

# HANDBOOK OF SPORT PSYCHOLOGY

THIRD EDITION

Edited by

GERSHON TENENBAUM AND ROBERT C. EKLUND



John Wiley & Sons, Inc.



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SPORT PSYCHOLOGY**



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*To Hony, my wife, the best partner  
I could have wished to share my life with, and to  
Ravid, Noam, and Sharon, my children, who bring me pride and joy.*

—GERSHON TENENBAUM

*To my sons, Garth (5 years) and Kieran (3 years), who generously volunteered to  
write chapters so that we'd be able to go play sooner, and  
my wife, Colleen, who nurtures and supports "play" for the whole Eklund family.*

—ROBERT C. EKLUND

**In memory of  
Hony M. Tenenbaum  
September 26, 1954 – July 25, 2006**





# Contents

**Foreword** xi

*Robert Singer*

**Contributors** xiii

**Reviewers** xix

## **PART I MOTIVATION, EMOTION, AND PSYCHOPHYSIOLOGY**

- 1 | **Understanding the Dynamics of Motivation in Sport and Physical Activity:  
An Achievement Goal Interpretation** 3  
*Glyn C. Roberts, Darren C. Treasure, and David E. Conroy*
- 2 | **Emotions in Sport: Current Issues and Perspectives** 31  
*Yuri L. Hanin*
- 3 | **Intrinsic and Extrinsic Motivation in Sport and Physical Activity: A Review and a  
Look at the Future** 59  
*Robert J. Vallerand*
- 4 | **The Psychology of Superior Sport Performance: A Cognitive and Affective  
Neuroscience Perspective** 84  
*Bradley D. Hatfield and Scott E. Kerick*

## **PART II SOCIAL PERSPECTIVES**

- 5 | **Leadership in Sports** 113  
*Packianathan Chelladurai*
- 6 | **Who Cares What Other People Think? Self-Presentation in Exercise and Sport** 136  
*Kathleen A. Martin Ginis, Magnus Lindwall, and Harry Prapavessis*

## **PART III SPORT EXPERTISE**

- 7 | **Methodological Review and Evaluation of Research in Expert Performance in Sport** 161  
*Nicola J. Hodges, Raoul Huys, and Janet L. Starkes*
- 8 | **Practice and Play in the Development of Sport Expertise** 184  
*Jean Côté, Joseph Baker, and Bruce Abernethy*

- 9 | **Anticipation and Decision Making: Exploring New Horizons** 203  
*A. Mark Williams and Paul Ward*
- 10 | **Degenerate Brains, Indeterminate Behavior, and Representative Tasks: Implications for Experimental Design in Sport Psychology Research** 224  
*Keith Davids, Duarte Araújo, Chris Button, and Ian Renshaw*
- 11 | **Attentional Processes in Skill Learning and Expert Performance** 245  
*Bruce Abernethy, Jonathon P. Maxwell, Richard S. W. Masters, John van der Kamp, and Robin C. Jackson*
- 12 | **A Social-Cognitive Perspective on Team Functioning in Sport** 264  
*David W. Eccles and Gershon Tenenbaum*

#### **PART IV INTERVENTIONS AND PERFORMANCE ENHANCEMENT**

- 13 | **Mental Skills Training in Sport** 287  
*Robin S. Vealey*
- 14 | **Sport Psychology: A Clinician's Perspective** 310  
*Robert D. Stainback, James C. Moncier III, and Robert E. Taylor*
- 15 | **Action-Theory Approach to Applied Sport Psychology** 332  
*Thomas Schack and Dieter Hackfort*
- 16 | **Eating Disorders in Sport: From Theory to Research to Intervention** 352  
*Trent A. Petrie and Christy A. Greenleaf*
- 17 | **Psychosocial Antecedents of Sport Injury and Interventions for Risk Reduction** 379  
*Jean M. Williams and Mark B. Andersen*
- 18 | **Psychology of Sport Injury Rehabilitation** 404  
*Britton W. Brewer*
- 19 | **Why Do Athletes Choke under Pressure?** 425  
*Sian L. Beilock and Rob Gray*
- 20 | **Preparatory Routines in Self-Paced Events: Do They Benefit the Skilled Athletes? Can They Help the Beginners?** 445  
*Ronnie Lidor*

#### **PART V EXERCISE AND HEALTH PSYCHOLOGY**

- 21 | **Physical Activity and Mental Health** 469  
*Daniel M. Landers and Shawn M. Arent*
- 22 | **Physical Activity and Three Dimensions of Psychological Functioning in Advanced Age: Cognition, Affect, and Self-Perception** 492  
*Yael Netz*

- 23 | **Exercise Adherence 509**  
*Janet Buckworth and Rodney K. Dishman*
- 24 | **Theoretical Frameworks in Exercise Psychology 537**  
*Stuart J. H. Biddle, Martin S. Hagger, Nikos L. D. Chatzisarantis, and Sonia Lippke*
- 25 | **A Social-Cognitive Perspective of Perceived and Sustained Effort 560**  
*Gershon Tenenbaum and Jasmin C. Hutchinson*
- 26 | **Exercise and Psychosocial Issues for Cancer Survivors 578**  
*Kerry S. Courneya, Clare Stevinson, and Jeffrey K. H. Vallance*
- 27 | **Physical Activity and Quality of Life: Key Considerations 598**  
*Bonnie G. Berger and David A. Tobar*
- 28 | **Athlete Burnout 621**  
*Robert C. Eklund and Scott L. Cresswell*

## PART VI LIFE SPAN DEVELOPMENT

- 29 | **A Life Span Developmental Approach to Studying Sport and Exercise Behavior 645**  
*Diane E. Whaley*
- 30 | **Advances in Sport Morality Research 662**  
*David Light Shields and Brenda Light Bredemeier*
- 31 | **Family Influences on Children's Sport and Physical Activity Participation, Behavior, and Psychosocial Responses 685**  
*Thelma S. Horn and Jocelyn L. Horn*
- 32 | **Career Transitions and Career Termination 712**  
*Dorothee Alfermann and Natalia Stambulova*

## PART VII MEASUREMENT AND METHODOLOGICAL ISSUES

- 33 | **New Perspectives on Measurement and Testing in Sport Psychology 737**  
*Bernd Strauss, Dirk Büsch, and Gershon Tenenbaum*
- 34 | **Measurement in Sport and Exercise Psychology: A New Outlook on Selected Issues of Reliability and Validity 757**  
*Gershon Tenenbaum, Akihito Kamata, and Kentaro Hayashi*
- 35 | **Application of Confirmatory Factor Analysis and Structural Equation Modeling in Sport and Exercise Psychology 774**  
*Herbert W. Marsh*
- 36 | **From Self-Efficacy to Collective Efficacy in Sport: Transitional Methodological Issues 799**  
*Nicholas D. Myers and Deborah L. Feltz*

**PART VIII SPECIAL TOPICS**

**37** | **Gender and Cultural Diversity 823**  
*Diane L. Gill*

**38** | **Athletes with Disabilities 845**  
*Stephanie J. Hanrahan*

**39** | **Alcohol and Drug Use among Athletes: Prevalence, Etiology, and Interventions 859**  
*Matthew P. Martens, Kristen Dams-O'Connor, and Jason R. Kilmer*

**Afterword 879**  
*Robert C. Eklund and Gershon Tenenbaum*

**Author Index 881**

**Subject Index 917**

## Foreword

ROBERT SINGER

It certainly is gratifying and exciting for me, as coeditor of the two previous editions of this *Handbook* (i.e., Singer, Murphy, & Tennant, 1993; Singer, Hausenblas, & Janelle, 2001), to realize the impact this type of resource book has had on the field of sport psychology in general, and on so many individuals around the world. These include students, educators, and psychologists, oriented primarily as scholars or as practitioners. Because of this enormous success, the *Handbook* is now being updated and published in the third edition. The two previous editions were successful, and no doubt the present edition will be of even greater significance.

Such expectations can be attributed to a variety of factors. Editors Gershon Tenenbaum and Bob Eklund are very experienced and well-known internationally among sport psychologists for their scientific and professional contributions, and both are highly motivated and organized in their work. They possess a comprehensive understanding of the vast subject matter and recognize the variety of topics and themes associated with the area. The magnitude of the coverage of issues of topical interest in sport psychology, as well as the reputations of the authors contributing to this compendium, reflect the effort made by these editors to produce an outstanding volume. A tremendous increase in research and scholarly activities has been seen in recent decades. Likewise, more students are studying sport psychology to become counselors, clinicians, or sport scientists who work directly with athletes to aid them in the learning mastery of skills and performance enhancement. Then there are also those who will become educators and teach the subject matter of sport psychology. All of these observations generate a need to update the *Handbook* more frequently. The *Handbook* serves not only as a timely overview

of recent developments, but also as a stimulus for further scholarly productivity and improved teaching and clinical applications. Better coaching and athletic performance should also occur.

Previous editions of the *Handbook* have tended to continue certain topics, omit others, and include new ones. Editors have a difficult role to play in the decision process on this account. In my opinion, Tenenbaum and Eklund have made wise decisions in their choices for inclusion in this edition—and ones that, I believe, reflect their understanding of and sensitivity to trends in scholarly interests in and impact on sport psychology. A very broad interpretation of the dimensions of sport psychology could lead to a gigantic book. Fortunately, the present editors have shown restraint and good judgment while providing a great variety of diversified contemporary topics. The authors have done an outstanding job in their coverage of assigned topics as well as presentation style. Much research is synthesized, organized, and presented in an excellent manner to challenge and inform and yet hold the reader's interest.

This book cannot be digested by merely scanning the pages. It is meant for the person who is serious about becoming more informed on many selected topics related to sport psychology and who wants to be challenged and stimulated by the scholarly and scientific nature of the field. Every theme may not interest the reader, at least in a first glance at the table of contents. Sometimes, however, following up on themes of less initial interest can be transformative in terms of expanded knowledge and appreciation of contributions in the area. In fact, further research may, serendipitously, be the result of these forays. With all my travels to other countries, I have been continually

amazed to see copies of the previous *Handbooks* in the offices of dedicated sport psychologists. No doubt, the same will be true about this edition.

Finally, I appreciate the opportunity to write the Foreword for a book that means so much to me. The *Handbook of Sport Psychology* has been, and will continue to be, a gold standard resource book due to its intellectual content, breadth of topics, excellence of contributors, timeliness of topic coverage, and contributions to sport psychology and

sport psychologists. I felt very challenged in attempting to design the framework of the first two *Handbooks*. I am very grateful to my coeditors and the many authors (good friends of mine) who made those volumes a success. No doubt, current editors Tenenbaum and Eklund feel equally proud, and rightfully so, of being able to put everything together in expert fashion to realize the production of a very significant publication that will touch the professional lives of many individuals in the future.

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PART I

**Motivation, Emotion,  
and Psychophysiology**



## CHAPTER 1

# *Understanding the Dynamics of Motivation in Sport and Physical Activity*

## An Achievement Goal Interpretation

GLYN C. ROBERTS, DARREN C. TREASURE, and DAVID E. CONROY

Understanding and enhancing motivation is one of the most popular areas of research in psychology, as well as sport and exercise psychology. In psychology and sport psychology, this research has primarily addressed the role of motivation in individual lives, especially when addressing motivation in achievement contexts. Motivation has usually taken the form of managing the motivation of others, which is often the concern of the parent, the teacher, or the coach, or of managing one's own motivation.

It has been argued (e.g., Roberts, 2001) that the term *motivation* is overused and vague. There are at least 32 theories of motivation that have their own definition of the construct (Ford, 1992), and there are almost as many definitions as there are theorists (Pinder, 1984). It is defined so broadly by some as to incorporate the whole field of psychology, and so narrowly by others as to be almost useless as an organizing construct. The solution for most has been to abandon the term and use descriptions of cognitive processes, such as self-regulation and self-systems, processes such as personal goals and goal setting, or emotional processes. However, most contemporary theorists agree on the important assumption that motivation is not an entity, but a process (e.g., Maehr & Braskamp, 1986). To understand motivation, we must make an attempt to understand the process of motivation and the constructs that drive the process.

### **UNDERSTANDING MOTIVATION AND ACHIEVEMENT BEHAVIOR**

Motivational processes can be defined by the psychological constructs that *energize, direct, and regulate* achievement behavior. Motivation theories may be viewed as

being on a continuum ranging from deterministic to mechanistic to organismic to cognitive (for a more extensive treatment of motivation theories, see Ford, 1992; Weiner, 1972). Deterministic and mechanistic theories view humans as passive and driven by psychological needs or drives. Organismic theories acknowledge innate needs but also recognize that a dialectic occurs between the organism and the social context. Cognitive theories view humans as active and initiating action through subjective interpretation of the achievement context. Contemporary theories tend to be organismic or social-cognitive and are based on more dynamic and sophisticated conceptions that assume the human is an active participant in decision making and in planning achievement behavior (e.g., Bandura, 1986; Deci & Ryan, 1985; Dweck & Leggett, 1988; Kuhl, 1986; Maehr & Nicholls, 1980; Nicholls, 1989). Although organismic approaches are experiencing a resurgence in the literature (Hagger & Chatzisarantis, in press), the majority of motivation research in physical activity contexts over the past 30 years has adopted a social-cognitive approach (e.g., Duda, 1992, 2001; Duda & Hall, 2001; Duda & Whitehead, 1998; Roberts, 1984, 1992, 2001; Roberts, Treasure, & Kavussanu, 1997). Specifically, the motivation theory that has emerged as the most popular in sport and physical activity contexts is achievement goal theory. In 1998, Duda and Whitehead identified 135 research studies reported in the 1990s, yet just 2 years later Brunel (2000) identified 160 studies. As we go to press, the number stands at over 200!

Accordingly, in this chapter we take a generally social-cognitive perspective, where achievement may be defined as *the attainment of a personally or socially valued achievement goal that has meaning for the person in a physical*

#### 4 Motivation, Emotion, and Psychophysiology

*activity context* (e.g., losing weight, improving a skill, defeating an opponent). Achievement is subjectively defined, and success or failure in obtaining the goal is a subjective state based on the participant's assessment of the outcome of the achievement behavior (e.g., Maehr & Nicholls, 1980; Spink & Roberts, 1981).

### ACHIEVEMENT GOAL THEORY IN SPORT AND PHYSICAL ACTIVITY

The history of achievement goal theory (in general and in sport) has been reviewed in several other publications (e.g., Duda, 2005; Duda & Hall, 2001; Roberts, 2001; Roberts et al., 1997), so the present chapter focuses on identifying key constructs, tenets, and limitations of the theory, reviewing empirical support, and presenting recent proposals for expanding or restructuring the approach.

Achievement goal theory assumes that the individual is an intentional, goal-directed organism who operates in a rational manner, and that achievement goals govern achievement beliefs and guide subsequent decision making and behavior in achievement contexts. It is argued that to understand the motivation of individuals, the function and meaning of the achievement behavior to the individual must be taken into account and the goal of action understood. Individuals give meaning to their achievement behavior through the goals they adopt. It is these goals that reflect the purposes of achievement striving. Once adopted, the achievement goal determines the integrated pattern of beliefs that undergird approach and avoidance strategies, the differing engagement levels, and the differing responses to achievement outcomes. By so recognizing the importance of the meaning of behavior, it becomes clear that there may be multiple goals of action, not one (Maehr & Braskamp, 1986). Thus, variation of achievement behavior may not be the manifestation of high or low motivation per se, or the satisfaction of needs, but the expression of different perceptions of appropriate goals with their attendant constellation of cognitions. An individual's investment of personal resources, such as effort, talent, and time, in an activity is dependent on the achievement goal of the individual.

The overall goal of action in achievement goal theory, thereby becoming the conceptual energizing force, is assumed to be the desire to develop and demonstrate competence and to avoid demonstrating incompetence. The demonstration and development of competence is the energizing construct of the motivational processes of achievement goal theory. But competence has more than one

meaning. One of Nicholls's (1984) conceptual contributions was to argue that more than one conception of ability exists, and that achievement goals and behavior may differ depending on the conception of ability held by the person. Nicholls argued that two conceptions of ability (at least) are manifest in achievement contexts, namely, an *undifferentiated concept of ability*, where ability and effort are not differentiated by the individual, either because he or she is not capable of differentiating, as is the case with young children, or because the individual chooses not to differentiate; and a *differentiated concept of ability*, where ability and effort are differentiated (Nicholls, 1984, 1989).

Nicholls (1976, 1978, 1980) argued that children originally possess an undifferentiated conception of ability in which they are not able to differentiate the concepts of luck, task difficulty, and effort from ability. From this undifferentiated perspective, children associate ability with learning through effort, so that the more effort one puts forth, the more learning (and ability) one achieves. Following a series of experiments, Nicholls (1978; Nicholls & Miller, 1983, 1984a, 1984b) determined that by the age of 12 children are able to differentiate luck, task difficulty, and effort from ability, enabling a differentiated perspective. When utilizing this differentiated perspective, children begin to see ability as capacity and that the demonstration of competence involves outperforming others. In terms of effort, high ability is inferred when outperforming others while expending equal or less effort or performing equal to others while expending less effort.

Individuals will approach a task or activity with certain goals of action reflecting their personal perceptions and beliefs about the particular achievement activity in which they are engaged and the form of ability they wish to demonstrate (Dennett, 1978; Nicholls, 1984, 1989). The conception of ability they employ and the ways they interpret their performance can be understood in terms of these perceptions and beliefs. These perceptions and beliefs form a *personal theory of achievement* at the activity (Nicholls, 1989; Roberts, 2001; Roberts et al., 1997), which reflects the individual's perception of how things work in achievement situations. The adopted personal theory of achievement affects one's beliefs about how to achieve success and avoid failure at the activity. Therefore, people will differ in which of the conceptions of ability and criteria of success and failure they use, and in how they use them, based on their personal theory of achievement.

The two conceptions of ability thereby become the source of the criteria by which individuals assess success and failure. The goals of action are to meet the criteria by

which success and failure are assessed. Nicholls (1989) identifies achievement behavior utilizing the undifferentiated conception of ability as *task involvement* and achievement behavior utilizing the differentiated conception of ability as *ego involvement*. When the individual is task-involved, the goal of action is to develop mastery, improvement, or learning, and the demonstration of ability is self-referenced. Success is realized when mastery or improvement has been attained. The goal of action for an ego-involved individual, on the other hand, is to demonstrate ability relative to others or to outperform others, making ability other-referenced. Success is realized when the performance of others is exceeded, especially when expending less effort than others (Nicholls, 1984, 1989).

In this chapter, when we refer to the motivated state of involvement of the individual, we use the terms *ego involvement* and *task involvement* to be consistent with Nicholls's use of the terms. In addition, when we refer to individual differences (e.g., self-schemas, personal theories of achievement, dispositions), we use the terms *task orientation* and *ego orientation*. Other motivation theorists (e.g., Dweck, 1986; Dweck & Legget, 1988; Elliot, 1997; Maehr & Braskamp, 1986) have used different terms to describe the same phenomena. When we refer to the situational determinants of motivation, the achievement cues inherent in the context, and the schemas emerging from achievement situations, we are consistent with Ames (1984a, 1992a, 1992b, 1992c) and refer to the task-involving aspect of the context as *mastery* criteria and the ego-involving aspect of the context as *performance* criteria. Finally, when we refer to the competence goals defined by Elliot (e.g., 1997) and colleagues, we use the terms *mastery* and *performance* goals.

Whether one is engaged in a state of ego or task involvement is dependent on one's dispositional orientation, as well as the perception of achievement cues in the context (Nicholls, 1989). Let us consider first two levels of individual differences: the state of goal involvement and the goal orientation.

### States of Goal Involvement

Each of the theories of achievement goal motivation proffered by the major theorists (e.g., Ames, 1984a, 1984b, 1992a, 1992b, 1992c; Dweck, 1986; Dweck & Leggett, 1988; Elliot, 1997; Maehr & Braskamp, 1986; Maehr & Nicholls, 1980; Nicholls, 1984, 1989) hold that important relationships exist between the states of goal involvement and achievement striving. According to Nicholls, if the person is *task-involved*, the conception of ability is undifferentiated and perceived ability becomes less relevant, as the

individual is trying to demonstrate or develop mastery at the task rather than demonstrate normative ability. As the individual is trying to demonstrate mastery or improvement, the achievement behaviors will be adaptive in that the individual is more likely to persist in the face of failure, to exert effort, to select challenging tasks, and to be interested in the task (Dweck, 1986; Nicholls, 1984, 1989; Roberts, 1984, 1992; Roberts et al., 1997). On the other hand, if the individual is *ego-involved*, the conception of ability is differentiated and perceived ability is relevant, as the individual is trying to demonstrate normative ability, or avoid demonstrating inability, and how his or her ability fares with comparative others becomes important.

If the individual is ego-involved and perceives himself or herself as high in ability, that person is likely to approach the task and engage in adaptive achievement behaviors. These are the people who seek competitive contests and want to demonstrate superiority. When perceived ability is high, demonstrating high normative ability is likely; therefore the individual is motivated to persist and demonstrate that competence to pertinent others. If one can demonstrate ability with little effort, however, this is evidence of even higher ability. Thus, the ego-involved person is inclined to use the least amount of effort to realize the goal of action (Nicholls, 1984, 1992; Roberts, 1984; Roberts et al., 1997).

On the other hand, if the perception of ability is low, the individual will realize that ability is not likely to be demonstrated, and he or she is likely to manifest maladaptive achievement behaviors (Nicholls, 1989). Maladaptive behaviors are avoiding the task, avoiding challenge, reducing persistence in the face of difficulty, exerting little effort, and, in sport, dropping out if achievement of desired goals appears difficult. These are the people who avoid competitive contests, as their lack of high normative ability is likely to be exposed. Although the participant may view these avoidance behaviors as adaptive because they disguise a lack of ability, they are considered maladaptive in terms of achievement behavior.

It has been argued (e.g., Duda & Hall, 2001; Roberts, 2001; Treasure et al., 2001) that the states of involvement are mutually exclusive (i.e., one is either ego- or task-involved), even though this notion has been questioned in light of parallel processing models of information processing (Harwood & Hardy, 2001). Goal states are very dynamic and can change from moment to moment as information is processed (Gernigon, d'Arripe-Longueville, Delignières, & Ninot, 2004). An athlete may begin a task with strong task-involved motivation, but contextual events

## 6 Motivation, Emotion, and Psychophysiology

may make the athlete wish to demonstrate superiority to others, and so the athlete becomes ego-involved in the task. Thus, goal states are dynamic and ebb and flow depending on the perception of the athlete.

The measurement of goal states is a particularly challenging task. It has been done in three ways. One has been to take an existing goal orientation measure and reword the stem to obtain a state measure (e.g., Hall & Kerr, 1997; Williams, 1998). A second has been to use single-item measures asking participants to indicate whether they focus on achieving a personal standard of performance (self-referenced) or beating others in an upcoming contest (other-referenced; e.g., Harwood & Swain, 1998). The third way is to ask participants to view video replays of the event and retrospectively reflect on their goal involvement at any one point in the contest (e.g., J. Smith & Harwood, 2001). Although the first two procedures may be more predictive of the initial state of involvement than the orientation measures per se (Duda, 2001), Duda has argued that these procedures may not capture the essence of task and ego involvement. In addition, it may be argued that because the states are so dynamic, even if you are able to reflect the state of involvement at the outset of the competition, as the state of involvement ebbs and flows as task and competitive information is processed, we have no indication of the changes that may occur (Roberts, 2001). It is naive and conceptually inconsistent to assume that the state of involvement will remain stable throughout the contest.

The best way of estimating the state of involvement currently available is the procedure used by J. Smith and Harwood (2001). At least we obtain participants' observations of their goal involvement at different times of the contest. This is a superior procedure to determine goal involvement that takes into consideration its dynamic nature. However, this procedure is very labor-intensive; it has to be done with each participant over the course of the contest.

Clearly, the development of an assessment procedure for the state of goal involvement is a major task, especially when one recognizes that achievement goal theory is predicated on one's task or ego involvement in the achievement task. As has been the case with measuring state anxiety, obtaining repeated measures while an athlete is engaged in competition is a practical nightmare. And we have to recognize that repetitive assessments of goal involvement during a competitive encounter may have the effect of changing an athlete's goal involvement state (Duda, 2001)! Certainly, forcing task-involved athletes to consider why they are doing what they are doing may make them more self-aware and ego-involved in the task. To reduce the like-

lihood of this happening, the retrospective recall strategy of J. Smith and Harwood (2001) is clearly the better procedure, despite its disadvantages.

### GOAL ORIENTATIONS

It is assumed that individuals are predisposed (e.g., by their personal theory of achievement) to act in an ego- or task-involved manner; these predispositions are called *achievement goal orientations*. Individual differences in the disposition to be ego- or task-involved may be the result of socialization through task- or ego-involving contexts in the home or experiences in significant achievement contexts (e.g., classrooms, physical activities; Nicholls, 1989; Roberts et al., 1997).

Goal orientations are not to be viewed as traits or based on needs. Rather, they are cognitive schemas that are dynamic and subject to change as information pertaining to one's performance on the task is processed. But the orientations do have some stability over time (Duda & Whitehead, 1998; Roberts, Treasure, & Balague, 1998). These self-cognitions are assumed to be relatively enduring. As examples, Dweck (1986) considers that one's theory of intelligence is relatively stable, and Nicholls (1984) considers one's conceptualization of ability to be stable as well. Thus, being task- or ego-oriented refers to the inclination of the individual to be task- or ego-involved.

To measure goal orientations, researchers have typically created questionnaires that are assumed to assess ego and task goal orientations (e.g., Nicholls, Patashnik, & Nolen, 1985). Although Dweck and her colleagues (e.g., Dweck & Leggett, 1988) conceptualize and measure achievement goals as dichotomous, it has been more usual for researchers to assume that the two goals are conceptually orthogonal and to measure them accordingly (Duda & Whitehead, 1998; Nicholls et al., 1985; Roberts et al., 1998).

Nicholls (1989) has argued that to assess personal achievement goals, individuals should be asked about the criteria that make them feel successful in a given situation, rather than noting their definition of competence. In line with this suggestion, Roberts and colleagues (Roberts & Balague, 1989; Roberts et al., 1998; Treasure & Roberts, 1994b) have developed the Perception of Success Questionnaire (POSQ), and Duda and colleagues (Duda & Nicholls, 1992; Duda & Whitehead, 1998) have developed the Task and Ego Orientation in Sport Questionnaire (TEOSQ). Both have demonstrated acceptable reliability and construct validity (Duda & Whitehead, 1998; Marsh, 1994; Roberts et al., 1998). Although other scales exist, the