BARÇA
INNOVATION HUB
Universitas

PSYCHOLOGICAL PREVENTION TECHNIQUES

PSYCHOLOGICAL ASSESSMENT TECHNIQUES ADAPTED TO THE COACH

2.1 Techniques I

Introduction

With respect to professional strategies within the area of sports psychology, there are many highly successful techniques worth highlighting. Here we will be looking at instruments, and what these instruments are meant to measure and achieve. In all professional fields, assessments are a resource that provide information on indicators of processes that are carried out, and making the results of these processes clear.

In sports psychology, they are the athlete's behavioral manifestations (implicit and explicit), which are constantly being measured using a variety of assessment techniques depending on the variable to measured. In this case it cannot be summarized with a simple analysis. Rather the multiple interactions of the athlete within his environment, with other athletes and with the psychological variables are manifested as a product of said relationships and interactions. Comparisons may be made between interactions as the environment changes or is modified by a variable. For example, it is not the same to measure attention in an isolated manner as when there is a variety of stimulus which depends on people or different environments (opponents, the public, referees).

The relationship of the athlete to his environment, together with the other players he is engaging with and surrounded by, as well as the sport itself, his coach, and other influences, are all variables that impact the behaviors which shall be the basis for a psychological assessment.

In the professional sphere and in the field of research, data collection tools are converted in order to study and advance the discipline of sport.

2.1.1 Applications to the Field of Sports

To begin with, in order to carry out the assessment process in a sports environment, psychologists adopted and transferred techniques from the field of medical psychology. With the passage of time and advances in research into training, tools began to be developed for assessment, adapted from medical psychology to the needs observed in the sports field.

Authors such as Vealey (1992), have noted that the first assessment studies carried out by sports psychologists were focused on bringing together the data related to the characteristics and personality profiles of athletes and non-athletes. The intention is to identify personality characteristics and compare them with behaviors and the outcomes obtained.

Later, assessment progressed to the construction of specific tests for specific sporting situations and tools for observing the behavior of the athletes and their coaches. Given the complexity of sporting situations and their influence on context, the creation of sports-specific tools was inevitable.

The measurement tools are based on what is to be evaluated. In the case of sports psychology, cognitive indicators have been the most utilized. Said indicators do not permit the continuous measurement of all processes during the course of training and competition (Cruz and Capdevila, 1997), and thus, this process should be complemented by systemic behavioral observation.

The validity and reliability of the behavioral indicators in the sports environment depends on the chosen recording instruments, the capabilities of the observers, the dynamics utilized in the observation process and the quality of the instruments utilized to evaluate the most significant behavior. It is worth mentioning that the majority of the difficulties in assessment arise from the defective design of tests and their incorrect utilization.

The Application of Instruments

When choosing an instrument, it is fundamental to understand what exactly you want to measure. Secondly, the tool must have a high level of reliability.

Authors such as Buceta (1998) posit that assessments in sport should be applied not only to research into the athlete's psychological variables, but also to research into training processes and characteristics and their effects. In this sense, there arises the possibility of better understanding the context, as training presents variables of intensity, frequency and volume (quantity), which cause certain reactions and behavior in athletes who are interested in being evaluated.

When conducting psychological assessments, it is important to provide context to the coaches and the athletes regarding the content of said assessments for later assessments and recommendations.

The sports psychologist should have a sound understanding of the specific sport they are working in: the physical demands, psychological demands and the competitive characteristics and events of major and minor relevance during the sports calendar. The more that is known about the sports discipline under study, the better the instruments can be applied. The same thing is true regarding the athlete's environment, his peers, and the style of the coach who is in charge of the group.

As assessments begin to be utilized, the results of the same should be shared early on with the goal of fomenting credibility and confidence in the evaluative process.

With the goal of refining assessment techniques (Prieto and Muñiz, 2000) and giving these techniques a sense of practical application, a series of related recommendations to this goal are suggested:

- The assessments must be carried out by professionals who have been trained and educated for this purpose.
- Encourage the professionals who will apply assessment instruments to be properly trained and educated.
- Promote research in order to refine the types of testing and ensure that they are increasingly efficient.

It is important to emphasize the importance of collecting information from diverse sources. In this case, Jaenes and Caracuel (2006) propose types of interviews for parents, coaches and athletes. These same interviews should later be complemented by observations.

2.1.2 Psychological Variables

Interest in the psychological variables which influence sports training has generated the creation of evaluative tools which are becoming more and more specifically targeted. This has generated psychological tools which measure the athlete's personal characteristics (personality, interests, needs) as well as the influence of contextual factors (coach, victories-losses, etc.). Both factors are emphasized (the personal and the contextual) as they generate results through their interaction.

Given an athlete's dynamic behavioral characteristics, assessment tests must be governed by a range of criteria and sub scales. These tests must be multi-dimensional in the measurement of psychological factors. This offers the possibility of obtaining global information about the athletes related to

their conflicts or disorders, as well as partial, more specific information on possible imbalances.

Below there is a summary of different tests used for sports psychology, as assembled by Roffé in 1999. These tests demonstrate the variables to be measured and list the different instruments along with the respective authors.

Figure 1: a collection of tests applicable to sports psychology

Factor	Tests
Concentration	- Toulouse Concentration Test. - Attention Screening Exam. - Attention Screening Exam with numbers of different sizes. - Any of the above tests with loud, unwanted music.
Motivation	- Motivational construct. - Test of the 10 desires. - Incomplete Sentences test.
Attention	- Trail Making. - TAIS (Nideffer). - The Toulouse-Pieron Attention Test.
Anxiety	- Indicators of Tension and Anxiety (a questionnaire). - A pre-competition questionnaire (50 questions). - State-trait Anxiety Inventory (STAI). - ISRA (Inventory of Situations and Responses to Anxiety).
Projection	- Family Test. - Kinetic Family Test. - ORT (Object Relations Test). - Rorschach Test. - H.F.D. Test. - (Human Figure Drawing Test). - Boston Diagnostic Aphasia Examination (Complex Ideational Material). - The Bernstein Test.
Intelligence	- Raven. - Domino.

	- Weschler Test.
Personality	- The Eysenck Personality Inventory (EPI). - The MMPI Questionnaire. - The 16PF Personality Questionnaire. - The HTP Test. (House, Tree, Person).
Aggression	- The Butt Test (for aggression and sufficiency).
Memory	- The SKT Test. (Short-term memory and learning).
Self-Confidence	- Replacing Negative Thoughts with Positive Thoughts. - Test of perception of Sports Images.
Group Cohesion	- Sociogram. - Starter Team and Why? (Be a coach in 10 minutes). - Choose three to play/train/leave/study (leadership). - Group Sociogram Simile questionnaire. - Motogram (who passes the ball to who?).
Expectations	- Test for Planning of Objectives. - Prospective Test (where will you be in 1, 5, 10 and 20 years?).

Source: Adapted from Roffe, 1999.

Ostrow (1990), proposes a series of instruments where variables such as: aggression, attitude towards physical activity, body image, strategies or leadership can be measured.

Before we look in detail at the technical principles of psychological assessments as applied to sports training, it is important to clarify what are known as **indicators or modalities of responses**, based on the general characteristics of human behavior.

- Cognitive: aims to record issues related to the thoughts, feelings or expectations of athletes.
- Extreme behavior: the aim is to measure what the subject does or says.
- Psychophysiological: aims to measure physiological variables, heart rate, muscular tension, etc.

2.1.3 Assessment Techniques

The first techniques originated in 1920, when researchers focused their interest on the cognitive qualities of athletes. The objective was to discover the psychological differences between specialist athletes and potential athletes. Motor function, personality and intelligence tests were used.

Beginning with systematic observations, questionnaires, interviews, and self-assessment, the goal was to assess the qualities of high performance athletes to measure: vigor, intelligence, self-confidence, stability and emotional control, leadership capacity, etc. The overall intention was to intervene in training programs and improve athletic performance.

Below one of the research techniques most frequently used in the field of sports psychology is analyzed.

Observation

This method evolved over a number of years, transforming it into one of the principal resources in the collection of field data in sports psychology. Its application is so rigorous that it is adapted to the characteristics of the scientific method.

> "Observation, which may be asystematic and non-scientific, also includes, of course, the hierarchy of the scientific method and, as such, the capacity to describe and explain behavior, having obtained adequate and verifiable data relating to behavior, events and/or perfectly identified situations inserted into the theoretical context". Anguera (2002).

In order to define the concept of observation, the definition supplied by Anguera (2002) is used, which states: observation is part of the scientific method and pursues the quantification of spontaneous behavior which is manifested in unprepared environments. To carry out the quantification of said behaviors predetermined stages must be used. The objective is to pursue the resolution of problems related to the manifestation of a subject's behaviors in natural environments.

In this sense there are two issues: firstly, the conditions which the environments must offer in order to carry out the observations and, on

secondly, the importance of the observation to sports and psychological issues.

In terms of the basic elements needed in order to carry out an observation:

- Previous planning and set objectives: the objective should be within reach, if not, direction will be lost.
- Systemic application: here the plan for data collection should be laid out. What type of data is to be collected.
- It must be objective, valid and reliable: in this case it refers to reducing the number of errors in perception and codification of information. The quality of data is also a key factor and it must be reliable.

The importance in terms of improving sports-related and psychological issues:

- It makes it possible to collect objective data both in the game actions carried out in training and in competitions.
- It permits objective information with reference to the efficiency of the training models and the results obtained during competition.
- It offers objective information about the team's tactical approaches being studied during the game, as well as the opponent's approach, and their relationship to the results obtained.
- It makes it possible to qualitatively and quantitatively quantify the errors committed individually as well as by the team as a whole.
- It makes it possible to assess the efficiency of the starter team and to compare it with the substitutes (in the case of team sports).
- It makes it possible to quantify the victories or defeats obtained based on the environment where the competition took place and to correlate this with the reactions of the athletes.
- It makes it possible to record changes in the emotional states of the athlete in each one of the training sessions and the competitions, and in turn presents a list of variables as possible causes for the above-mentioned changes.

Observation also makes it possible to identify the efficiency or lack of efficiency of a change in the game model, the trainers or the context. In this sense it may be said that:

- Observation in the game systems: in this case the behavior is recorded during the trainings, the competitions and in the locker rooms, utilizing questionnaires as tools. Individual interviews and group discussions

also stimulate debate regarding changes in relation to the game models and to training. In this way, individual or collective resistance may be detected in relation to the changes which are being applied. All of the variables manifested for an athlete when changes in routine are suggested, are measurable as recorded observations.

- Self-assessment during the application of changes: in this case the athlete analyzes and manages the new challenges and attempts to solve them in a conscious manner. Observation here accomplishes the role of regulating changes to be managed by the athlete.
- Observation and decision-making: to evaluate the results of occurrences through the quantification of data, to proceed to decision-making on the basis of obtained results, the product of carrying out a determined game plan or training program. In addition, through recording, specific motor actions are identified which are shown to be efficient or inefficient and a decision is this made in respect to future motor responses.

Before going further, it is worth highlighting the difference between observation as a method and as a technique. In the first case, observation is utilized as a guide to investigation and in the second case, it is utilized as a method for data collection.

With respect to observation phases, they correspond to the phases of a research project. These are detailed below:

1) The formulation of a problem.
2) Planning of the observation.
3) Subject or subjects to be observed are chosen.
4) Data collection.
5) The data collected is analyzed.
6) Communicating the results of the analysis.

In the area of training, and in terms of playing sports (above all in the case of team sports), the observations carried out by sports psychologists and coaches play a leading role, through follow-up and monitoring of the training plans. This process should be carried out through the analysis of training sessions and competitions.

The Units of Observation:

Refers to how data is collected.

Events or states: events refer to a specific moment of behavior, a concrete action (for example: throwing) and states refer to sustained behaviors (for example: defensive strategy).

Momentary events or events of longer duration: the former refers to the observation of only one event related to the behavior in a time interval. The latter refers to an observation over a longer period in order to record all possible information related to a behavior.

Continuous or intermittent recording: in the former, the manifestation of the behavior or action is observed for as long as they last. In the latter, determined actions or behaviors are observed which are only recorded in the moment in which they occur.

Different types of observation are utilized depending upon the quality of the data which is being managed and the objectives for this specific data.

Observation Bias:

Variables may intervene such as: the population of subjects to be observed (children, adults, etc.), the type of participation of the observer, the type of responses observed (group or individual), the duration of the session being observed and the style of recording.

Reciprocal Interaction: in this case the subject who is being observed is not acting spontaneously and this in turn affects the observer. It may be due to the subject feeling like he is the protagonist due to the fact he is being recorded. At this point you may observe patterns as a result of this phenomenon, these patterns may be technical issues that can be observed.

Self Responsiveness: when one records his or her own behavior. The athlete is asked to record herself when she acts or thinks in a specific way and, through the recording of this, modifies her own behavior.

Observer Bias

- The observer may divert the focus of information being collected as her presence affects the spontaneity of the behavior being observed.
- Errors at the time of collecting the data, the product of poor data collection techniques and poor methodology. Errors in this case do not provoke a reaction in the subject being observed.

- These kind of errors generate expectations and record actions which have not been manifested nor observed. This may occur because of the observer's ample prior knowledge or because she desires specific outcomes.

Data Recording

Recording begins once the observer collects and classifies information related to behavior or actions.

Types of descriptions: this refers to *topographical* and *functional* descriptions. The first group of descriptions refers in the most part to the recording of motor skills. It is argued that the second type, functional descriptions, are more important because they offer more information and imply a more active role on the part of the observer.

Martin and Bateson (1986) posited three description styles:

Structural: concrete patterns of a specific behavior, the subject's appearance or their physical fitness.

Based on consequences: the result of the subject's behavior in the context which is being observed.

Subject and surroundings: in this case the subject's behavior is not described, but rather the place where the behavior is manifested and the people around her.

Types of Recording

Non-systematic recording: when data is recorded in the moments prior to the research when there is still not enough information. In this case, recording may be narrative and descriptive.

- Narrative: refer to descriptions with scarce information of the events using a narrative style or unstructured writing style. This is observation in the exploratory stage, where basic information is provided, which is of the utmost importance. For example:
- Descriptive recording: the next step following the narrative. Building upon the structure of the observation, the language utilized is more specific. In this case the recording is superior in quality in comparison to the narrative recording.

Partial systematic recordings: relates to recording in a structured fashion in order to not lose information about the observed behavior. These recordings can be divided as follows:

- Semi-systematic: useful for new observers as it is based on an evolution of recordings, from poorly systematized to semi-systematized and, finally, systematized. Where a later comparison results in a clear focus in the data collection. With a minimum amount of information one is able to describe the global behavior or the actions of the subjects.
- Checklists: diagrams are developed to check manifestations or not of certain behaviors or events.
- Scale: observations are quantified as they are carried out. Values from 1 to 10 can be assigned. For example: an athlete kicks a ball towards the goal: always, often, sometimes, never.

Systematized records: in this case it is the transformation of the previous records once passed through further information or net data.

Observer Training

Refers to the observer's observational capabilities acquired through training. The observer must acquire a series of methodological tools in order to carry out observations in an efficient way. Regardless of the individual differences and the perceptive or descriptive capabilities which some people may have, observers must engage in a series of methodological trainings. In addition to observer-related skills, non-verbal communication and social skills in order to relate to others is important.

Data Quality

The data recorded must follow a series of requirements for the work to be considered important. These are: consistency, reliability and validity.

The Interview

The interview is one of the processes that the sports psychologist carries out. As such, this process should only be carried out by the sports psychologist, as they have been academically trained in this area. Within this process, which can be implemented in a sports season with its respective stages (pre-during and post competitions), the interview is carried out. In this case, the

psychologist plays the role of observer and student of the sport in question, since the more tools and knowledge they have, the better they can direct their interviews. It can be said that the subject who is interviewed fulfills more of a role of a collaborator who accompanies the psychologist than as a patient to be attended to who passively waits for a solution. This is to say that the subject (athlete, trainer, etc.), collaborates with the psychologist in order to discover how to improve his psychological abilities and to his performance.

> "The interview with the person who we want to evaluate is a priceless opportunity for the sports psychologist, as it usually reveals the most significant elements influencing sports behavior. The interview should capture all of the elements that we consider to be essential to our intervention" Dosil (2004).

The interview is a method utilized to collect qualitative data applicable to the sports environment. This method helps the psychologist to make diagnoses, get to know the subject and plan goals.

Interview Characteristics

This qualitative or non-traditional method does not seek to measure, but rather to qualify and describe social phenomena. The psychologist creates an intimacy between the subject and themselves, which facilitates them getting to know the subject and their characteristics. The interview is considered to be an excellent tool for qualitative research. The objective is the same: the acquisition of information.

There are many different types of interviews. We will only describe a few here, which can be applied to the sports environment.

Interviews can be conducted via different mediums:

- In person
- Telephone
- Questionnaire

Bleger (1971) posited that psychological interviews may be defined in the following fashion:

- Directed: the order of the questions is previously planned. There is an attempt to orientate the answers towards the required information.

- Free: from psychoanalysis. In this case the subject to be interviewed directs the flow of the interview. The interviewer only intervenes with broad questions and does not restrict how they are answered.
- Semi-directed: this is the model most commonly used by sports psychologists and combines elements of free and directed interviews. It is recommended that interviews start with directed questions, to obtain clear data on the subject. The interview then shifts to a freer style, where the subject discusses their concerns and talks at depth on certain issues. Celener (2006) suggests that in some cases interviews can spiral, as the replies generate further questions.

2.1.4 The Sports Psychologist and Their Model for Intervention

Over time, the field of sports psychology has generated models for intervention through interviews with athletes, which have become a main instrument. Drawing upon the experience and the characteristics of the subject, the psychologist should progress by adapting to the interests of the subject so that over time they may more profoundly discuss more personal issues. The psychologist needs to find the point where each subject feels comfortable speaking and from there build a connection.

The interviews do not occur in a casual way, they are previously agreed upon by all parties. The psychologist sets the roles, the time and the place. The subject decides on the content of the interview. The psychologist should only use certain mediating variables to guide the interview. These variables give structure to the interview and serve as a guide. The psychologist should use a framework to guide the interview process, which allows the subject to speak without being manipulated into certain answers.

There are multiple variables for the psychologist to keep in mind so that the interviews accomplish their goals:

- Adapt to the developmental age of the subject.
- Ask concrete questions in a clear voice.
- Adapt the questions to the subject's education level.
- Ask questions in a natural way. The subject interviewed should be comfortable while speaking.

If the psychologist does not have a sound understanding of the sport in question, a large amount of the information in the interview will be lost. Cultural issues related to the sport (rules, customs, relationships, etc.) should

be considered. Speaking knowledgeably in interview situations generates greater confidence in the subject being interviewed.

The interview process may be divided into three stages:

Initial Stage

This is the stage during which the largest quantity of possible information may be acquired in relation to the subject, the environment and the sport. The interview is conducted in an exploratory style as this is the first contact with the subject being interviewed.

The interview is orientated by four pillars:

- **The environment:** personal connections – level of education obtained or the type of work engaged in – economic resources – personal use of time – daily hours of sleep – nutritional habits.
- Lifestyle habits: distribution of personal time – daily hours of sleep – nutritional habits.
- Sports history and current situation: when sports activity first began – sports practiced – victories and defeats - goals and objectives to be accomplished – connection to the coach – history of injuries – relationship to competition.
- Non-verbal behavior: observation of posture, appearance, intelligence and type of communication.

Process

Once psychological planning for development during the season has been completed, the psychologist should corroborate (together with the athlete) if the objectives have been duly met. This monitoring should serve to verify that the planning has been adjusted to reflect what has been accomplished. If this is not the case, whether or not some or the variables should still be worked on will need to be revised.

The interview space should be utilized to simultaneously serve two purposes, for the interview itself and also to work on some of the psychological variables such as: self-confidence, motivation, breathing, relaxation, etc.

Conclusion

Finally, the achievements are measured against the interventions. This is done through numerical data (number of wins) and data taken on the feelings of the subjects based on the performance achieved, whether positive or negative.

The psychologist and the athlete will discuss the athlete's performance throughout the season. In this way, the interview offers a reflective moment and an opportunity to exchange opinions in order to construct a basis for the future.

It should be made clear that the subject is to be seen primarily as a human being, with a history, emotions, friendships, a family, etc. He is not a machine nor an object of study. He should be viewed as a person to get to know through this interview method.

Canton (2010), sets forth in a table a list of characteristics that psychologists need to consider for first interviews.

Figure 2: The initial interview

Empathize	Personal image The use of language - reinforcement - extinction	The use of eye contact, smiling, facial expressions, active listening, posture, distance, non-verbal communication
Obtaining information	The origin of the athlete/subject's goals in the areas to be improved; Previous approaches to the problem; Suggestions for tasks;	Open questions and paraphrasing; Using silence; Explaining and giving examples
Sharing information and regulating expectations	Defining the role of the sports psychologist; Methods of working together; Formal details;	Agreeing on language; Using examples; Requesting feedback; Answering questions clearly.

Source: Canton (2010).

In this way, the interview becomes the most important tool for building a relationship between the psychologist and the subject. To the extent that the interviewer masters the processes for managing interviews, the relationship with the subject will be more or less profound. It is important to demonstrate security and confidence in each intervention with the purpose of offering a

space which is comfortable for the subject being interviewed. It is important to consider how to make a personal connection with the athlete in order to establish a basis for trust throughout the entire process and throughout the length of the season.