behind my back); (iv) anger (e.g., I tend to get carried away easily). This questionnaire provides a general aggression score relating to reactive aggression: the title of the items places the subjects in a "reaction to..." structure. The results for each of the scales were validated by Cronbach's  $\alpha$  index of 0.88 and a test-retest correlation analysis at three-week intervals.

### **2.3.2. Self-Esteem Assessment**

The assessment of self-esteem was based on the questionnaire of [Ninot et al. \(2000\)](#), inspired by the questionnaire of Rosenberg (1965). It includes 25 items divided into two parts: (i) the first, which includes 5 parts relating to physical self-esteem, is the French translation of the Self Perception Profile (PSPP) of Fox and Corbin (1989); (ii) the second relates to global self-esteem, which is derived from the Coopersmith Questionnaire ([Coopersmith, 1984](#)).

The physical self-esteem factors are: 1) perceived physical value (5 items). It addresses the sense of satisfaction, respect, and confidence in one's athletic form; 2) physical condition or endurance (5 items). It refers to the assessment of the ability to maintain endurance efforts; 3) athletic competence (3 items). It includes 3 parts: perception of physical strength, muscular development, and confidence in situations requiring strength, 4) physical appearance (3 items). It corresponds to the assessment of physical attractiveness and the ability to maintain an attractive body.

It is worth noting here that the overall level of self-esteem includes five items. The responses are based on a 6-point Likert scale, ranging from (1) “not at all” to (6) “absolutely”. In our study, the version of the questionnaire was characterized by satisfactory internal consistency for all scales ( $\sim 0.78$ ), which demonstrated the stability of the responses provided by the subjects. Indeed, Cronbach’s  $\alpha$  index was greater than 0.70, which reproduces the overall hierarchical structure of the basic questionnaire. The internal validity of our measuring instrument was, therefore, satisfactory.

## 2.4. Variables Studied

They were summarized as overall self-esteem, physical self-esteem, physical aggression, verbal aggression, hostility, and anger found among players of the three sports disciplines during the semi-finals and finals of the national championship.

## 2.5. Statistical Analysis

Statistical analysis of the data for this study was performed using Statistica software (version 6.0). Analyses of variance for the factors “sex”  $\times$  “type of sport” were applied to measure the influence of the independent variables on each dependent variable. In case of a significant effect, the Tukey post hoc test was applied to compare the paired data. Finally, the Pearson correlation was used to identify the relationships between the dependent variables. The statistical significance threshold was set at 0.05 ( $p < 0.05$ ).

## 3. Results

### 3.1. Participants’ Profile

The socio-demographic profile of the participants is shown in **Table 1**.

**Table 1.** Average age and number of years of sports practice according to discipline.

	Men (n = 84)	Women (n = 84)	Total (n = 168)
<b>Age (years)</b>			
18 - 24; n (%)	56 (47)	63 (53)	119 (70.8)**
25 - 31; n (%)	28 (57.1)	21 (42.9)	49 (29.2)
<b>Years of practice</b>			
3 - 5; n (%)	11 (28.2)	28 (71.8)	39 (23.2)
6 - 8; n (%)	67 (55.8)	53 (44.2)	120 (71.4)**
9 - 11; n (%)	6 (66.6)	3 (33.4)	9 (5.4)
<b>Socio-professional status</b>			
Student; n (%)	12 (44.4)	15 (55.6)	27 (16.1)
Informal activities; n (%)	38 (45.2)	46 (54.8)	84 (50)
Unemployed; n (%)	34 (59.6)	23 (40.4)	57 (33.9)
<b>Religion</b>			
Christianity; n (%)	76 (47.5)	84 (52.5)	160 (95.2)***
African syncretic church; n (%)	8 (100)	--	8 (4.8)
<b>Socioeconomic level</b>			

## Continued

Low; n (%)	16 (61.5)	10 (38.5)	26 (15.5)
Average; n (%)	68 (47.9)	74 (52.1)	142 (84.5)***
<b>Marital status</b>			
Single; n (%)	23 (22.3)	80 (77.7)	103 (61.3)*
union; n (%)	61 (93.8)	4 (6.2)	65 (38.5)

**Abbreviations:** \*significant difference at  $p < 0.05$ ; \*\*significant difference at  $p < 0.01$ ; \*\*\*significant difference at  $p < 0.001$ .

The mean age of the participants was  $(24.3 \pm 3.8)$  years ( $(24.3 \pm 3.5)$  years for men and  $(24.2 \pm 3.8)$  years for women). Depending on the sport played, it was  $(23.9 \pm 3.8)$  years for basketball players,  $(24 \pm 3.1)$  years for football players, and  $(24.9 \pm 4.1)$  years for handball players. More athletes competed at the national level between 6 and 8 years ( $n = 120$ ; 71.4%;  $p < 0.01$ ). Athletes who practiced informal activities represented half of the participants. A predominance of athletes of the Christian religions was found (95.2%;  $p < 0.001$ ). The socioeconomic level was low in 84.5% of the participants ( $n = 142$ ). Nearly three out of five participants (61.3%) were single.

### 3.2. Evolution of Self-Esteem and Aggressive Behaviors according to the Stakes of Sports Competition

**Table 2** reports the means and standard deviations of the different variables studied in the three disciplines according to gender during the semi-finals.

**Table 2.** Means  $\pm$  standard deviations of self-esteem and aggression by gender and type of sport during the semi-finals.

	Overall esteem of self	Physical esteem of self	Physical assault	Verbal aggression	Hostility	Anger
<b>Handball</b>						
Men	$3.13 \pm 0.16$	$3.21 \pm 0.38^*$	$2.26 \pm 0.08$	$2.65 \pm 0.17$	$2.73 \pm 0.14$	$2.03 \pm 0.08^{**}$
Ladies	$3.19 \pm 0.15$	$2.67 \pm 0.30$	$2.11 \pm 0.12$	$2.89 \pm 0.22$	$2.58 \pm 0.16$	$4.01 \pm 0.09$
<b>Soccer</b>						
Men	$3.04 \pm 0.14^*$	$3.32 \pm 0.31$	$3.32 \pm 0.19^*$	$3.39 \pm 0.18$	$2.97 \pm 0.11^*$	$4.01 \pm 0.09$
Ladies	$3.12 \pm 0.12$	$3.11 \pm 0.24$	$2.26 \pm 0.07$	$2.75 \pm 0.26$	$2.51 \pm 0.08$	$4.72 \pm 0.13$
<b>Basketball</b>						
Men	$3.09 \pm 0.10^*$	$3.17 \pm 0.15^*$	$2.11 \pm 0.12^*$	$2.48 \pm 0.11$	$2.48 \pm 0.11$	$3.08 \pm 0.08$
Ladies	$3.10 \pm 0.14$	$2.85 \pm 0.11$	$1.65 \pm 0.07$	$2.26 \pm 0.13$	$2.26 \pm 0.13$	$3.13 \pm 0.11$

**Abbreviations:** \*significant intersex difference at  $p < 0.05$ ; \*\*significant intersex difference at  $p < 0.01$ .

In the semi-finals, global self-esteem was moderately higher in handball players:  $3.16 \pm 0.15$  versus  $3.08 \pm 0.15$  and  $3.09 \pm 0.12$ , respectively, in footballers and basketballers. The mean scores noted in women were above those of men, but without significant difference. Concerning physical self-esteem, the scores were in descending order:  $3.27 \pm 0.13$  in basketball players,  $3.21 \pm 0.27$  in footballers, and  $2.94 \pm 0.34$  in handball players. The highest scores were noted in male footballers. At the level of women, a superiority of scores was noted in female footballers ( $3.11$



$\pm 0.24$ ), contrary to female handballers, where the mean score was  $2.67 \pm 0.30$ . Verbal aggression, on the other hand, dominated physical aggression regardless of gender and sporting activity. It was more common in football. As for hostile behavior, the highest scores were noted among football players ( $2.74 \pm 0.09$ ), followed by handball players ( $2.65 \pm 0.15$ ); there were more men. Football players were also more prone to anger ( $4.36 \pm 0.11$ ), particularly women ( $4.72 \pm 0.13$ ), followed by basketball players ( $3.10 \pm 0.09$ ).

The means and standard deviations of the different variables studied in the three disciplines according to gender during the semi-finals are reported in **Table 3**.

**Table 3.** Means  $\pm$  standard deviations of self-esteem and aggression by gender and type of sport during the finals.

	Overall esteem of self	Physical esteem of self	Physical assault	Verbal aggression	Hostility	Anger
<b>Handball</b>						
Men	$3.41 \pm 0.08$	$3.82 \pm 0.15$	$2.93 \pm 0.05$	$2.65 \pm 0.08$	$2.54 \pm 0.02$	$2.25 \pm 0.10$
Ladies	$3.13 \pm 0.12$	$3.04 \pm 1.02$	$2.26 \pm 0.14$	$2.48 \pm 0.05$	$2.31 \pm 0.13$	$2.13 \pm 0.07$
<b>Soccer</b>						
Men	$3.25 \pm 0.10$	$3.64 \pm 0.12$	$3.64 \pm 0.09$	$3.52 \pm 0.13$	$3.32 \pm 0.07$	$3.02 \pm 0.04$
Ladies	$2.43 \pm 0.05$	$2.51 \pm 0.05$	$2.73 \pm 0.11$	$2.86 \pm 0.07$	$3.04 \pm 0.05$	$3.56 \pm 0.42$
<b>Basketball</b>						
Men	$3.12 \pm 0.18$	$3.22 \pm 0.13$	$2.68 \pm 0.09$	$2.92 \pm 0.14$	$2.72 \pm 0.11$	$2.13 \pm 0.04$
Ladies	$2.25 \pm 0.07$	$2.94 \pm 0.20$	$2.46 \pm 0.17$	$2.58 \pm 0.06$	$2.25 \pm 0.04$	$2.65 \pm 0.08$

In the finals, an increase in scores was noted for overall self-esteem in handball and football: 3.8% for handball players and 8.4% for football players. On the other hand, a notable decrease in overall self-esteem was noted for basketball players: 17.5%. Concerning physical self-esteem, an overall upward trend in scores was observed for handball players ( $3.43 \pm 0.08$  *versus*  $2.94 \pm 0.34$ ), unlike for football and basketball. In these two sports, a decrease of 4.6% was noted for football players and 2.3% for basketball players. This was more pronounced for female basketball players. Regarding physical aggression, aggression scores increased by 10.6% ( $p = 0.041$ ) in football players, 9.6% ( $p = 0.045$ ) in handball players, and 27% ( $p = 0.038$ ) in basketball players. This trend was observed in both sexes and regardless of the sport. Regarding verbal aggression, the average score in football remained unchanged in men, while a decrease of 14.2% was noted in women. In other sports, an increase in verbal aggression scores was noted, respectively, by 3.9% in football players and 16% in basketball players. Furthermore, while scores related to hostile acts had decreased by 9.5% in handball players, they increased by 16% in football players and 9.7% in male basketball players. Finally, a decrease in the state of anger was noted in all participants: 38.5% among handball players, 32.5% among football players, and 29.7% among basketball players, a trend observed regardless of gender and sport.

### 3.3. Relationships between Some Factors and Self-Esteem, Aggressive Behaviors

The effects of sex, type of sport, and sex  $\times$  type of sport on the different variables



studied are reported in **Tables 4-5**.

**Table 4.** Effects of sex, type of sport, and sex  $\times$  kind of sport on overall self-esteem, physical self-esteem, aggression (physical/verbal), anger, and hostility during the semi-finals.

	Effect sex		Effect kind of sport		Sex $\times$ kind of sport	
	F ( 2.165)	<i>p</i> -value	F (2.165)	<i>p</i> -value	F (2.165)	<i>p</i> -value
Overall self-esteem	6.04	0.014	184.16	0.000	4.11	0.043
Estimated physical of oneself	723.99	0.000	452.72	0.000	0.30	0.585
Assault physical	404.37	0.000	51.15	0.000	289.27	0.000
Assault verbal	7.17	0.008	7.51	0.006	19.55	0.000
Anger	2309.43	0.000	21.82	0.000	54.33	0.000
Hostility	26.83	0.000	111.18	0.000	0.11	0.745

**Table 5.** Effects of sex, type of sport, and sex  $\times$  kind of sport on overall self-esteem, physical self-esteem, aggression (physical/verbal), anger, and hostility during finals.

	Effect sex		Effect kind of sport		Sex $\times$ kind of sport	
	F (2.81)	<i>p</i> -value	F (2.81)	<i>p</i> -value	F (2.81)	<i>p</i> -value
Overall self-esteem	7.23	0.010	207.24	0.000	6.37	0.038
Estimated physical of oneself	735.16	0.000	481.62	0.000	4.15	0.032
Assault physical	426.52	0.000	46.84	0.000	252.48	0.000
Assault verbal	7.05	0.014	8.36	0.004	27.43	0.000
Anger	1972.68	0.000	18.43	0.000	61.15	0.000
Hostility	31.40	0.000	95.85	0.000	2.42	0.427

The analysis of variance (gender  $\times$  type of sport) for global self-esteem showed a significant effect of gender in the semi-finals and finals, with greater emphasis in the finals (**Tables 2-3**). The same was true for the effect of “type of sport” and the interaction “gender  $\times$  type of sport”, which was found to be significant. Subsequently, the application of Tukey ‘s post hoc test revealed that handball players were characterized by a high level of global self-esteem ( $p < 0.001$ ). In the same sense, female athletes in all disciplines studied were distinguished by superiority in global self-esteem compared to men ( $p < 0.001$ ).

Regarding the results of the ANOVA (sex  $\times$  type of sport) for physical self-esteem, a significant “sex” effect also emerged, but more pronounced in the finals. A significant difference was found compared to the “sex” effect, unlike the “sex  $\times$  type of sport” interaction, which was not significant. Data analysis by Tukey ‘s post *hoc test* also highlighted a high level of physical self-esteem among handball players ( $p < 0.001$ ) compared to other athletes. In addition, it was found that men were distinguished by a higher level of physical self-esteem ( $p < 0.001$ ).

Furthermore, a two-way analysis of variance (sex  $\times$  sport type) for physical aggression, verbal aggression, and anger revealed a significant effect of the “sex” effect, the “sports type” effect, and the “sex  $\times$  sport type” interaction.

Regarding hostility, the ANOVA (sex  $\times$  type of sport) highlighted a statistical significance of the “sex” effect, which was less developed during the final matches.

However, the interaction “sex  $\times$  type of sport” was not significant. Furthermore,

the analysis of the results by the Tukey post hoc test allowed to *identify* during the semi-finals and finals the superiority of the frequency of physical aggression ( $p < 0.001$ ) in footballers of both sexes, as well as for verbal aggression ( $p < 0.001$ ) and anger ( $p < 0.001$ ). In addition, men were more aggressive than women with respect to verbal aggression ( $p < 0.001$ ) and physical intimidation ( $p < 0.001$ ). However, female footballers and basketball players were more prone to hostility and anger during the semi-finals, but especially during the finals. Finally, our results showed that global self-esteem was negatively correlated with physical aggression ( $r = -0.28$ ;  $p < 0.001$ ), verbal intimidation ( $r = -0.14$ ;  $p < 0.01$ ) and hostility ( $r = -0.34$ ;  $p < 0.01$ ). As for physical self-esteem, it was also negatively correlated with hostility ( $r = -0.47$ ;  $p < 0.01$ ) and anger ( $r = -0.61$ ;  $p < 0.01$ ). In the same direction, a negative correlation was found between aggression (all types combined) and self-esteem ( $r = -0.46$ ;  $p < 0.001$ ).

## 4. Discussion

The aim of our study is to characterize self-esteem and aggressive behaviors among Congolese team sports players during the semi-final and final matches of the national championship according to gender, competitive stakes, and type of sport. Our results show that: 1) women had higher self-esteem compared to men, but without significant difference, and aggression was more common among men; 2) an increase in self-esteem was observed in the final matches, as well as that of aggressive behaviors; 3) differences in self-esteem and aggressive behaviors were noted between sports disciplines.

### 4.1. Effects of Gender on Self-Esteem and Aggressive Behavior

Our results show that men exhibit more self-esteem qualities and aggressive behaviors compared to women, confirming our first hypothesis. These observations are consistent with the results of most authors who deal with aggressive behaviors in athletes (Bredemeier, 1985; Cabagno & Rascle, 2006; Conroy et al., 2001; Pfister & Sabatier, 1994; Tucker & Parks, 2001). Aggressions, particularly physical aggression, are influenced by the socialization process because it is, first and foremost, a learning behavior reinforced through the social model (Bandura, 1973). In sub-Saharan Africa, inequalities between men and women are at the root of systemic problems that women face in Africa, resulting in their exclusion and marginalization in all areas. This state of affairs stems from the implicit denial of the function of agency to women, attributable to the patriarchal cultures in which men and women are socialized and which, consequently, subject women to men according to stereotypes that reinforce patterns of inequality based on gender. These norms go beyond the private sphere to be reproduced, reinforced, and rooted in the public sphere, giving rise to discrimination against women in the political, cultural (including sports), social, and economic spheres, coupled with increased vulnerability. This situation is called “moral shame<sup>1</sup>” in the Declaration

<sup>1</sup>AHG/235 (XXXVIII) Annex I4 paragraph 10.

on Democratic, Political, Economic and Corporate Governance of the New Partnership for Africa's Development (NEPAD).

In Africa, women constitute a large demographic group. In many countries, they make up more than half of the population. While the role of women is invaluable and indispensable in social, cultural and development processes, the majority of women in Africa hardly benefit from the dividends of development. Despite their contributions to Africa's workforce and productivity, women constitute the majority of the poor and most vulnerable people on the African continent<sup>2</sup>.

Thus, the differences observed between male and female athletes in our study are dependent on the difference in socialization between the two sexes, which tends to reinforce distinctive gender-related behaviors (Duru-Bellat & Jarousse, 1996; Masters et al., 1982). Differentiated socialization may involve the perception and acceptance of sexual roles, that is, roles in accordance with social expectations and mores. Differentiated attitudes and behaviors are then reinforced in men and women as a result of adjustment to sex. Aggressive behaviors are particularly representative of this categorization process (Eagly & Steffen, 1986). Traditional stereotypical expectations generally consider aggressiveness, athletic competition, or risk-taking as characteristics of masculine behaviors. On the other hand, attitudes that do not obey these rules are found in women in accordance with established ideals and norms (Eagly & Steffen, 1986). Consequently, men and women tend to adopt behaviors related to gender roles, including in the sporting context.

Finally, the socializing role associated with gender may also reflect the different opportunities for participation in sports practice. Team sports are generally perceived as masculine (Csizma et al., 1988; Koivula, 2001; Meaney et al., 2002), and these sports are more practiced by men in Africa. In this context, female athletes involved in team sports seem to be in contradiction with the sport practiced. Thus, female athletes may be inclined to play a conflicting role linked to gender (Scully et al., 1998), they can then adopt more behaviors linked to the feminine gender (therefore, less aggression).

#### **4.2. Evolution of Self-Esteem, Aggressive Behavior with the Challenge of Competition and the Sport Practiced**

Our results showed that during the final matches, players of the three sports presented more aggression than those of the semi-finals; in addition, the level of self-esteem and aggressive behaviors varied according to the type of sport practiced. These observations confirm the last two hypotheses of our study.

We noted that the most aggressive athletes, especially footballers, are those who have negative aims or a low level of self-esteem. This fact, which is confirmed by the analysis of correlations, suggests that physical aggression, verbal aggression, and acts of hostility are negatively correlated with global self-esteem. However, high aggression is strongly associated with a low level of self-esteem; athletes whose level of self-esteem is high are characterized by reduced aggression. Our

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<sup>2</sup>Executive summary "Boosting economic growth and poverty reduction: An African perspective" (p. 27).

observations are consistent with those of Anderson (1994), Long (1990), Oates and Forrest (1993). In addition, our results indicate that the level of self-esteem among handball players is higher than that of footballers and basketball players. Also, we can estimate a priori that in handball, women have a higher level of global self-esteem than men. However, this difference tends to decrease in football and handball. This is why our results suggest that footballers of both sexes have a higher level of aggressiveness than handball players and, especially, basketball players. Also, we can think a priori that in handball, women have a higher level of overall self-esteem than men. However, this difference is reversed during the final matches. In other words, men have a higher level of physical self-esteem than women, regardless of the discipline practiced. In addition, footballers are generally prone to notorious aggressive behaviors, and they have low levels of self-esteem; on the other hand, basketball players are characterized by lower aggressiveness. This contradiction is logical in the sense that in basketball, physical contact between players is less, thus minimizing aggressive behaviors. Moreover, in a study by Oboeuf and Collard (2008), the populations of footballers, handballers, and basketballers differ in terms of the preferred types of load. These authors show that, compared to handballers and basketballers, all matches combined, footballers perform more gripping, handballers present more contacts, and basketball players dominate the class of genes. We can thus sense the influence of the “habits” of each athlete in the in situ actualization of aggressive behavior.

Furthermore, it is known in handball that, regardless of the nature of the match and the team sport observed, ball carriers are more often targeted compared to non-ball carriers (Oboeuf & Collard, 2008). However, per match and on the field of play, there are always five non-ball carriers for one ball carrier. This stigmatization of charges on the ball holder is again explained by the regulatory requirements that are included in the conduct. For example, it is forbidden in basketball to deliberately come into contact with a player without the ball, which seems to dampen enthusiasm. On the other hand, the rules of handball allow any player to block an opponent’s path with their body, even if they are not in possession of the ball. This last regulatory precision, apparently innocuous, predisposes handball players to show aggression by touching (without hands, arms, or legs) all field players, whether or not they have a ball. As the matches are played in two 30-minute periods, there are two non-carriers for every ball carrier and as many opportunities to block their passage with the body; hence, we find two-thirds of contacts directed at opponents without a ball among our handball players. Thus, we can confirm that the practice of team sports, where the level of self-esteem is high, is accompanied by beneficial effects in individuals in terms of aggression and emotional control. These observations consolidate, with some nuances, the work of certain authors who have studied the self-esteem-aggression relationship in non-direct and non-aggressive opposition sports such as tennis, dance, gymnastics, swimming, etc. (Collard & Oboeuf, 2007; Flood & Hellstedt, 1991).

### 4.3. Limitations of the Study

Our study has some limitations. Indeed, we based our research on psychometric measures (questionnaires) and not on in situ observations. However, such a measure is relatively limited because it is based on behavior assessed retrospectively. From this point of view, we will consider subsequently analyzing the relationship that may exist between self-esteem and aggression using more objective measuring instruments such as the count of sanctions received by players as suggested by Mugno and Feltz (1985), Smith (1975) and Vaz (1979).

### 5. Conclusion

Our results have highlighted, despite some limitations, a difference in self-esteem and aggressive behavior between male and female athletes. Footballers are characterized by high aggression and low self-esteem. Aggressive behaviors that increase with the stakes of the competition are more found in the final matches of the national championship. Their frequency depends on gender and the sport practiced. There is a negative correlation between self-esteem and aggressive acts. Our study thus provides data on the effect of gender and team sports on self-esteem and aggressive behavior in the practice of team sports in Congo.

### Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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## Buss Perry Aggression Questionnaire (BPAQ)

	Extremely Uncharac- teristic	Somewhat Uncharac- teristic	Neither Uncharac- teristic Nor Charac- teristic	Somewhat Charac- teristic	Extremely Charac- teristic
1. Some of my friends think I am a hothead.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. If I have to resort to violence to protect my rights, I will.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. When people are especially nice to me, I wonder what they want.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I tell my friends openly when I disagree with them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I have become so mad that I have broken things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I can't help getting into arguments when people disagree with me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I wonder why sometimes I feel so bitter about things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Once in a while, I can't control the urge to strike another person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I am an even-tempered person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I am suspicious of overly friendly strangers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. I have threatened people I know.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I flare up quickly but get over it quickly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Given enough provocation, I may hit another person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. When people annoy me, I may tell them what I think of them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. I am sometimes eaten up with jealousy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I can think of no good reason for ever hitting a person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. At times, I feel I have gotten a raw deal out of life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. I have trouble controlling my temper.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. When frustrated, I let my irritation show.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. I sometimes feel that people are laughing at me behind my back.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. I often find myself disagreeing with people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. If somebody hits me, I hit back.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. I sometimes feel like a powder keg ready to explode.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Other people always seem to get the breaks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. There are people who pushed me so far that we came to blows.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. I know that "friends" talk about me behind my back.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. My friends say that I'm somewhat argumentative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Sometimes I fly off the handle for no good reason.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**Continued**

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29. I get into fights a little more than the average person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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