

## DEVELOPING A VALID AND STANDARDIZED TOOL FOR MEASURING THE LEVEL OF ROMANIANS' BIASES RELATED TO WOMEN'S FOOTBALL

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**Abstract:** *The aim of this paper is to develop, validate, and standardize a questionnaire designed to measure the level of manifestation of the main biases regarding Romanian women's football. A mixed-methodology approach, combining qualitative and quantitative methods, was employed to identify three preconceptions, which were subsequently transformed into the factors of the questionnaire. These factors were operationalized, and through a pretest phase, the goal was to achieve the best possible intrafactorial internal consistency ( $f1: \alpha = .91$ ;  $f2: \alpha = .93$ ;  $f3: \alpha = .94$ ). Finally, the degree of item comprehension was measured, and reliability was tested ( $t(12) = 0.63$ ,  $p = .54$ ).*

**Key words:** *women's football; biases; validation; standardization; measurement.*

### 1. Introduction

The Fédération Internationale de Football Association (FIFA) currently has 211 national federations as affiliated members. This places football at the forefront of the most-watched sports globally, with over 3.5 billion fans [22] — representing half of the world's population. This immense popularity means that the influence of football is considered not only at a social level but also in cultural, economic, and even political contexts [12].

#### 1.1. The Beginnings of women's football

For a long time, football was perceived as a sport reserved for men—considered too physically demanding to be played by women. These ideas were rooted in Victorian attitudes that strictly regulated activities deemed appropriate for each gender and social class [15].

Toward the end of the 19th century and the beginning of the 20th century, thanks to the efforts of feminist movements advocating for gender equality, women's football began to gain popularity. In Great Britain, the first recorded women's football match dates to 1880 [13], in Ireland to 1895 [9], and in Spain to 1914 [24].

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Gibbs [11] explains that the social acceptance of women's football has been marked by a series of peaks and troughs—manifested both through periods of growing interest, attracting large crowds, and through public criticism that sometimes even led to social disorder. The author also identifies a potential correlation between religious conservatism and the rejection of the idea that football is a sport that can be played by both boys and girls.

### **1.2. Women's football today**

The late 20th and early 21st centuries have seen a significant increase in the popularity of women's football. The 2015 FIFA Women's World Cup marked a turning point in terms of media exposure for the sport [20], with subsequent editions in 2019 and 2023 showing continuously growing figures. The Spain-England final, held at Stadium Australia in Sydney (20.08.2023), attracted an audience of 75,784 spectators [16].

This growing popularity of women's football is also reflected in the field of scientific research, where there is a noticeable demand for knowledge in this area. Kryger et al. [14] conducted a review aiming to analyse the evolution of specialized literature on women's football. The results indicated that 1997 marked the beginning of a significant increase in the number of studies related to women's football.

### **1.3. Challenges in women's football**

Despite the considerable growth of women's football on almost all fronts, there remains a significant gap compared to men's football. While it is true that

there is a growing body of research on women's football, the numbers are incomparable to those in men's football research. For example, the review conducted by Kryger et al. [10] shows that a PubMed search returned 587,269 studies related to men's football and only 4,393 focusing on women's football.

Clarkson et al. [5] identify a series of threats and uncertainties looming over women's football. One of these is the fact that, in most cases, women's football clubs are financially dependent on men's football clubs. This dependency means that during financial crises, such as the Covid-19 pandemic, funding for women's football clubs was reduced or completely halted.

However, perhaps the most significant challenge women's football has faced since its inception is the prevalence of preconceived ideas and gender stereotypes [4], [6], [17], [18], [19].

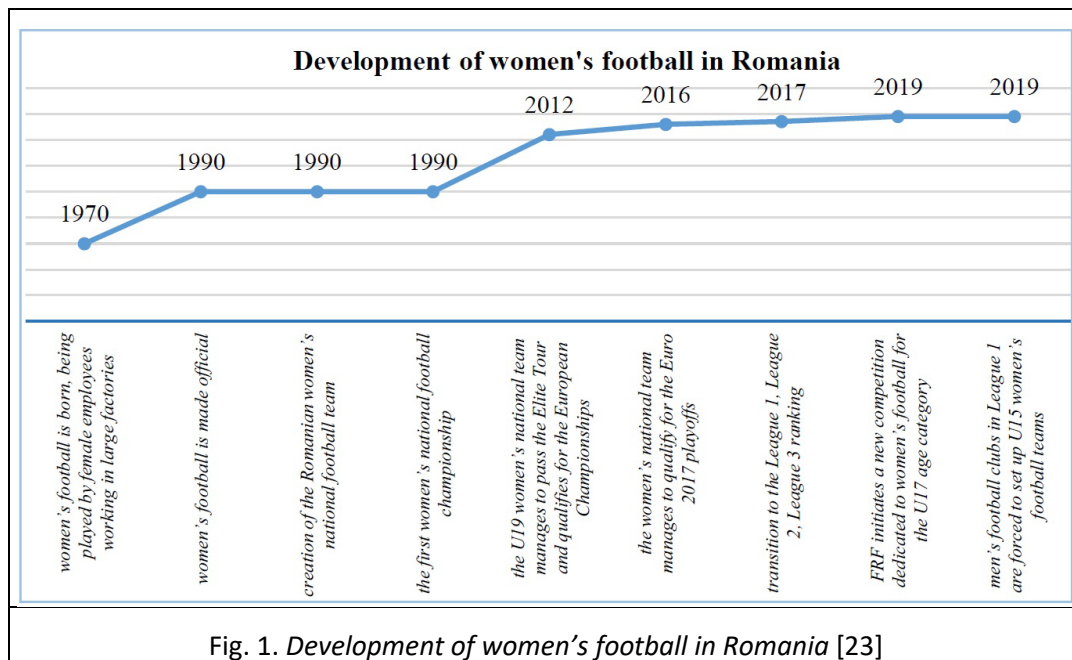
The degree and form of these stereotypes vary from country to country and from one extreme to another. For instance, in Israel, due to the restriction of women to traditional roles, those who play football are often blamed for the discrimination they face [21]. On the opposite end of the spectrum, in the United States, football (referred to as soccer) is the second most practiced sport among girls aged 10-15 [20].

Between these two extremes, there are numerous social challenges involving gender stereotypes related to women's football. Addressing these challenges requires an approach where these issues are first identified, followed by the design of interventions that promote democratic values such as freedom, inclusion, equity in resource distribution, the right to education, and gender equality.

#### 1.4. Women's football in Romania

In Romania, women's football is on an upward trajectory in terms of the

development of the phenomenon. Figure 1 illustrates this trajectory, highlighting the key milestones.



An important factor contributing to the development of women's football in Romania is represented by the actions of the Romanian Football Federation, which has developed a medium-term vision titled "Strategy for the Development of Romanian Women's Football 2021-2026" [10]. Within this vision, one of the most significant aspects has been the mandatory requirement for all clubs in the men's first league to include women's football teams in their academies. This measure has led to a significant increase in the number of girls playing football.

However, as seen internationally, the gap between men's and women's football remains equally large in Romania. Truşcă & Teodorescu [23] analysed the social context and the development of women's football in Romania. One of their

conclusions highlighted two forms of discrimination: low popularity and the lack of funding.

Romanian women's football has received very little attention from specialized researchers. This underscores the necessity of the present study.

#### 1.5. Research objective

This research aims first to identify the main biases regarding Romanian women's football and then to construct a valid instrument, in the form of a questionnaire, to measure the level of manifestation of these biases.

#### 2. Method

The first methodological step involved

identifying a convenience sample ( $n=15$ ) of women's football players in the first league in Romania. The inclusion criteria for participants were: (1) being a registered player at a club active in the first league of Romanian women's football; (2) having been registered for at least five years at a women's football club; and (3) expressing consent to participate in the study.

The women's football players were then subjected to an interview in which they were asked to freely respond to the question: "What were the main preconceptions you experienced from family and friends regarding your participation in women's football?"

Participants were encouraged to respond openly and share specific experiences. The responses were transcribed, and the content was analysed using the qualitative thematic analysis method [1], [2], [3]. This method involves a six-step approach (Figure 2), through which the main themes and their interrelationships are identified.

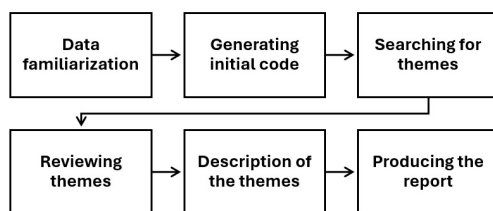


Figure 2. - Steps in Conducting Thematic Analysis [22]

The themes identified from the interviews were established as the factors of the questionnaire and were operationalized through five items each. For responses, a 10-point Likert scale was used — where 1 represents total disagreement and 10 represents total agreement.

After the first version (1.0) of the

questionnaire was constructed, a pretest was conducted on a convenience sample ( $n=30$ ) consisting of subjects aged 10-11 years. The reason for selecting this age group was to determine at what age these biases begin to emerge using the instrument.

Using the data collected during the pretest, the intrafactorial internal consistency of the instrument was measured using Cronbach's Alpha in the DATAtab Team platform [8]. An acceptable threshold of  $\alpha > .80$  was set, which, according to Darren & Mallery [24], signifies "good" intrafactorial internal consistency. Ideally,  $\alpha > .90$  is considered "excellent" internal consistency.

Following this stage, semi-structured interviews were conducted with 10 randomly selected subjects from the pretest group. The interviews were conducted by the author of this paper and aimed to identify any difficulties in understanding the items selected for inclusion in the questionnaire.

During the interviews, the following two questions were applied to each item in the questionnaire: (1) What does this question refer to?; and (2) What does the word X mean?

For each of the 10 subjects, the author assessed the level of understanding of the questions using a 6-point Likert scale scored from 0 to 5 points (Table 1). For this criterion, an average understanding level of at least 4.9 points per item was established as acceptable.

Assessing the level of understanding of the question Table 1

| Item no.4              | Football is a sport more suitable for boys than for girls. |   |  |  |  |   |
|------------------------|--|---|--|--|--|---|
|                        | 0 points   | 1 points  | 2 points                                       | 3 points   | 4 points   | 5 points  |
| Level of understanding | Failed to understand the question at all.                  | Understands only some words but not the question. | Understands all the words but not the meaning. | Understands the words, but the meaning is different from the intended one. | Partially understands the words but guesses the meaning. | Understands both the words and the meaning of the question. |

The final stage involved a reliability test. Using the test-retest method with a 14-day interval [25] on a convenience sample (n=30), a paired t-test was conducted to compare the differences between the mean scores for each item during the initial test and the retest. It should be noted that the 30 subjects used in this stage were different from those in the pretest phase.

### 3. Results

The sample of women's football players (n=15) interviewed in the first stage to identify the biases that were later transformed into the factors of the questionnaire had an average age of 25

years (SD=5.14) and an average of 9 years of experience (SD=3.09) as registered players at a women's football club.

After highlighting the so-called "data extracts" from the interviews, these were coded and then grouped into three main themes: (1) Football is not a sport that is suitable for girls; (2) Football has no benefits in girls' development; and (3) Women's football should not be encouraged to develop. Table 2 presents some examples of "data extracts" that led to the formation of each theme.

After identifying the themes, five items were formulated for each of the three themes (factors) to operationalize them.

The items included in version 1.0 of the questionnaire are presented in Table 3.

*Identification of Themes (Questionnaire Factors)*

Table 2

| <b>Theme no. 1</b><br>Football is not a sport that is suitable for girls;   | <b>Theme no. 2</b><br>Football has no benefits in girls' development;   | <b>Theme no. 3</b><br>Women's football should not be encouraged to develop;  |
|---|---|--|
| <b>Subject 3 – Her mother:</b><br><i>"...Football is a sport for ruffians."</i><br><br><b>Subject 11 – A friend:</b> <i>"A girl's place is not on the football field."</i><br><br><b>Subject 7 – Her father:</b> <i>"I better not catch you playing football again! What are you, a boy?"</i> | <b>Subject 2 – A classmate:</b><br><i>"Girls who play football turn into tomboys."</i><br><br><b>Subject 9 – Grandmother:</b><br><i>"Give up football, or no boy will ever want you."</i><br><br><b>Subject 6 – A friend:</b> <i>"Girls who play football lose their femininity."</i> | <b>All subjects reported being repeatedly told the phrase:</b><br><i>"Give up football and get back to the kitchen."</i><br><br><b>Subject 1 – A friend:</b> <i>"You can't expect women's football to be funded like men's football. There's no comparison."</i> |

*Version 1.0 of the Questionnaire*

Table 3

|            |  |
|------------|--|
| Theme No.1 | 1. It is just as normal for a girl to play football as it is for a boy.<br>2. I believe that girls who play football can be just as competitive as boys.<br>3. I think women's football is a sport in which girls can excel.<br>4. I believe that girls should not play football at a professional level.<br>5. Football is a sport more suitable for boys than for girls. (confirmation item) |
|------------|--|

|            |  |
|------------|--|
| Theme No.2 | 1. I believe that women's football is a sport that promotes self-confidence in girls.<br>2. Girls who play football risk losing their femininity.<br>3. Women's football can inspire girls to be more active and participate in sports.<br>4. Playing football can contribute to a positive self-image for girls.<br>5. Women's football contributes to the acceptance of diversity and inclusion in sports. |
| Theme No.3 | 1. I believe that girls should not be encouraged to play football.<br>2. Organizing women's football championships is a waste of resources.<br>3. I have attended or would like to attend a women's football match.<br>4. I would like to see more women's football teams at the school level.<br>5. I believe that promoting women's football in schools can change perceptions about girls in sports.      |

As presented in the methodology chapter, after the formulation of the items, they were pretested on a convenience sample ( $n=30$ ) consisting of 10-11-year-old subjects. Following the calculation of the Cronbach's Alpha coefficient, the following values were obtained: factor 1 ( $\alpha = .77$ ), factor 2 ( $\alpha = .93$ ), and factor 3 ( $\alpha = .85$ ).

Given that we had established a desired "good" intrafactorial internal consistency, which according to Darren & Mallery [24] implies  $\alpha > .80$ , we calculated the Cronbach's Alpha coefficient for each situation where any of the items would be removed. As a result of this action, item number 4 from factor 1 and item number 2 from factor 3 were removed. This led to the following values:  $\alpha = .91$  for factor 1,  $\alpha = .93$  for factor 2, and  $\alpha = .94$  for factor 3. These values fall within the category of "excellent" internal consistency ( $\alpha > .90$ ) [7].

The next stage involved a semi-structured interview aimed at assessing the level of understanding of the questions. In this stage, all 10 subjects demonstrated that they understood both all the words and the meaning of the 13 items of the questionnaire. In other words, all 13 items achieved the maximum score, with an average of 5 points out of a possible 5.

In the final stage, to evaluate the stability of the test, a paired t-test was conducted comparing the mean score of each item from the first administration with the mean score of the same item at the retest, after 14 days. The results indicated no significant difference between the two administrations,  $t(12) = 0.63$ ,  $p = .54$ ,  $M = 0.07$ ,  $SD = 0.42$ , 95% CI  $[-0.17, 0.31]$ . The effect size was very small ( $d = 0.06$ ), suggesting negligible variability between the two measurements.

These results indicate that the test produces similar scores on successive administrations, supporting its test-retest reliability. The lack of a significant difference between measurements suggests that the observed variations are minor and unsystematic, reinforcing the idea that the instrument is stable over time and can be used for repeated measurements without introducing significant errors.

#### 4. Conclusions and Future Implications

Starting from the need to explore Romanian women's football, this research designed and then conducted a scientific approach through which it developed, validated, and standardized an instrument in the form of a questionnaire to measure

the level of manifestation of three of the most common biases regarding Romanian women's football.

The utility of this instrument is particularly evident in the pre-intervention phase, prior to the design of any initiative aimed at influencing the development of this phenomenon: Romanian women's football.

### 5. Limitations of the Research

When discussing the process of validating and standardizing a questionnaire, the issue of scientific rigor is an ongoing one. From this perspective, we acknowledge that more rigorous methods could have been used at each stage of the development of this instrument, and even new methods could have been introduced. We consider this instrument to be a first step in the attempt to bring more knowledge to this field.

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