



# Qualitative Methodologies as a Vehicle for Understanding the Emotional Process in Soccer Players

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## ABSTRACT

A descriptive-exploratory investigation with pre-experimental design tried to answer the question *how sports performance in competition is influenced by emotions?* Two assessing instruments were built – Questionário Emoção e Desempenho Desportivo (QEDD, study 1) and Sistema de Observação do Desempenho Desportivo - (SODD -1, study 3). Interviews were used to identify the emotions' triggers and which sports performance factors were influenced by those emotions (study 2). Study 4 intended to answer the research question, with two football players. For both players different kinds of emotions were generated by the same trigger and by different triggers. For player 1, positive and negative emotions always had a functional effect in sports performance; for player 2, positive emotions had only a functional effect on sports performance, negative emotions had both effects in sports performance (functional and dysfunctional), and some of the studied emotions had no influence in sports performance.

**Keywords:** Emotion; Sports Performance; Triangulation of Methodologies, Instruments and Data.

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Lazarus (2000) writes an article entitled *How does emotion influence performance in competitive sport?*. Despite establishing a conceptual relationship between emotion, attention / concentration, motivation and sports performance, did not leave specific instruments of evaluation. The study was based on Lazarus's Relational-Cognitive-Motivational Emotional Theory (Lazarus 1991) that historically is one of the most used theories in Sports Psychology is closely linked to the behavioural-cognitive model and it is a theory of general scope, considering the emotional process as a whole.

To understand the relationship between emotions and sports performance, the following problem was formulated: *How do emotions influence competitive sports performance?*

It was analyzed the definitions and concepts related to emotion (Vallerand & Blanchard 2000; Arnold 1960; Carlson & Hatfield 1992; Ekman & Davidson 1994; Frijda 1986; Oatley & Jenkins 1996; Damásio 2003) like: emotion; humour; affection; temperament; feeling; emotional intelligence; perception of the emotional stimulus; experience of an emotion; expression of emotion. Although the definitions are considered according to the psychological orientations of the theorists and the emotions are a highly complex construct, they converge at a point where the emotional reaction is complex, involving a high level of activation and internal changes associated with strong feelings or affective states.

## **THEORETICAL FRAMEWORK**

According to Lazarus (1991), *emotion* is a psychophysiological reaction (subjective experience - often referred to as affect, impulses to act, physiological changes) to constant relations with the context, most of the time, but not always, interpersonal or social that results of their evaluation of the personal meaning (psychological intermediary in the emotions) for their well-being. In this definition it is emphasized that, there is only emotion if a relation is established and it is given a meaning to it; the emotional response aims the wellbeing of the person. We consider fifteen emotions (8 negative: anger, anxiety, fear, guilt, shame, sadness, envy and jealousy; 7 positive: happiness, hope, relief, gratitude, compulsion and love) identified by Lazarus (2000).

In order to study sports performance (SP), it was considered the *Optimal Performance State Model* (Palmi 1999) that highlights the concept of state, which results from the set of bio-psycho-social influences that affect the sportsman and determine his possibilities of success. When the sportsman is motivated, activated, concentrated, confident in his possibilities, competitive and in cohesion with the club-team, it is possible to observe the optimal psychological state of performance (Palmi 2007).

In the literature review, emerge terms such as: performance; sport productivity or motor performance. The *performance* is associated with a correct execution of the motor gesture, transmitting all the beauty and gracefulness of the movement. *Sport productivity* refers to productivity and output. *Sports performance*, which goes beyond the motor performance, considers the process and the result, i.e., considers the entire process of motor execution that begins in the mobilization of the resources of the individual, temporarily adjusted to each one of them which translates a certain degree of motor efficiency - efficiency, understood as the maximum of effectiveness with the minimum of effort - and, culminates in a result.

Although it is not necessary to formulate hypotheses in qualitative studies (Coutinho 2011), it was decided to consider the following hypotheses: H1: the trigger determines the type of emotion; H2: the type of emotion influence sports performance. These try to establish a line of action that culminates in a descriptive-exploratory investigation.

From the *main objective*, to study the influence of the emotion in the sports performance of football players in a real context of competition, *four operational objectives* were defined, each corresponding to a research study. The first three studies aimed to build instruments. *Study 1*, to construct and validate a questionnaire of evaluation of the emotions in training and competition situation, from the Theory of Lazarus. *Study 2*, identifying the stimulus that trigger emotion and the sports performance factors influenced by them, in training and competition. *Study 3*, to construct an observation system that allowed to evaluate the sports performance of defense soccer players - SODD-1. This article presents the main considerations in the construction of the instruments and main results, but here is not the space to develop them. It is with *Study 4*, that one tries to answer the problem, using also the triangulation of methods, instruments and data.

For *Study 1*, construction and validation of the *Questionário Emoção e Desempenho Desportivo* (QEDD - Emotion and Sports Performance Questionnaire), we analyzed 9 instruments used to measure emotion (Martins et al. 2013): 1. *State-Trait Anxiety Inventory* (STAI, Spielberger 1966; Spielberger et al. 1970); 2. *Competitive State Anxiety Inventory-2* (CSAI-2, Martens et al. 1990); 3. *Sport Anxiety Scale* (SAS, Smith et al. 1990); 4. *Affect Balance Scale* (ABS, Derogatis 1996); 5. *Emotional Intelligence Test* (MSCEIT, Mayer et al. 2002); 6. *Profile of Mood States* (POMS, McNair et al. 1971); 7. *Positive and Negative Affect Schedule* (PANAS, Watson & Tellegen 1985); 8. *Intensity Zones of Optimal Functioning* (IZOF, Hanin 2000); 9. *Sport Emotion Questionnaire* (SEQ, Jones et al. 2005).

Thus, from the 9 instruments considered above, the following limitations were identified. The instruments 1, 2 and 3 (STAI, CSAI-2 and SAS) evaluate only one emotion (anxiety). Instruments 4 and 5 (ABS and MSCEIT) are not specific for sport. POMS and PANAS, may not be adequate to capture the essence of the emotions experienced by competing athletes (Jones et al. 2005). Besides, not being specific to sport, they do not identify the behavioural tendency or the physiological responses; and in the exercise literature, instruments such as POMS, PANAS and STAI measure mood swings, but do not measure emotional response or emotion by themselves because, when they were created, they did not consider the triggering stimulus (Smith & Crabbe 2000). Instrument 8 (IZOF) it is specific for sport, already used in Portugal, but difficult to understand for young people and dependent on the meaning that each person attributes to the terms being evaluated. From the emotions studied here, it considers only the fear and the remaining affections studied are internal states that do not allow to distinguish the emotions. For example, the player may be tense because he is anxious, afraid or experiencing hope. Instrument 9 (SEQ) measures pre-competitive emotion; it measures only five emotions, not capturing the ideographic nature of emotions in sport; It does not correlate the emotions assessed with the athletes' performances; it does not identify the behavioural tendency or the physiological responses and it does not evaluate individual perceptions of physiological changes, because the items that characterize each of the five emotions blend.

The following factors were considered in the design and construction of the questionnaire: objectives to be addressed; assumptions; considering the relationship between the accuracy / reliability of the scales to be used and the results to be obtained and the validity; process of response; closed answers; format of the items; the instructions; graphic layout; extension of the questionnaire; response styles; translation.

The QEDD (Martins 2011): is specific to sport, applicable in training or in competition; identify the emotions experienced and their intensity; presents the definitions of each emotion, diminishing the subjectivity of the concepts; identify the direction of influence on sports performance and measure the intensity of that influence; identifies the effect of emotions on SP as to the degree of influence - negative and positive emotions can have both positive (functional) or negative (dysfunctional) effects on sports performance; not an expensive one; it is easy to understand for the sample, it does not imply nor its displacement to a laboratory nor a great amount of time; a systematic application, allows to establish *Individual Profile of the Relationship between Emotion and Sports performance*, that result from crossing the emotional profile with sports performance profile. The QEDD does not consider the trigger (antecedents) but consider, partially, the emotional response (i.e., considers only the direction and degree of influence of the emotion in the SP). As a way to overcome this limitation, it is

proposed to complement with interview to identify the emotion trigger, when they are felt as emotions (before, during or after SP) and what factors of the sports performance that are influenced. Emotions lived after a competition, it does not have a direct effect over them because they are a consequence and are not antecedents.

The statistical analysis of the QEDD performed from the *a Cronbach* (the minimum value obtained was 72% and the maximum was 90%) and the *item-item* and *total-item correlation* indicates that there is internal consistency. Therefore the measurement of the latent variable – emotion - is reliable, consistent and meaningful. It is valid since it is possible to draw inferences from the measurement of emotion by identifying the confidence intervals.

*Study 2* is an exploratory study, entitled *Emotion triggers in footballers and their influence on sports performance, training and competition* (Martins et al. 2010), whose objective was to identify, name and describe phenomena object of study (emotion triggers and SP factors influenced by the emotions experienced) in soccer players, in training and competition situations, being the sample constituted by sixteen senior soccer players. Data were collected from the implementation of the QEDD and interviews conducted during 30 competitions and 60 training sessions, of which 30 pre-competition and 30 training sessions after the competition. The interview was carried out after the questionnaire was applied. Each collection consisted of three interviews: after the training before the competition; after competition; after the first training after the competition. The script was partially structured and aimed to work on the themes: *emotions felt; when* the athlete felt the emotion; *emotion triggers; sports performance factors influenced by emotions; how he dealt with emotions; other* situations to be highlighted. The content analysis of the interviews occurred during the interview, during the transcription process, and later when it was read, identifying the registration units and their frequencies.

It was an exhaustive research, as 144 interviews were conducted with 16 players from all field positions. As a continuous process of data analysis based on the flow between the bibliographic review and the content analysis and oriented by the object of study; the questions considered in the script were debugged, focusing the presentation of the data in two questions: *what triggered the emotion in training and competition?; what factors of sports performance were influenced by emotions, in training and in competition?*. The first question generated 1114 registration units and the second, generated 909 registration units which were submitted to a panel of five accredited experts (qualification, experience, knowledge of football). From the analysis of this opinion, the degree of agreement was withdrawn, considering majority of opinions. When there was a tie, the researcher had a quality vote, being the criterion her high knowledge about the team and the players, considering that she followed the team since the pre-season, which was

presented in one hundred and thirty-six training sessions of a total of one hundred and forty-six and who was presented in all the days (thirty) of the championship. From the intersection of this information with the bibliographical references, the number of levels reached by the molar categories was identified. *Two Systems of Categories* were constructed, *one for the emotion triggers* and the other for the *sports performance factors* used to measure the SP as a process.

The data indicates that the stimuli trigger emotions (training and competition) that influence the resources mobilized by the players in the execution of a task / motor behaviour and, consequently, influence the SP. Specifically, they show that *sports performance* is the process of performing a task / motor behaviour that results from the mobilization of individual resources (psychological abilities - 49.34%, social skills - 8.97%, physical fitness - 5.47%, motor ability - 2.63%) in face of the constraints of the same. Occurs in three moments: before, during and after the task is executed. It culminates in a certain success result (positive effects - 11.71%) or failure (negative effects - 3.28%). It occurs in training and competition. However, this study did not allow to verify if the resources mobilized by the players occurred at the right moment, with the maximum efficiency and the minimum of effort, since it was not part of their objectives (Martins et al. 2010).

As for the evaluation of the sports performance, only the self-evaluation of the players was obtained. Being important the perceptions of the players, it was considered necessary to instill a greater objectivity in the work, which originated *Study 3* (Martins 2011). Thus, a tool, Sistema de Observação do Desempenho Desportivo (SODD-1), was developed to allow third parties to measure the sporting performance of soccer players, considering, in an integrated way, indicators related to the way the athlete mobilizes resources against the constraints of the motor task and the results obtained. The factor related to physical fitness was not considered because there are other means more accurate to its evaluation.

The observation centered on a football player, senior, central defense who integrated the team in a journey of the II National Division championship. The *observation* is *systemic, passive or exploratory* at an early and *active* at a later stage; it is *non-participant*; will be translated into *systematic records* of behaviours; includes *registration parameters* consisting of primary and secondary measures; involves the use of technological, computer and human *resources*; *will be indirect*, being partial the observer's degree of perception.

The *design of the observation* is: *idiographic* because it focuses on an individual; *follow-up* because it tracks the player's behaviour for a certain period of time; *multidimensional* because players have different

actions (interaction with the ball, interaction with the colleagues, interaction with the referee, interaction the with coach).

The design and construction of SODD-1 involved different tasks: *construction of categories* - inductive recategorization involving expert panels at four different times, two pilot observations intra and inter subject, and, in the possession of the final Categories System, data were extracted and reliability by consensus obtained; *observation manual* which objective is to guide and standardize the observation process, reducing the deviations resulting from the capture of the meanings of observed behaviours involving the identification of criteria and levels of categories, description of each of the criteria and observation conditions; a *registration tool* that corresponds to the Categories System, in which the registration unit is the means to identify the behaviours to be observed, recorded and then treated with Match Vision Studio Version 1; *metric data qualities* - validity and reliability by consensus, Cohen's Kappa.

### SODD-1 CONSTRUCTION PROCESS

The process of construction of the category system is based on the inductive recategorization that went through eight steps, as can be seen in table 01.

**Table 01.** Inductive recategorization steps

STEPS	INDUCTIVE RECATEGORIZATION
1 <sup>st</sup>	<ul style="list-style-type: none"> <li>• Construction of the category system 1 (SC1) based on the bibliographic review and the data resulting from the exploratory study.</li> <li>• SC1 is submitted to the opinion of <i>four</i> investigators and <i>two</i> coaches.</li> </ul>
2 <sup>nd</sup>	<ul style="list-style-type: none"> <li>• Reformulation of SC1, originating the system of categories 2 (SC2).</li> <li>• SC2 is submitted to the opinion of <i>two</i> soccer coaches, one of whom is the Technical Coordinator of the soccer teams of the different levels, of the district where the players that make up the study sample are included.</li> </ul>
3 <sup>rd</sup>	<ul style="list-style-type: none"> <li>• Reformulation of SC2, originating the system of categories 3 (SC3).</li> <li>• <i>Pilot observation</i> consisting of an intra and inter subject assessment, based on SC3.</li> </ul>
4 <sup>th</sup>	<ul style="list-style-type: none"> <li>• SC3 is <i>the subject of discussion with a coach</i>. In the technical aspects, no doubts arose; however, in view of the need to clarify some tactical aspects, it was decided to make a new observation, originating the category system 4 (SC4).</li> </ul>
5 <sup>th</sup>	<ul style="list-style-type: none"> <li>• SC4 submits to the <i>consideration of three experts</i> (a psychologist, a football specialist and an observation specialist).</li> <li>• Reformulation of SC4, originating the system of categories 5 (SC5)</li> </ul>
6 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Final category system.</li> </ul>
7 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Extraction of data from SODD-1.</li> </ul>
8 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Reliability by consensus with SC5.</li> </ul>

Source: The Author

In order to observe spontaneous behavior in a natural context for data collection, a video camera was used and later transferred to the computer using the observation program, *Match Vision Studio V1*.

The *recording protocol* of the journey was defined and *possible factors that conditioned* the recording were identified.

## OBSERVATION MANUAL

The manual *aims* to guide and standardize the observation process, reducing the deviations resulting from the capture of the meanings of observed behaviors. It is constituted by a set of guidelines regarding the criteria and the levels of categories of the spontaneous behaviors of the soccer players, defenses, elapsed in a competition context. The *design of observation* specifies: the conditions under which observation occurs; the criteria and their codes and description; the different levels of categories; the weighting of the criteria exhaustiveness and mutual exclusivity of the categories as well as deviations and reliability by consensus.

## REGISTRATION INSTRUMENTS (CATEGORY SYSTEM)

As a registration tool, the Category System will be used. The recording unit is the means by which the behaviors to be observed are identified.

Through SODD-1, from the number of actions (behaviours) observed it is intended to evaluate the sports performance regarding the process, considering three resources (technical-tactical ability, psychological factors, social factors), used by the athlete. These are evaluated as positive or negative. To ensure that *all observers* (who are trained) consider the same information, the behaviours must be judicious and thoroughly described. Table 02, is an *example* that, considers only the behaviour of *PERSISTENCE* as an indirect way of analyzing psychological factors. Thus, to observe if the player is motivated, is competitive and has a positive attitude in the field, it is considered the *behaviour of persisting* in the execution of an action that occurs when the player analyzes the relation between the movements of the opponents and the ball (PAdcB), only the opponent's movements (PAdsB) or only the movements of the ball (PBol).

**Table 02.** Illustrative registration tool - description of psychological categories (example)

CODE	DESCRIPTION
<b>PAdcB+</b>	The player observes (controls) the nearest opponent (adv.1) WITH ball possession. When the ball is sent to another opponent (adv.2), it follows the path of the ball to the opponent 2.
<b>PAdcB-</b>	The player observes (controls) the nearest opponent (adv.1) WITH ball possession. When the ball is sent to another opponent (adv.2), OR, does not move to follow the trajectory of the ball, OR, starts to move and stops the action voluntarily (it is considered only actions that the player can control).
<b>PAdsB+</b>	The player observes (controls) the nearest opponent (adv.1) WITHOUT possession of the ball. When he check that adv. 1 is going to receive the ball, he moves with him always.
<b>PAdsB-</b>	The player observes (controls) the nearest opponent (adv.1) WITHOUT possession of the ball. When he checks that adv.1 is getting the ball, OR, he does not move, does not follow him, OR, starts to move and stops the action voluntarily (it is considered only actions that the player can control).
<b>PBol+</b>	The player observes (controls) the ball. When the ball is within 2m or more distance, the player runs for the team to retain possession of the ball.

Source: The Author

The systematic recording of the logging units carried out in an Excel sheet of the observation program, *Match Vision Studio V1*, will allow to identify: at what minute of the game the behaviour

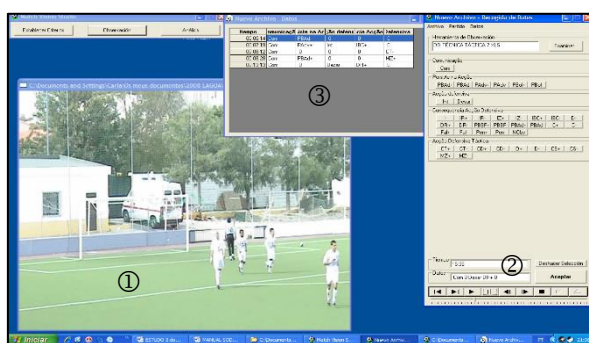


occurred; the temporal order of behaviour; the frequency with which the behaviours specified in the categories system occur; calculate the sporting performance of the soccer players.

The image to the right (Scheme 1) is from the program *Match Vision Studio V1* and integrates:

- ① the game to observe;
- ② Categories System;
- ③ excel sheet with records of observations.

**Scheme 01.** Match Vision Studio V1



Source: The Author

## METRIC QUALITIES OF THE DATA: RELIABILITY

One of the criteria to be met by the categories, in order to verify the metric qualities of the SODD-1 instrument, is reliability by consensus. For this reason, the *Cohen Kappa* index was used.

It was checked the degree of intra-observer agreement (Cohen's Kappa index = 0.9888, corresponding to a concordance equal to 99.12%) and inter-observer (Cohen Kappa index = 0.9773, corresponding to a concordance of 98.23%). However, it would need to be applied to a larger sample in order to complete its validation process.

Already in possession of the necessary instruments, QEDD, interview script and SODD-1, *Study 4* was carried out in order to identify the influence between emotion and SP of competitive senior soccer players.

## METHODOLOGY

### RESEARCH DESIGN

The design of Study 4 is characteristic of a pre-experimental investigation (table 03), of a single case, with two subjects. Although these research designs have less internal validity than the experimental methodologies, they have greater external validity, thus a greater level of generalization, since the sample coincides with the population to be studied (case study) and that there is greater knowledge of the situation studied (individually). Thus, it is each reader who, analyzing the study,

questions what it is that applies to his situation. For this generalization to occur, the careful description and interpretation of the phenomena to be studied is decisive (Thomas & Nelson 1996).

**Table 03.** Internal and external validity of pre-experimental and experimental designs

PRE-EXPERIMENTAL DESIGN, REAL CONTEXT	EXPERIMENTAL DESIGN, LABORATORIAL CONTEXT
<ul style="list-style-type: none"> <li>• Lower internal validity</li> <li>• Greater external validity</li> <li>• Greater number of variables and less control</li> </ul>	<ul style="list-style-type: none"> <li>• Greater internal validity</li> <li>• Lower external validity</li> <li>• Lower number of variables and greater control</li> </ul>

Source: The Author

Being an applied research that seeks to understand the athletes in their real and natural context, it was tried to blur the effects of a smaller internal validity (table 04).

**Table 04.** Measures adopted to eliminate the effects of a lesser internal validity

LOWER INTERNAL VALIDITY	HOW TO MINIMIZE THE LOWER INTERNAL VALIDITY
<b>1. Difficulty of expression of individuals</b>	a. Anticipation of possible meanings that they did not know b. Presence of the researcher to observe and calibrate behaviours and micro behaviours c. Opportunity to confirm possible interpretations of the researcher d. Provide an environment of trust e. To accept that there may always be something intangible by the researcher
<b>2. Occasionally they do not tell the truth</b>	a. Systematic content analysis b. Inevitability of not answering with truth c. Prolonged data collection d. Triangulation
<b>3. Lots of information and entangled</b>	a. Using different data collection tools b. Select the information to analyze c. Be careful about the conclusions
<b>4. Presence of the researcher</b>	a. Habituation of players to the presence of the researcher b. Involvement of players highlighting the importance and richness of their experiences for research c. Building an interpersonal relationship the less intrusive possible, but constructive and grounded in honesty. d. Researcher's attitude: flexibility; acts ecologically, with great prudence, honesty, consistency and rigor in the systematization and execution of the different stages of research; management of the risk of losing the sample, which was already small and the risk of losing some information.

Source: The Author

## SAMPLE

As a case study, the sample is equal to one plus one individual ( $N = 1 + 1$ ) and its selection was based on the following criteria: senior soccer player (age greater than or equal to 18); playing all the game. Both belong to the same team.

Player 1 (P1) is 24 years old and player 2 (P2) is 25 years old. Throughout the season they had a single professional activity - football. They stayed in an apart hotel. Both have the 10th year of schooling, are Portuguese and atheists. Both are central defense, they have always played 90 minutes and the goal of the group is to stay in the 2nd National Division B. The P1 has an 18 year sports career (SC), he is senior for the last 5 years and 6 years ago he got injured and he still resents it. His individual

goal is to reach out to a better club. P2 has a 16 year sports career (SC), he is senior for the last 6 years, he had no injuries and his individual goal is to play regularly and help the team to reach its goals. In the characterization of the competitors were also consider the family and professional/educational projects.

During 2 months data was collected from four journeys, each corresponding to a moment of data collection (1R, 2R, 3R and 4R). Two matches took place at the soccer field of the club and two were at the soccer field of the opposing teams. The first collection corresponded to the last game of the 1st phase of the championship. The remaining collections took place during the 2nd phase of the championship.

## INSTRUMENTS AND PROCEDURES

The instruments used to answer the problem are: Questionário Emoção e Desempenho Desportivo Questionnaire (QEDD); interview script; Sistema de Observação Deepesh Desportivo-1 (SODD-1). Table 05 shows the following points: objectives; duration; material; conditions of application / realization; protocol; analysis method; interpretation of the data.

**Table 05.** *Study 4* - instrument characterization, method of data analysis and interpretation (cont.)

CHARACTERIZATION	INSTRUMENTS		
	Emotional and Sports Performance Questionnaire (QEDD)	Interview	Sports Performance Observation System-1 (SODD-1)
<b>GOALS</b>	In competitive situations and in relation to emotions, identify: <ul style="list-style-type: none"> <li>• what are the feelings and their intensity;</li> <li>• when they are felt: before, during or after training or competition;</li> <li>• the influence or not (null) of the emotions in the direction (positive or negative) of sports performance;</li> <li>• player's perception of the influence of emotions on sports performance.</li> </ul>	Complement, confirm and / or rectify the responses given in the competition questionnaire. Analysis of the player's response process, allowing the investigator to confirm whether or not there were any doubts identifying incomplete and / or contradictory responses. Identify the importance of the game and the situations beneficial and / or harmful to the player's well-being	Evaluate, objectively and in a natural context, the sports performance of soccer players responsible for the defensive process, regarding the mobilization of three resources: technical-tactical ability (motor); psychological; social.  Allow the viewer to confirm their evaluation by reviewing the images.
<b>DURATION</b>	The <i>average</i> time is 15'. The subject may take the time he needs.	The average time is 15'. Minimum: 5'. Maximum 30'. The duration of the first interview is longer and depending on whether there are more collections per player, the duration of the interviews decreases.	The 1 <sup>st</sup> and the 2 <sup>nd</sup> parts of the game are recorded.
<b>MATERIAL</b>	Questionnaire. Pen. List of definitions to clarify doubts that can occur related with sports performance.	QEDD already answered List of definitions to clarify doubts that can occur related with sports performance.	Camcorder, battery, cables, tripod, extensions and point of electricity. Supplemental video camera and video cassettes.

		Interview guide. Audio recorder and batteries.	Personal computer, connecting cables camcorder-computer. Total Video Converter program: converts the MPEG extension to AVI. External hard drive. <i>Match Vision Studio V1</i> observation program. SODD-1. Researcher: responsible for recording the games. • Two observers.
<b>CONDITIONS OF APPLICATION</b>	Individual. Confidential. It is assisted, and the subject can put any doubts that he has. The place is private and comfortable.	Individual. Confidential. They were in the room of a restaurant (basement). It had good light, temperature and was warm, even the owners had organized a painting exhibition. We were not interrupted during the interviews. They also took place in a hotel lob, where some of the players lived, which met the necessary requirements.	Concerning the recording of the games: • duration: 90 minutes plus compensation; • player actions; • local, considering: the recording angle, weighing the dimensions of the field, the distance between the camera location, the position of the player and the position of the ball; the lighting conditions; proximity to a point of electricity; the public; • Camera women: acts in the sense of being the least intrusive possible.
<b>PROTOCOL</b>	<ol style="list-style-type: none"> <li>1. Distribute the questionnaire.</li> <li>2. Explain the purpose of the questionnaire.</li> <li>3. Clearly and objectively, alert the player to the following: <ul style="list-style-type: none"> <li>• scope and importance of the research;</li> <li>• player contribution;</li> <li>• read the settings before responding;</li> <li>• while responding, consult, where necessary, the list of definitions;</li> <li>• "Think carefully before you respond, be honest (there are no "right "or" wrong "answers, all of which are important and good because each person has your own opinion). Take the time you need, and it is essential that you clarify any doubts you may have. "</li> <li>• "Very important: whatever the doubt this should be put in order to standardize as much as possible the understanding of the definitions presented".</li> <li>• Emphasize that the investigator is always available to provide any clarification.</li> <li>• "If you make a mistake, cancel the answer by putting a circle on it".</li> </ul> </li> <li>4. Ask, "Did I explain myself well?"</li> <li>5. Questionnaire reply.</li> <li>6. Collect the questionnaires.</li> </ol>	<ol style="list-style-type: none"> <li>1. It occurs: <ul style="list-style-type: none"> <li>• before the first training of the week;</li> <li>• after the application of the questionnaire;</li> <li>• 4 picks per player. Each collection corresponds to a competition.</li> </ul> </li> <li>2. Individual;</li> <li>3. Recorded on an audio recorder with proper authorization;</li> <li>4. Confidentiality is guaranteed;</li> <li>5. The questions posed are based on the response given in the QEDD and the script.</li> </ol>	<ol style="list-style-type: none"> <li>1. Before initiating the official data collection, the researcher recorded training sessions and games of this team with two objectives: the subjects adapt to their presence; training the recording process.</li> <li>2. Before the game, do not contact any of the individuals, either by phone or in person.</li> <li>3. Arrive at the field where the journey would take place 30 to 40 'before its beginning, being the players already focused on the heating.</li> <li>4. Record the entire game from the starting whistle to the final whistle.</li> <li>5. Transfer the recording to the computer.</li> <li>6. Convert MPEG recordings to AVI.</li> <li>7. Observe, to evaluate, using the Categories system already validated and integrated in the observation program, Match Vision V1.</li> <li>8. Observe all the technical actions of each of the subjects and observe tactically throughout the 90 minutes of play.</li> <li>9. The researcher was present with the observer in order to provide any clarification regarding: the system of</li> </ol>

			categories to be used for observation; observation criteria; due to the recording conditions. 10. Observers were trained in the use of the observer program and the use of the Categories system.
<b>DESCRIPTIVE ANALYSIS METHOD</b>	Organization of data (the reconstitution of the phenomenon results from its in-depth analysis and leads to its appropriation): identification of the overall meaning of the text; identification of units of signification (raw data; meaning units - MU); development of MU content (central theme; language exploration); synthesizing all of the US. Reliable description of the data, that is, no superfluous data such as "concepts, reflections or deductions that are not descriptive in nature". There can be no interpretation of the data by the researcher. Enumeration of the data allowing later, to be compared, identifying links between them. Distinction between results directly related to the problem of complementary results.		
<b>INTERPRETATION</b>	It is concomitant with data collection. Occurs during interviews. After the contents of the interview were decoded and transcribed, the players were asked to read and rectify everything that did not correspond to the truth. The exploration of the associations between the variables is carried out according to the proposed conceptual framework. Description of the associations explored. Explain how these associations are articulated with the conceptual framework and other research work. The objective is the description among the variables without exploring the prediction or the causality of the variables. Triangulation: increases the reliability of data and conclusions.		

Source: The Author

## DATA PRESENTATION AND DISCUSSION

As a qualitative research it was sought to collect data in depth. This produced a significant amount of information. Thus, because one of the focuses of this article is the triangulation of methodologies, instruments and data, because the response to H1 consider only two instruments and because space limitation, this chapter will focus only on H2, which seeks to verify *if there is influence of the type of emotion and its intensity in the sports performance*. The triangulation in the presentation and discussion of data emerges from the QEDD (applied 4 times) that generates the Individual Profile of the Relationship between Emotion and Sports performance, allowing to identify the emotional pattern and the respective influences in the SP; of the interview script, the SP's resources / factors (psychological, social, technical-tactical, physical ability) influenced by presence or absence of emotions are identified; and, from the observation, the SP was evaluated according to the resources mobilized.

Of the two players making up the sample, only P2 mentioned emotions that negatively influenced SP. In this way, once again by limitation of space and high amount of data, it will be considered only the data of this player, from which triangulation will proceed.

From Table 06 it is possible to say that P2 experienced 83 emotions (28 negative and 55 positive) identified from the QEDD that, during the interviews, reported having influenced the SP, regarding the process. At the psychological level there were 47 competences (63.51%) that were

influenced, categorized in *will, motivation, confidence, concentration, attitude, concern* and *satisfaction*. At the social level there were 7 aspects (9.46%) that were influenced, categorized in *group climate, solidarity* and *communication*. Twenty technical-tactical skills (HTT; 27.03%) were identified, which were categorized into *interception, disarmament, recovery, containment, defensive coverage, zone marking, space control, individual marking* and *folding*.

Curiously, during *interviews* the athletes speak predominantly of psychological factors having a little significant reference regarding HTT. As opposed to the interview, the *observation* was the methodology that allowed to observe the greater number of behaviours related to HTT (664).

Because it is the only *observed* behaviour, to infer the psychological dimension, we will analyze the persistence in P2. Although during interviews he does not refer to this behaviour, he identifies a set of psychological factors that relate to persistence as motivation, confidence, concentration, attitude and will, allowing to say that he sought success, acting according to the goals.

**Table 06.** Mobilized resources - sports performance resource - by emotions, player 2 (cont.)

QEDD				INTERVIEW		OBSERVATION	
Emotions				SP Factors	Fr.	SP Factors	Fr.
Negatives	Fr.	Positives	Fr.				
Anxiety	2	Happiness Compassion Hope	1 1 1	Will	5		
Anxiety	2	Happiness Relief	2 1	Motivation	5		
Anxiety Fear Shame Sadness	3 1 1 1	Happiness Relief Hope	2 1 1	Confidence	10		
Anxiety Fear Shame Sadness	4 1 1 1	Happiness Relief Hope Compassion	1 1 2 1	Concentration	12		
Anxiety	1	Happiness Relief Hope	1 1 2	Attitude	5		
Anxiety Fear Guilt	3 1 1	Hope Compassion	1 1	Preoccupation	7		
		Happiness Relief	2 1	Satisfaction	3		
						Persistence	25
		Happiness Compassion	2 1	Group climate	3		
		Happiness Compassion	1 1	Solidarity	2		
		Happiness Hope	1 1	Communication	2	Communication	192
		Happiness Compassion	2 1	Interception	3	Interception	64
		Happiness Compassion	2 1	Disarm	3	Disarm	14
		Happiness	1	Recovery	1	Recovery	10*
		Happiness	1	Containment	2	Containment	23

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		Hope	1				
		Happiness	1	Defensive coverage	2	Defensive coverage	28
		Hope	1				
		Happiness	1	Zonal defending	1	Zonal defending	275
		Happiness	2	Space control	4	Space control	248
		Compassion	2				
Guilt	1	Happiness	1	Individual defending	3		
		Hope	1				
		Happiness	1	Fold	1	Fold	12
Anger	1	Pride	2	Feels but it doesn't	9		
Shame	1	Relief	1	influence SP			
Sadness	2	Love	2				
<b>28</b>		<b>55</b>		<b>Fr. = 74</b>		<b>Fr. = 881</b>	
<b>83</b>							

Source: The Author

\* Recovery is a consequence of an interception or a disarm, which means that the ten recoveries are already included in the values presented for these two individual techniques.

Attention / concentration is a psychological factor that can be related to technical-tactical ability. P2 is 25 years old, he is a senior and his sports career lasted for sixteen years. Since junior he always played as central defense, having also played as right side defender during the seasons of 2005/06 and 2006/07. This reflects his sport experience that contributed for his sports performance. It was found that in 689 actions (HTT and psychological capacity), 638 (92.6%) were evaluated positively by the observer, because the player executed them correctly and for that to happen, it means that the soccer player, when guiding its operation neurophysiological for the stimuli eventually activated the attention processes, allowing them to analyze them correctly, giving an adapted motor response (on the right time). However, in 51 actions (7.4%) there were motor responses that were inadequate to the situation, being one of the possible explanations for the difficulties and the process of attention / concentration.

Emotions contributed to the player seeking success (*will*) due to the reasons that led him to act in order to achieve the defined goals (*motivation*). Weinberg & Gould (1995) state that the *motivation for achievement* is the tendency to try very hard to achieve something, striving for success, persisting in failure, and experiencing pride in accomplishment. Effectively, P2 felt pride in the 1R. The end of the match unleashed pride because they got a draw, which assured them the maintenance in the Second National Division. The pride he felt in the 2R was triggered by *victory* and lived after the match finished, because they fulfilled the objective, guaranteeing the maintenance in the Second National Division.

The consistency of the data collected through interview and observation indicates that the attitude of P2 is characterized by the tendency to look for insistently on the achievement of the defined objectives, behaving in a motivated, activated, concentrated, confident, competitive and willing way. These behaviours indicate that P2 is persistent. However, it is necessary to carefully analyze the data resulting from the observation, since the totality of persistence behaviours evaluated to infer the

psychological capacity is low: 25 behaviours in 4 collections, in a total of 881 behaviours observed to evaluate the SP.

The only *social factor* of SP that can be compared, from the instruments used, is communication. The P2 indicates that only positive emotions influence this social capacity twice (1R and 2R), while, in the observation, it is evaluated in all the collections. This feature is evaluated positively by both the player and the observer. In an interview, the player adds that emotions also positively influence two other factors, *group climate* and *solidarity*.

Comparing interview data with observation, in the four collections, relative to P2, emotions influence *HTT* twenty times. Guilt negatively influenced *HTT* (individual defending), only once (2R). However, the player reports that the positive emotions influence *HTT* throughout the four collections, with a greater incidence in the tactical component. In this case, positive and negative emotions influence SP, both positive and negative. Also in the observation, the *HTT* is evaluated throughout the four collections, identifying all the defensive behaviours object of study. *HTT* is assessed positively and negatively by both the athlete and the observer.

Motivation, concentration, confidence, will, attitude, concern, satisfaction, competitiveness and persistence are concepts that are interconnected and that allow to characterize an athlete from the psychological point of view. Thus, when emotions influence these constructs, it means that they also influence SP, since they are one of the resources mobilized in the execution of a task or motor behaviour. Psychosocial factors such as group climate, cohesion, solidarity and communication are also added. All these factors are activated because it is necessary to perform a motor action. Thus, *HTT* and physical fitness (this has not been the subject of this research) are unavoidable activated.

The P2 felt negative emotions in all the gatherings, except for jealousy and envy, and felt positive emotions in all the gatherings, except for gratitude.

The P2, in the 1R, reports having felt *fear* with *intensity 8*, having been *triggered by the goal conceded* and evaluated it, considering the implications for his well-being, that is to say, the goal suffered and the fact that it happened soon in the first two, three minutes of the match triggered concern as it complicated the task of achieving the goal of victory or draw, which in turn would hamper the team's task of securing maintenance in the Second National Division. The fear arises when they think they can not change the result: “*That feeling of not achieving the goals. There are other things already. Not so much in tactical terms. It was more in that sense because it was very early, it was very early, it was soon two, three minutes of the match*”. Fear *negatively influenced his sporting performance*, specifically, psychological factors. The influence *was negative in terms of concentration, the confidence lowered and the concern increased*. He adds that fear interfered with



concentration levels *in those moments after the goal, so much that we had two or three more moments later, that we could have conceded again.* The player was only aware of this emotion when he answered the questionnaire. This analysis allows us to verify the interdependence between cognition, emotion and behaviour as Lazarus Theory point out.

P2, in the 1R, *before and during* the game felt *compassion* with *intensity 6*, having been triggered by *a colleague who played sick.* The P2 considered this situation as having positive implications for their well-being, because by sensitizing themselves to the suffering of the colleague wishing to help, was congruent with the objectives of competition, and the emotion influenced positively (+3) their SP. SP factors that have been influenced, *will* and *solidarity*, are related with the desire to help. Thus, it is natural that compassion had also a positive influenced on the *group climate* that was fueled by between-help behaviours.

## CONCLUSIONS

The methodology used sought to answer the research problem and its hypotheses. Qualitative and quantitative methodologies were used, which implied the use of the following instruments: QEDD; interview script; SODD-1. The triangulation of the data resulting from the application of these instruments allowed us to identify the stimuli that triggered the emotions and to understand in what way they influenced the sporting performance. The exploration and description of the phenomena inherent to the object of study, sports performance and emotion, according to the players' perception, substantiated by the observation data, framed the conclusions obtained.

The main results found for hypothesis 2, There is influence of emotion in sports performance are:

- in relation to the SP, a set of data was identified that allows characterizing the resources mobilized by the players in the performance of the task / motor behaviour, in terms of psychological abilities, social abilities and motor skill;
- it was verified that the psychological resources, activated by the emotions experienced, are the most used to obtain the sports success, according to the players' perception;
- the most activated psychological resources, according to the players are: persistence; motivation; attitude; will; confidence; concentration; satisfaction; concern;
- the observation of *persistence* behaviour seems to be a fact that can be used to infer the psychological state of the player regarding motivation, activation, attitude, will and competitiveness;

- the social resources activated were: communication; group climate; solidarity;
- with regard to motor skills, in the defensive process of football, skills relating to individual technique and tactics were activated;
- It was found not only that *the activation of the different SP resources triggered emotion* as a function of whether or not the objectives were achieved, influencing the SP, as the inverse situation, that is, the *positive and negative triggering emotions, influenced the SP* in terms of the degree and sense;
- Regarding the *sense of the influence of the emotion in the SP* (psychological, social and HTT), the following situations are identified: it feels emotion, positive and negative, and positively influences SP; feels emotion, positive and negative, and negatively influences SP; feels positive emotion and negatively influences SP; feels emotion, positive and negative, and does not influence SP;
- It was found that *emotions*, whether positive or negative, have a functional or dysfunctional effect on the soccer player's SP or that do not influence him.

The emotional system should be worked in articulation with the other resources, since it regulates everything that is developed from the technical-tactical point of view and the physical condition. If the individual is in peak performance, but if there is a change in the emotional system, the result of your SP is called into question. The opposite is also true, that is, the player may not be in peak performance and can exceed himself because he is psychologically well. Seasonable, at the emotional level, in the exploratory study (Martins et al. 2010), there is a player who refers: "*when you are well you run and do not get tired*" (flow state).

Because the individual interacts, there is a relationship between social factors and the emotional system. In sports, a typical example, are the *stars*. This social status triggers emotion which, in turn, interferes with the team's sports performance because the communication and motivation processes may be affected. It is the emotional-motivational-cognitive system that regulates the wellbeing of the person.

Although the associations between the variables are described and explained as these relations are articulated with the conceptual framework, H2 is not confirmed, *there is an influence of the emotion in the sports performance*, since it was verified that the emotions, regardless of whether they are positive or negative, have both a positive and a negative effect on SP. It is also observed that there are positive and negative emotions that were experienced by P2 but that did not influence SP.

Although hypothesis 2 was not confirmed, this investigation led to an understanding of the object of study and to the response of the research objective. It allowed to answer, partially, to the problem posed, *how the emotions influence the competitive sports performance*, by the light of the Relational-Cognitive-Motivational Emotional Theory of Lazarus (1991), since it were analyzed the antecedent variables regarding the intra-individual factors and situational variables, some of the mediating variables (cognitive activity: knowledge and evaluation) and short-term outcome variables.

The data highlights the importance of psychological factors and the instruments show that it is possible to objectify them. However, it must be kept in mind that the study of emotions is multifactorial. We identified some of the mediating variables of the emotional process referred to in the Theory of Lazarus (1991).

Considering that this theory is holistic and that it applies to the sport context, it would be useful to develop, in the future, research to study the remaining variables that constitute it, namely, the mediator (tendency for action and coping centered on the problem or emotion) and the long-term result.

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## Metodologias Qualitativas como Veículo para Compreensão do Processo Emocional em Futebolistas

### RESUMO

Uma investigação descritivo-exploratória com desenho pré-experimental procurou responder à questão *como é que o desempenho desportivo, em competição, é influenciado por emoções?* Foram construídos 2 instrumentos de avaliação - (QEDD, estudo 1) e Sistema de Observação do Desempenho Desportivo - (SODD -1, estudo 3). Realizaram-se entrevistas para identificar os desencadeadores de emoções e quais os fatores de desempenho desportivo que foram influenciados por essas emoções (estudo 2). O estudo 4 pretendia responder à questão de pesquisa, com dois jogadores de futebol. Para ambos os jogadores, diferentes tipos de emoções foram gerados pelo mesmo desencadeador e por desencadeadores diferentes. Para o jogador 1, as emoções positivas e negativas sempre tiveram um efeito funcional no desempenho desportivo; para o jogador 2, as emoções positivas tiveram apenas o efeito funcional no desempenho desportivo, as emoções negativas tiveram ambos efeitos no desempenho desportivo (funcional e disfuncional) e, algumas das emoções estudadas não influenciaram o desempenho desportivo.

**Palavras-Chave:** Emoção; Desempenho Desportivo; Triangulação de Metodologias, Instrumentos e Dados.

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