

ADVANCES IN COGNITIVE-SOCIAL- PERSONALITY THEORY: APPLICATIONS TO SPORT PSYCHOLOGY

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KEY WORDS: Personality theory, *Cognitive-Affective Processing System* (CAPS), Coaching behaviors, Achievement goals, Motivational climate, Anxiety.

ABSTRACT: Many theories and intervention techniques in sport psychology have a cognitive-behavioral emphasis, and sport psychologists have long been interested in individual differences. Recent developments in cognitive social personality theory offer new opportunities for understanding sport behavior. The finding of stable individual differences in situation-behavior relations has helped resolve the person-situation debate of past years, and idiographically-distinct behavioral signatures have now been demonstrated for coaching behaviors across differing game situations. Moreover, coaching behaviors are differentially related to athletes' liking for the coach, depending on whether they occur during winning or losing game situations. Mischel and Shoda's (1995) Cognitive-Affective Processing System offers a new template within which to study sport psychology constructs, such as achievement goal orientations and anxiety. Just as social cognitive theory can inform research, theory development, and interventions in sport psychology, research in sport settings can advance the future development of cognitive social personality theory.

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As a construct, personality arises from the fascinating spectrum of human individuality. We observe that people differ meaningfully in the ways they customarily think, feel, and act. These distinctive behavior patterns help define one's identity as a person. The concept of personality also rests on the observation that a given person seems to behave somewhat consistently over time and across different situations. From this perceived temporal and situational consistency comes the notion of *personality traits* that characterize individuals' customary ways of responding to their world. Although many definitions of personality have been advanced, virtually all share the core assumption that personality exhibits continuity, stability, and coherence, i.e., that it is organized in some fashion and serves as a major internal determinant of behavior.

The Personality Paradox

Our intuition and personal observations tell us that the coherence of personality is expressed as some degree of consistency in behavior across many different situations. However, when Walter Mischel (1968) reviewed the evidence, he came to a surprising conclusion: There was more evidence for inconsistency than for consistency. Even on a trait so central as honesty, people can show considerable behavioral variability across situations. In a classic study done in the 1920s by Hartshorne and May (1928) thousands of children were given opportunities to lie, steal, and cheat in a number of different settings: at home, in school, at a party, and in an athletic contest. The rather surprising finding was that "lying, cheating and stealing as measured by the test situations in this study are only very loosely related. . . . Most children will deceive in certain situations but not in others" (p. 411).

At about the same time, Newcomb (1929) found striking inconsistency of behavior in a study of college students' introversion-extraversion behaviors across an array of situations, and Mischel and Peake (1982) later reported similar findings for college students on the trait of conscientiousness. A student might be highly conscientious in one situation (e.g., coming to work on time) without being conscientious in another (e.g., turning in class assignments on time). Many other studies revealed similar behavioral inconsistency across different types of situations, and correlations between trait measures and behavior that rarely exceeded .30 (Pervin, 1994). Critics of personality referred to this modest .30 ceiling as the "personality coefficient."

To some, Mischel's (1968) conclusion that the common assumption of consistency in thought, affect, and behavior across situations lacked empirical support called the very concept of personality into question, and it evoked a bitter controversy that has raged for nearly 40 years. One aspect was the celebrated person versus situation debate, with some maintaining that the situation is the prepotent influence on behavior and that the concept of personality is not needed because it accounts for such modest amounts of behavioral variance (Ross and Nisbett, 1991). They reasoned that if personality differences account for less than 10 percent of the variance in behavior (derived by squaring the .30 personality coefficient), then situational forces must account for the other 91 percent. However, other evidence showed that the situation did *not* account for more variance than did individual difference variables, even under controlled laboratory conditions (Sarason, Smith and Diener, 1975), and more recent evidence confirms the position that both personality variables

and situations account for similar and notable amounts of variance (Fleeson, 2004; Fournier, Moskowitz, and Zuroff, 2008).

Others argued that traits refer to average amounts of behavior across differing situations and that no trait theorist would hold that people should behave consistently in every situation. Their approach was to aggregate behavioral measures across situations, deriving a mean behavior score and thereby achieving much higher correlations with personality trait measures (e. g., Epstein, 1979). Though useful for predictive purposes, aggregation basically ignores the issue of non-consistency, treating situational variability as error variance and failing to account for the reasons for the variability in behavior.

A third response to Mischel's critique was interactionism, in which behavior was viewed as a function of an interacting person and

situation (Lewin, 1935; Magnusson and Endler, 1977). This approach had the merit of taking both the person and the situation into account. In factorial designs involving personality variables, situational factors, and their interaction, interactionists strengthened their case by showing that the interaction effect often accounted for more behavioral variance than did either the person or situation main effects. In sport research, an example of person x situation interactionism comes from a study by Smith and Smoll (1990). The situational variable in this study was the behavior of coaches as coded observationally during youth baseball games using the Coaching Behavior Assessment System (CBAS; Smith, Smoll and Hunt, 1977). Factor analysis of the 12 behavioral categories revealed a factor called Supportiveness, on which positive reinforcement and encouragement following mistakes loaded

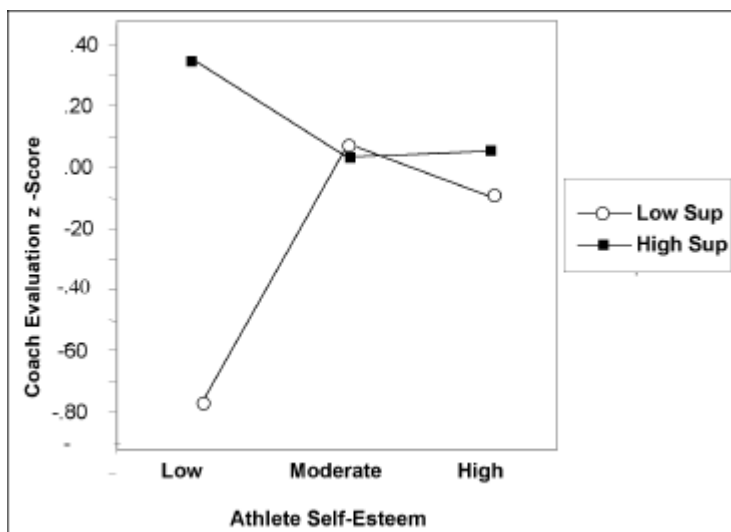


Figure 1. Athletes' mean postseason evaluation of coaches who were either high (+1 SD) or low (-1 SD) in scores on the CBAS Supportiveness (Sup) factor. (Data from Smith and Smoll, 1990).

very highly. Coaches were selected whose factor scores on Supportiveness were one standard deviation above and below the mean. The personality variable was athletes' level of global self-esteem, divided into low, moderate, and high levels. The dependent variable was postseason ratings of how much the athletes liked playing for the coach and wished to play for him in the future. As seen in Figure 1, significant main effects for liking were found for both coach supportiveness and children's self-esteem level. However, the most interesting result was the supportiveness x self-esteem interaction, which showed that children low in self-esteem were especially responsive to variations in coach supportiveness, and they evaluated non-supportive coaches very negatively. Self-esteem thus served as a moderator variable that influenced the relation between supportiveness and liking. This result was consistent with the common assumption that low self-esteem children are especially in need of self-enhancing sport experiences and are therefore most strongly affected by their relationship with their coach, and especially their coach's supportive behaviors.

Still, even interactionism failed to provide a totally satisfactory answer to what Bem and Allen (1974) dubbed the "personality paradox": How can we have a coherent and stable personality, yet show such inconsistency in cognitive, affective, and overt behavior across different situations?

Resolving the Personality Paradox

Recent advances in cognitive social personality theory (formerly called cognitive social learning theory) have provided an answer to the personality paradox (Mischel and Shoda, 1995, 1998, 1999; Shoda and Mischel, 2000). A key finding is that while people show considerable variability in the

same behavior across situations, they tend to show high consistency in those behaviors within classes of situations that are similar to one another. In a study by Shoda, Mischel and Wright (1994), for example, children were intensively observed within a residential summer camp over a 6-week period, and a variety of specific behaviors were coded, including verbal aggression. Idiographic analyses of the children's responses provided evidence for stable and consistent situation-behavior profiles across 5 different and well-defined classes of situations (teased by another child, approached by another child, praised by an adult, warned by an adult, or punished by an adult). The children differed not only in their total number of aggressive responses, as an aggression trait model would predict, but also in the situations in which the behaviors occurred. However, this situational variation was not random; it was well-structured for most children, and their situation-behavior profiles were often highly consistent over time. Shoda et al. concluded that as people confront certain classes of situations, they exhibit distinctive *behavioral signatures* that are the outward manifestation of personality and that establish a person's unique identity. Figure 2 shows a hypothetical behavior x situation behavioral signature for two people. Although the mean level of the behavior is equal when aggregated across the three situations, the situational patterning is very different. However, this intraindividual patterning, which provides key information about the person, is lost when behavior is decontextualized through aggregation.

Do behavioral signatures occur in sports as well? To find out, we analyzed data collected from 13 youth baseball coaches over 631 half-innings (at bat or in the field) of 53 games (Smith, Shoda, Cumming, and Smoll, in press). Behaviors were coded using the

Coaching Behavior Assessment System (Smith, Smoll and Hunt, 1977). Observers recorded the time and score at the beginning

and end of each half-inning. Data were expressed as rates of behavior per minute of observation.

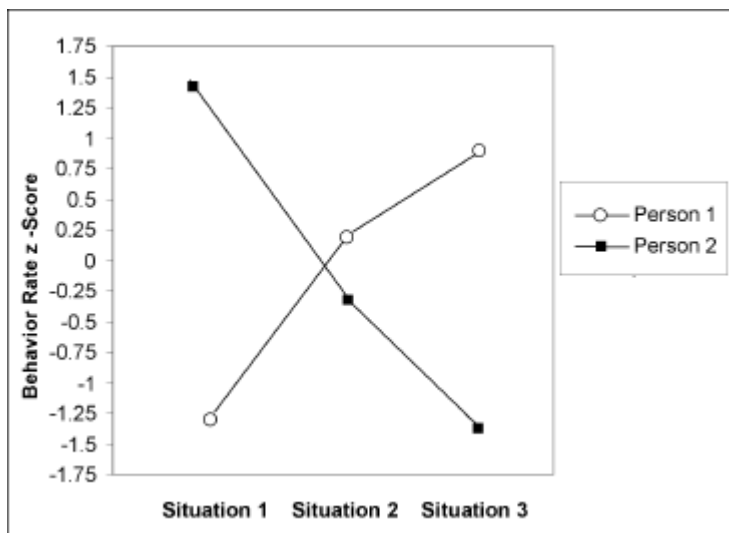


Figure 2. Hypothetical behavioral signatures of two persons whose behavioral means would be nearly identical if aggregated across three situations, but whose patterning of behavior differs markedly across the situations.

Focusing on supportive and instructional behaviors, which constituted nearly 75% of all coded behaviors, we plotted the rate of these two classes of behaviors over three psychologically-salient game situations: leading in score by 2 or more runs at the end of the half inning, tied or within one run of the opponent, or losing by 2 or more runs to produce behavioral signature profiles. For each of the two classes of behavior and three types of game situations (i. e., 6 situation-behavior combinations), we standardized the

rate scores separately in each type of situation (i. e., winning, losing, or close/tied). This procedure removed the nomothetic influences of the game situations on the coaches' behaviors, thereby revealing each coach's idiographic pattern of situation-behavior relations. The *z*-score for each coach thus represents the rate at which that coach engaged in a specific type of behavior in a specific situation *relative to* all of the coaches in the sample. We then randomly divided all of the observed half-innings into two sets so

that we could not only determine if coaches differed in their behavior profiles within the three game situations, but also could assess how consistent or stable these profiles were by correlating the two sets of situation-behavior data across Sets 1 and 2

The results provided strong support for the existence of coaching behavioral signatures. Coaches exhibited considerable variability in their situation-behavior profiles, even when their overall rates of supportive and instructional behaviors across the three game situations were quite similar, and the behavior x situation stability coefficients for each coach revealed considerable evidence for stability. Nine of the 13 coaches were characterized by positive stability coefficients for both behaviors across the three game situations, and 20 of the 26 stability coefficients equaled or exceeded +.30. The mean of these 20 coefficients was +.70. Behavioral signatures thus constitute a new way of conceptualizing and analyzing coaching patterns, and it will be possible in future research to relate them to other variables, such as the athletes' attitudes toward the coach, motivational and emotional outcomes, and dropout.

The study of behavioral signatures reveals that there is indeed coherence and consistency in behavior. This consistency consists, however, not across situations in general, but across certain classes of situations that have similar psychological meaning, or "active ingredients" for the individual. The behavioral *if...then...* relations found in behavioral signatures reflect the coherence of the underlying personality. It remains, however, to specify the underlying processes and dynamics that are involved in this coherence. Cognitive social theory attempts to account for the internal level of coherence through a dynamic network of cognitive and

affective processes that process situational cues and generate output behaviors, including behavioral signatures.

The Cognitive-Affective Processing System (CAPS)

Cognitive social theorists' attempts to resolve the personality paradox and account for behavioral signatures led to a search for a new conceptual model that could account not only for individual differences in the mean or "average" levels of behavior across situations that are the focus of trait conceptions, but also for the distinctive and unique ways that a person's behavior can change across situations. Such a model would necessarily incorporate both situational and dispositional factors, but in a manner that built upon the traditional person-by-situation interactional approach. Because of its cognitive emphasis, it would move beyond *nominal* situational factors (i. e., physical or social features) to their *psychological* ingredients as encoded or construed by the person. Likewise, dispositional variables would go beyond static trait measures to specify cognitive-affective processes that become activated by situational elements, interact with and influence one another in a systemic and stable manner, and generate output behaviors.

The model began to take shape with a theoretical article by Mischel (1973) that closely followed his 1968 critique of the literature. Mischel proposed as an alternative to broad personality traits an approach that focused on psychological constructs that are known to have causal influences on behavior, and suggested that what we call personality reflects a coherent organization of these mechanisms that differs from individual to individual. Over the next 20 years, Mischel's original model evolved into a *Cognitive-*

Affective Processing System (CAPS) model (Mischel and Shoda, 1995; Shoda and Mischel, 1998). This evolution was spurred by the development of information processing, connectionist, and neural network models in areas such as perception, social cognition, and cognitive neuroscience (Read and Miller, 1998; Rumelhart and McClelland, 1986). Connectionist models focus on organized networks of cognitive-affective processing units (such as neurons) whose interconnections form a unique network. This network functions as an organized whole and its units are activated by the specific features of the stimuli that are being processed. Individuals differ from one another in the specifics of the units and in the *chronic accessibility* of network elements, that is, the ease with which the particular cognitive-affective units become activated (Higgins, 1990). They also differ in the levels of activation that occur in response to (a)

elements of the “psychological situation” that is being processed and (b) the activity of other associated units, which can stimulate, inhibit, or exert no influence on the unit. The dynamic interactions among the units thus mediate relations between situations and behaviors in a manner that can be quite distinctive for different individuals.

Building on processing dynamics models and on an earlier specification by Mischel (1973) of five “person factors” that might be of particular significance in understanding individual differences, Mischel and Shoda (1995) advanced a new five-component model that specified the major classes of processing and behavior-generation units. This organized system of cognitive-affective units, briefly described in Table 1, interacts continuously with the social world in which it functions, generating the person’s distinctive patterns of behavior, or behavioral signatures.

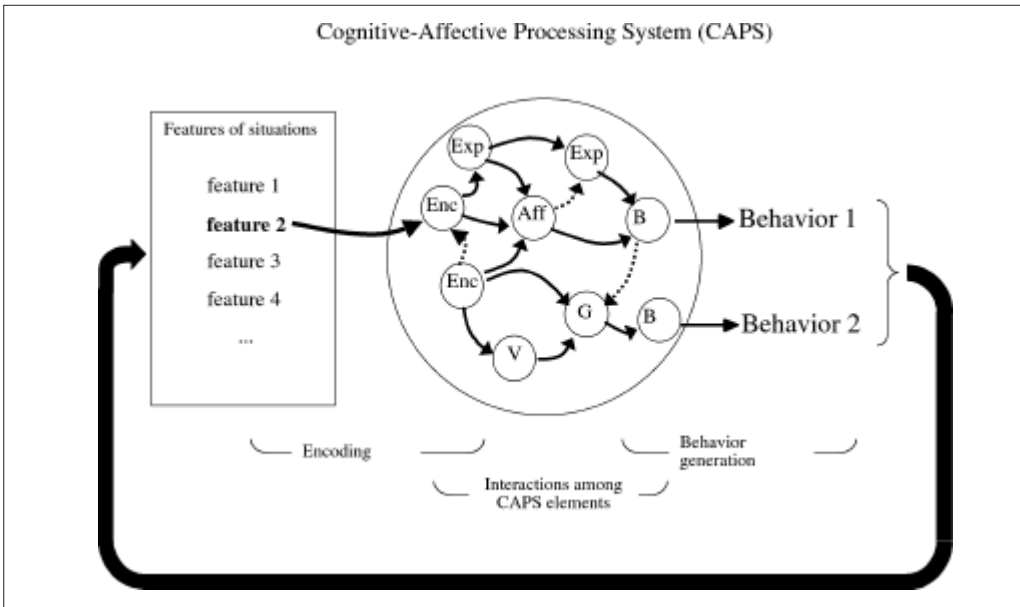
1. *Encodings and personal constructs.* Cognitive categories for the self, people, events, and situations into which internal and external stimuli are sorted.
2. *Beliefs and expectancies.* Includes the person’s belief system as well as stimulus-outcome, response-outcome, self-efficacy, and locus of control expectancies.
3. *Affects.* Emotional responses.
4. *Goals and values.* Short- and long-term desired and undesired outcomes; values concerning what is significant, moral, and good.
5. *Skills and self-regulatory competencies.* Include physical and mental competencies, self-standards and self-reinforcement processes, plans and strategies for attaining goals; abilities to exert internal control over cognitions, affect, and behavior.

From Smith, 2006, p. 6. Reprinted with permission

Table 1. *Component Variables in the Cognitive-Affective Processing System (CAPS).*

A schematic representation of the CAPS model is shown in Figure 3. The cognitive-affective components are represented by the interconnections shown within the circle. The encoding units respond to specific aspects of the situation (producing the internally-construed psychological situation) and they both influence and are affected by other units (expectancies, goals, affects). Some links (shown by solid lines) activate other units, whereas other connections (shown by the dotted lines) are inhibitory in

nature, as when an athlete's anxiety inhibits confident thoughts. The total pattern of activations and inhibitions results in certain behaviors, which may themselves alter the situation (as represented by the arrow leading back from behaviors to the situation). These behaviors may also affect ongoing CAPS dynamics. For example, poor performance during an athletic event may trigger decreased confidence, lowered efficacy beliefs, self-reproach, and negative affect that further undermines performance.



Enc: Encoding; Exp: Expectancy; V: Values; G: Goals; Aff: Affects B: Behavioral scripts / competencies

Figure 3. Schematic representation of the cognitive-affective processing system advanced by Mischel and Shoda (1995). Within the circle are the CAPS mediating units, connected in a stable network of relations that characterize the individual. Solid lines represent positive activation, dotted lines inhibitory relations. Mediating units become activated initially by encodings of situational features, and output behaviours can reciprocally influence both the situation and the CAPS elements underlying the behavioral responses. Adapted with permission from Shoda and Smith (2004).

Central to the CAPS formulation is the fact that the CAPS variables are not isolated, but rather are interconnected (Smith and Shoda, in press). In the CAPS model, the focus is not just on “how much” of a particular unit (e.g., self-efficacy belief, performance anxiety, mastery goal orientation) a person has, but in how these cognitive-affective units are organized with one another within the athlete, forming a network of interconnections that can operate, in a parallel rather than serial manner, at multiple levels of accessibility, awareness, and automaticity. Individual differences in personality reflect the fact that people differ stably and uniquely in this network of interconnections. For a given individual the likelihood that a particular feature of a situation triggers encoding (interpretation) *A*, which leads to thought *B*, emotion *C*, motive *D*, and behavior *E* may be relatively stable and predictable, reflecting a network of chronically accessible associations among cognitions and affects available to that individual. Thus, the CAPS model posits an internal set of *if... then...* relations as well the external situation-behavior *if... then...* relations discussed earlier.

The CAPS, however, is not simply reactive to external situations. The system that underlies an individual’s cognitive-affective and behavioral dynamics typically contains extensive internal feedback loops that can generate a flow of thoughts, feelings, and even behaviors without necessarily requiring an outside stimulus. Thus, when an athlete is in a depressed affective state, she may be more likely to selectively encode negative aspects of situations, attribute inadequacies to herself, and generate behavioral withdrawal tendencies. Moreover, the elements in an individual’s CAPS network are likely to form a system of

mutually supporting components. For example, the many beliefs we maintain are not independent of each other, but support one another in a way that helps us “make sense” of the world. Further, components of a belief system are related to affective reactions, goals and values, and behaviors, in a way that forms a coherent organic whole. Thus, in current cognitive social theory, *if... then* relations within the underlying cognitive-affective processing system constitute the stable and coherent underlying structure that constitutes personality.

The CAPS model reflects the difference between dynamic and dispositional models (Mischel and Shoda, 1998). Dynamic models reflect a “bottom-up” approach that focuses on causal determinants and contrasts with what Salmon (1989) referred to as “top-down” approaches that appeal to broad factors, such as traits, to account for regularities in behavior. In dispositional approaches behaviors are commonly explained as a product of some underlying trait that takes on the status of a causal factor. For example, an athlete engages in cooperative and considerate behaviors *because* he or she is high on the trait of “agreeableness.” In current personality psychology, this top-down approach is best represented by the Five Factor model, which regards regularities in behavior as stemming from individual differences on five factor analytically-derived traits: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (McCrae and Costa, 1997). These traits presumably produce differences in “average” levels of trait-relevant behaviors, and behavioral inconsistencies across time and/or situations are basically disregarded. It is important to note that top-down explanatory systems do not require any knowledge about underlying causal

mechanisms, and a construct can be posited with no attempt being made to identify the processes responsible for its descriptive or predictive value. Unfortunately, however, using the construct defined by the observed behaviors as a casual explanation for those behaviors (i. e., the trait of “agreeableness” as an explanation for agreeable behavior) in the absence of underlying causal mechanisms amounts to the logical error of circular reasoning. To avoid circularity, the underlying causes must be conceptually independent of the behaviors they are designed to explain (Salmon, 1989). Dynamic or bottom-up models are much more difficult to formulate and test, but in the end they help us achieve a much higher level of understanding of psychological processes (Bandura, 1986).

Applying the CAPS Model to Sports Phenomena

Cognitive social theory is arguably the most dynamic current personality model in terms of research stimulation and application (Cervone and Shoda, 1999). It is being applied in the areas of social cognition (e. g., Higgins, 1999), interpersonal relations (Baldwin, 1999), motivation (Grant and Dweck, 1999), analysis and treatment of clinical problems (Shoda and Smith, 2004), self-regulation processes (Cervone, Shadel, Smith and Fiori, 2006), and sport phenomena (Smith, 2006).

CAPS Representation of Sport Psychology Constructs

Although every person’s CAPS, as a product of genetic endowment and life experiences, is unique, there also exist similarities between people that cause them to exhibit certain dispositions. We should expect people who exhibit specific dispositions to have some commonalities in their

CAPS components and dynamics, and the CAPS may prove to be a useful way to understand and research the trait construct. For example, Mischel, Shoda, and Smith (2005) have analyzed a personality construct known as rejection sensitivity (Downey & Feldman, 1997) from this perspective. The situational feature that activates this disposition is the selective encoding of a romantic partner’s behavior as uncaring or in some way rejecting. This encoding stimulates expectations and concerns about abandonment, as well as feelings of anxiety, anger and resentment at the prospect of being rejected. These expectations, beliefs, motives, and affects then activate behavioral scripts for coercive and hostile behavior toward the partner. These behaviors serve to alienate the partner and may ultimately result in the very rejection that was feared, thereby affirming and strengthening future vigilance to rejection as well as the other elements of the system. Interestingly, rejection-sensitive people are likely to be less hostile than average and very caring of partners in situations that are not encoded as threatening, illustrating the *if... then* behavioral signature of this personality disposition.

Achievement goal orientations. Smith (2006) has construed several popular sport psychology constructs in CAPS terms. For example, achievement goal theory (Duda, 2001; Roberts, Treasure and Kavassanu, 1997) has been one of sport psychology’s most active areas of research and theory development. Derived, like the CAPS model, from a cognitive social conceptual framework, achievement goal theory focuses on understanding the function and the meaning of goal directed actions, based on how participants define success and how they judge whether or not they have demonstrated

competence (Ames, 1992; Dweck, 1999; Nicholls, 1989). The central individual difference construct in the theory is goal orientations that guide achievement perceptions and behavior.

Achievement goal theory posits two different ways of defining success and construing one's level of competence, labeling them mastery (or task) orientation and ego orientation. Mastery-oriented people are self-referenced; they feel successful and competent when they have learned something new, experienced skill improvement, mastered the task at hand, and/or given their best effort. For ego-oriented people, definitions of personal success and demonstrated competence are other-referenced and based largely on social comparison. The goal is to show that one is superior to relevant others or to avoid appearing inferior to others. Ego-oriented people can feel successful if they outperform their peers or if they do as well as others without concerted effort. Experiencing personal improvement or knowing that one did his or her best would not in itself occasion subjective success and a sense of demonstrated competence for an ego-oriented person. Indeed, knowing that one tried hard and failed to outperform others would cause such a person to feel especially incompetent.

In placing achievement goal orientations within a CAPS template, Smith (2006) suggested that at the level of encodings, mastery-oriented athletes seek and encode self-referenced information relevant to personal improvement. This includes encoding cues from unsuccessful performances as information for improvement. In contrast, the ego-oriented athlete seeks and encodes comparisons with others, and cues from unsuccessful performance are encoded as evidence for insufficient ability.

At the level of beliefs and expectancies,

mastery-oriented athletes believe that ability is changeable and expect that hard work and effort are instrumental to self-improvement. When setbacks occur, they expect that increased effort and persistence will bring improvement. They believe that sport's purpose is to promote good citizenship and the merits of hard work and cooperation. Ego-oriented athletes believe that ability is largely innate and that the need for high effort is a sign of poor ability. They expect ability to play the major role in success, and negative outcomes yield attributions of insufficient ability and evoke discouragement. They also believe that sport's purpose is to promote the self and earn the esteem of others.

As noted earlier, the goals of mastery and ego-oriented athletes differ. The mastery-oriented athlete wants to master skills and enjoy activity for its own sake (intrinsic motivation). Success is defined in a self-referenced manner. The goal for the ego-oriented athlete is to demonstrate superiority over others and/or to avoid appearing inferior to them. Successful goal attainment is defined through social comparison.

At the level of affects, the mastery-oriented athlete can experience positive emotional responses from high effort and improved performance even in the absence of winning. Such an athlete is less likely to experience fear of failure and negative self-evaluations if not victorious. In contrast, for the ego-oriented athlete, positive affect is contingent on outperforming others or winning. Losing evokes feelings of discouragement and, if frequent, may evoke disengagement.

In terms of self-regulation, standards for self-reinforcement involve giving maximum effort and achieving one's potential in the mastery-oriented athlete. Their focus on

getting better encourages the development of goal-attainment strategies. In ego-oriented athletes, internal standards for self-reinforcement require positive comparisons with others, or good performance with little effort. Such athletes are less likely to develop self-improvement strategies based on effort because of their ability attributions for success.

Sport performance anxiety. High performance anxiety can also be conceptualized within the CAPS framework (Smith, 2006). The intensity and duration of anxiety are influenced by the nature of the competitive situation in which the athlete is involved. Such situations differ in the demands they place upon the athlete, as well as the degree of threat that they pose to important goals and successful performance. Such factors as strength of opponent, importance of the contest, presence of significant others, and degree of social support received from coaches and teammates can affect the amount of threat that the situation is likely to pose for the athlete (Martens, Burton, Vealey, & Smith, 1990; Smith, Smoll, & Passer, 2002).

Elements of the competitive situation are selectively encoded by the athlete. Goals influence which elements of the situation are deemed most significant. Where anxiety is concerned, the balances between perceived demands, threats, and personal and situational resources are the encoded elements that most heavily define the psychological situation constructed by the athlete (Smith, 1996). An athlete who defines the present situational demands as overwhelming, who appraises his resources and skills as inadequate to deal with the demands, who anticipates failure and/or disapproval as a result of the demands/resources imbalance, and who defines his self-worth in terms of

success and/or the approval of others will perceive the situation as threatening or dangerous. Such encodings are likely to activate expectancies of poor performance, rejection, and other negative outcomes, evoking the worry component of performance. They can also trigger low self-efficacy beliefs and an external locus of control which, in turn, influence subsequent encodings, or reappraisals, of the competitive situation. The meanings attached to the expected consequences derive from the person's belief system, and they often involve the individual's self-reinforcement standards and criteria for self-worth. Such personal standards are an important aspect of the self-regulation element in the CAPS framework (Mischel & Shoda, 1995).

At the level of affect, negative encodings of the situation can generate high levels of physiological arousal, and this arousal, in turn, feeds back into the ongoing process of appraisal and reappraisal in a reciprocal fashion. High arousal may convince an athlete that he or she is "falling apart" and help generate even more negative encodings. Normally positive self-efficacy expectancies may be inhibited from activation, producing a sense of helplessness (Bandura, 1986).

The individual's goals and motives are a central component of the CAPS conception of anxiety. The athletic situation has strong achievement and social approval implications, and such motives can be either gratified or threatened. Athletes who are prone to anxiety fear failure. Such fears can involve a variety of consequences, including shame and embarrassment, devalued self regard, uncertainties about one's athletic future, loss of interest by significant others, and concerns about upsetting significant others, such as coaches and parents (Conroy, Willon, and Melzer, 2002). Goals influence the personal

significance of situational stimulus elements, as well as the encodings, expectancies, and affects they trigger. In turn, these cognitive-affective elements may influence current motives and goals by either increasing or reducing motivation.

Finally, self-regulatory skills and competencies play a central interactive role in performance anxiety. Level of perceived competence influences encodings and expectancies as well as performance. Standards for self-reinforcement are linked to goals, encodings, and expectancies (Bandura, 1986). Emotional self-regulation skills play a central role in performance anxiety. If an athlete lacks good coping and anxiety-control skills, a wide range of sport situations are likely to be encoded as threatening (Martens et al., 1990). Inadequately-developed competencies may also make feared consequences appear more likely and engender low self-efficacy for dealing with situational demands. Finally, emotional arousal evoked by these cognitive processes may actually interfere with the application of existing skills and self-regulation competencies, as when an athlete's motor and attentional abilities are degraded by anxiety-produced task-irrelevant responses (Nideffer and Sagal, 2001; Smith, 1996).

Other important sport psychology constructs can also be conceptualized within the CAPS model, and the framework can provide a template for the collection of qualitative data on relevant factors. Here are some possible questions for qualitatively assessing CAPS variables:

1. How do you perceive the (relevant) situation, and yourself in relation to the situation? (Encodings)

2. What do you expect will happen? How capable are you of doing what is required to achieve your goals? How much personal control do you have in this

situation? What other personal beliefs are engaged by this situation? (Expectancies and beliefs)

3. What outcomes do you want? Which outcomes do you wish to avoid? Which needs could be satisfied or frustrated in this sport environment? Which personal values are engaged in sport situations? (Goals and values)

4. Which emotions are aroused? How intense and long-lasting are they? Which sport situations arouse them? (Affects)

5. What are your personal standards for yourself? Which skills do you possess, and which ones do you lack? What strategies do you use to attain your goals? Can you postpone or delay gratification of short-term goals in favor of longer-term ones? How well are you able to control your thoughts, feelings, and behaviors? (Competencies and self-regulation skills) (Smith, 2006, p. 12)

Interventions to Influence the CAPS

As indicated by its earlier cognitive social learning label, today's cognitive social theory places a strong emphasis on the role of experience in shaping behavior and producing behavior change. Although the CAPS network has a dynamic structure with stable properties, that system can be altered by either internal or external influences. Not surprisingly, therefore, cognitive social theory has inspired numerous interventions designed to effect personality change (Bandura, 2006; Cervone et al., 2006; Meichenbaum, 1985; Shoda and Smith, 2004; Vaughn, Rogers, Singhal, and Swalehe, 2000). These interventions have been directed at a wide variety of target behaviors, from anxiety disorders to self regulation, from athletic performance to AIDS prevention. One of the reasons that interventions based on this theoretical model have been so successful is that the theory

specifies the mechanisms that control the target behaviors and personality characteristics. Interventions can then be tailored to influence these causal factors.

Earlier, I presented CAPS-based analyses of two constructs that are at the forefront of current sport psychology research, namely, achievement goal orientations and sport performance anxiety. Within the CAPS system, achievement goal orientations would be represented primarily as a goals component and anxiety as an affect component, although they clearly involve other CAPS components as well. Both of these constructs have been found to be related to coaching behaviors in correlational studies of youth sport participants. Coaching behaviors furnish important situational cues that are encoded by athletes and that subsequently activate other aspects of the system. One class of coaching behaviors that is particularly influential on a wide range of personal characteristics and athlete behaviors fall under the rubric of motivational climate. Motivational climate is the environmental factor most addressed and researched within achievement goal theory (Duda, 2001; McArdle and Duda, 2002).

Motivational climate involves, in part, behaviors by coaches that promote and support mastery or ego achievement goal orientations in athletes through the pattern of normative influences, evaluative standards, rewards and sanctions, interpersonal interactions, and values they communicate within the achievement environment. Although motivational climate is a multifaceted construct, a mastery (or task-involving) climate is characterized most centrally by a coach's emphasis on self-referenced improvement, effort, attention to all athletes, and a cooperative learning environment. An ego-initiating climate is marked by an emphasis

on outperforming others, a focus on outcome, preferential attention to top performers, and punishment for mistakes (Ames; 1992; Dweck, 1999). Research in both educational and sport settings indicates that motivational climate is related to a variety of meaningful outcome variables, including achievement goal orientations, intrinsic motivation, enjoyment, beliefs about the meaning of success, persistence in the face of adversity, perceived ability, and emotional responses such as anxiety. In general, mastery-initiating climates are more frequently associated with salutary outcomes, whereas ego-initiating climates frequently are linked to negative outcomes, including fear of failure (see Duda and Balaguer, 2007, for a review).

In an attempt to influence the motivational climate created by coaches, we created an intervention called the Mastery Approach to Coaching. This intervention, evolved from Coach Effectiveness Training (Smith, Smoll, and Curtis, 1979), is presented as a live 75-minute workshop. The workshop provides coaches with behavioral guidelines derived from previous research on coaching behaviors and their effects on athletes and from achievement goal research. Its behavioral guidelines focus on two major themes. First, we place strong emphasis on the distinction between positive versus aversive control of behavior. In a series of coaching *do's* and *don'ts* derived from the foundational research on coaching behaviors as measured by the CBAS coding system and their effects (Smith, Smoll, and Curtis, 1978), coaches are encouraged to increase four specific behaviors—positive reinforcement, mistake-contingent encouragement, corrective instruction given in a positive and encouraging fashion, and sound technical instruction. Coaches are urged to avoid nonreinforcement of positive behaviors,

punishment for mistakes, and punitive technical instruction following mistakes. They are also shown how to establish team rules early and reinforce compliance with them to avoid discipline problems, and to reinforce socially supportive behaviors among team members. These guidelines are designed to increase positive coach-athlete interactions, enhance team solidarity, reduce fear of failure, and promote a positive atmosphere for skill development (Smoll and Smith, in press). The behavioral guidelines are thus consistent with the procedures designed by Ames (1992) and Epstein (1988) to create a mastery learning climate in the classroom.

The second important theme in the mastery-oriented guidelines, also derived from CET and from achievement goal theory and research, is a conception of success as giving maximum effort and becoming the best one can be, rather than an emphasis on winning or outperforming others. Coaches are encouraged to emphasize and reinforce effort as well as outcome; to help their athletes become the best they can be by giving individualized attention to all athletes and by setting personalized goals for improvement; to define success as maximizing one's athletic potential; and to emphasize the importance of having fun and getting better as opposed to winning at all costs. Like the guidelines that foster positive coach-athlete relations and team solidarity, these guidelines are designed to reduce fear of failure, to foster self-esteem enhancement by allowing athletes to take personal pride in effort and improvement, and to create a more enjoyable learning environment that increases intrinsic motivation for the activity.

During the Mastery Approach workshop, the differences between a mastery- and ego-oriented motivational climate were explicitly described; the creation of a mastery climate

was strongly recommended; and a list of positive effects of such a climate was presented. The verbal presentation was supplemented by modeling both desirable and undesirable methods of responding to specific situations (e. g., performance and effort, athlete mistakes). Accompanying the workshop was a manual that summarized the principles presented in the workshop and gave coaches behavioral guidelines for creating a mastery motivational climate (see Smoll, Smith, Cruz, and Garcia-Mas [in press] for a Spanish-language version). Coaches were also given self-monitoring forms containing nine items related to the behavioral guidelines. On the form, they were asked how often they engaged in the recommended behaviors in relevant situations. For example, coaches were asked, "When athletes gave good effort (regardless of the outcome), what percentage of the times did you respond with reinforcement?" They were asked to complete the forms immediately after the next 10 practices or games. This self-monitoring component of the intervention was intended to increase coaches' awareness of their behavior and to encourage their compliance with the guidelines.

Based on previous research results and theoretical expectations, we expected that athletes' encodings of coaches' mastery climate behaviors would influence both achievement goal orientations and anxiety. Specifically, a mastery climate should increase mastery goal orientations and reduce ego goal orientation in athletes, and it should also reduce anxiety. A mastery climate would also be expected to reduce the anxiety-arousing potential of the sport environment for several reasons. First, a conception of success as outperforming and comparing oneself with others (which is characteristic of ego-

involving climates) heightens evaluation apprehension and fosters worry and anxiety (Walling, Duda and Chi, 1993). In contrast, a mastery climate serves to minimize social comparison and to focus athletes' attention on personal development and task mastery. In such an environment, athletes should be less likely to experience threat concerning their ability to outperform others and therefore experience less anxiety (McArdle and Duda, 2002). In line with these theoretical predictions, a mastery-involving climate is associated with lower anxiety than is an ego-involving climate (Papaiannou and Kouli, 1999; Walling et al., 1993; Yoo, 2003). Moreover, a mastery climate also increases enjoyment of sport activities, which is negatively associated with anxiety (Boixadós, Cruz, Torregrosa and Valiente, 2004; Newton and Duda, 1999).

To test these hypotheses in a youth sport sample of 10-14 year old basketball players, we developed new measures of all three variables because existing measures were designed for older athlete populations and had reading levels too high for this age group. All items on these scales have assessed reading levels of 9 years or below. The *Motivational Climate Scale for Youth Sports* (MCSYS; Smith, Cumming and Smoll, 2008) measures athletes' reports of their coaches' mastery and ego climate behaviors. Achievement goal orientations were measured by the *Achievement Goal Scale for Youth Sports* (AGSYS; Cumming, Smith, Smoll, Standage and Grossbard, 2008), and anxiety was assessed using the *Sport Anxiety Scale-2* (SAS-2; Smith, Smoll, Cumming and Grossbard, 2007).

Effects of the motivational climate intervention on goal orientations and anxiety were tested by comparing a sample of 20 basketball coaches who were trained in the Mastery Approach with a control condition

consisting of 17 untrained coaches (Smith, Smoll and Cumming, 2007; Smoll, Smith and Cumming, 2007). Athletes on the 37 teams were administered the achievement goal and anxiety measures at the beginning and end of the season, and they completed the MCSYS at the end of the season to report the extent to which their coaches engaged in mastery- and ego-initiating behaviors over the course of the season.

Analysis of the motivational climate data revealed that the trained coaches had significantly higher mastery scores than did the control coaches, indicating that the Mastery Approach to Coaching intervention had its desired effects on coaching behaviors. We assumed that these behavioral differences would be encoded by athletes in a manner that influenced the goal and affect components of the CAPS. In support of this prediction, we found significant Time x Group interactions for both variables. Athletes who played for the trained coaches showed significant increases on the Mastery orientation scale of the AGSYS, and significant decreases on the Ego orientation scale. In contrast, athletes who played for the untrained coaches showed no significant changes in goal orientation scores during the season (Smoll et al., 2007).

Sport performance anxiety was also influenced by the intervention. Figure 4 shows the results for total scores on the SAS-2 over the course of the season. Again, a significant Groups x Time interaction was found, and follow up tests revealed a significant anxiety decrease in the experimental condition and a significant increase in anxiety in the control condition as competitive pressures increased over the season. Thus, the coach intervention not only influenced coaching behaviors, but consequently changed two key components of the CAPS, namely goals and affect.

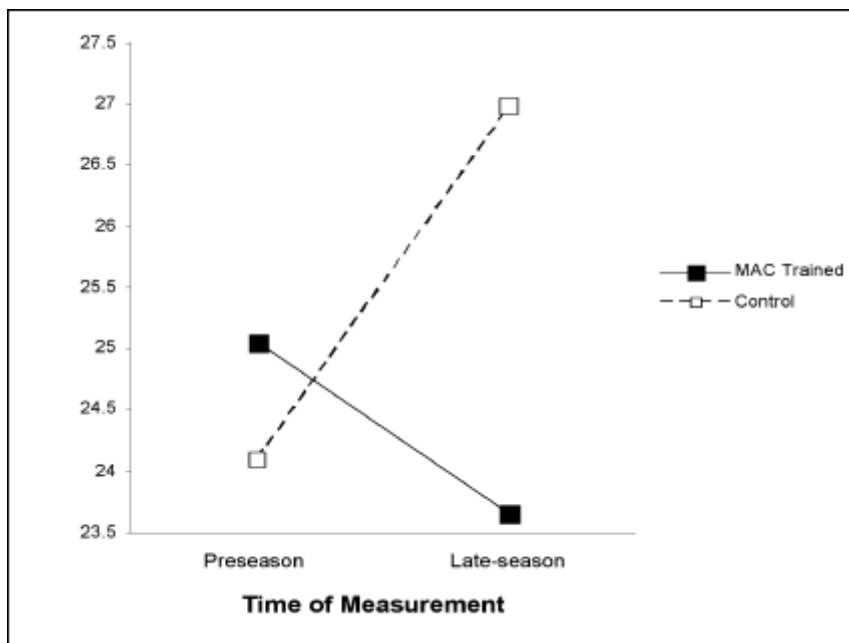


Figure 4. Changes in total scores on the Sport Anxiety Scale-2 in athletes who were exposed to coaches trained to create a mastery motivational climate compared with athletes who played for untrained coaches. (Data from Smith et al., 2007)

The exact paths by which change occurred are not clear, for the relations between situational features and CAPS components create a number of possibilities, as do connections between internal cognitive-affective units. It is possible, for example, that the intervention created change in achievement goals and anxiety independently of one another. It may be that different components of the motivational climate selectively influence achievement goals and anxiety. Thus, the coach's focus on striving for personal improvement may be an active ingredient of the situation that influences movement in the athletes toward a mastery goal orientation. Another element, namely

the coach's avoidance of criticism for mistakes, may be an active ingredient in reducing anxiety. Another possibility, however, is that anxiety change was mediated by a shift toward a mastery goal orientation, which served to reduce the threat value of the athletic environment by removing pressures to outperform others and win. To examine these possibilities, I correlated mastery climate scores with achievement goal and anxiety change scores, and the latter change scores with one another. Mastery climate scores on the MCSYS were significantly correlated with increases in mastery goal orientation and decreases in ego goal orientation, and they were also significantly

correlated with decreases in anxiety. However, the goal orientation change scores were not significantly correlated with anxiety change scores. This pattern of results suggests that anxiety reduction was not mediated by changes in goal orientations, and that these variables may be influenced by different “active ingredients” of motivational climate. Future research on relations among situational factors and CAPS elements is one of the greatest needs in using this dynamic model of psychological processes in sport psychology research.

Conclusions

Cognitive social theory is a strong and vibrant force within contemporary theory development and research in personality. Further, its influence is being realized in extensions to other disciplines, including sport psychology (e. g., Smith, 2006). In addition to stimulating basic research on cognitive-affective processes and dynamics, it is also stimulating applications in many areas of psychology.

The CAPS formulation has played an important role in helping to resolve the long-standing person-situation controversy that was initiated by Mischel's (1968) conclusion that there is little evidence for cross-situational consistency in behavior. The so-called personality paradox is resolved in the findings that stability does indeed exist, but at the level of *if...then* behavioral signatures. In sports, behavioral signatures have been clearly demonstrated among coaches whose situation-behavior profiles differ in a stable fashion. Additionally, it has been found that coaching behaviors have different impact on athletes, depending on the game situations in which they occur. For example, the rate at which coaches engage in supportive behaviors

in game situations when the team is ahead predict athletes' liking for the coach ($r = .50$), whereas rate of supportive behaviors during losing game situations are unrelated to liking. Conversely, rate of punitive behaviors given during losing game situations are negatively related ($r = -.37$) to liking for the coach, whereas punishment during winning situations is not related to liking (Smith et al., in press). Interestingly, rates of supportive and punitive behaviors are only weakly related to liking for the coach when the behaviors are aggregated across winning and losing game situations. This illustrates the cost of decontextualizing behaviors and thereby ignoring situational variations that might influence relations with other variables.

I believe that cognitive social personality theory should be particularly useful for sport psychologists. Models like the CAPS (which comprises only one part of the broader theoretical orientation) can be useful templates for assessing athlete and situational characteristics, stimulating research, and guiding the development of interventions. Many of the interventions routinely used by sport psychologists in their performance enhancement work, such as goal setting, stress management, imagery (mental simulation) and attention control are derived directly from the cognitive-behavioral tradition (Sousa, Cruz, Torregrosa, Vilches and Viladrich, 2006; Sousa, Smith and Cruz, 2008; Smith, 2006).

Cognitive social theory not only focuses on both the situation and the person in understanding behavior, but new advances takes this a step further by showing that variations in behavior across situations show lawful regularity and coherence in the form of behavioral signatures. In this theoretical model, the person, the environment, and

behavior all influence one another in reciprocal causal relations, and the person has an agentic role in behavior in that it is the individual who not only selects and mentally constructs the situations that are encountered, but who also can change their meaning and thus their impact (Bandura, 1986). Current research stimulated by self-determination theory (Deci and Ryan, 2000; Vallerand, 2001) is clearly consistent with this principle.

Just as advances in social cognitive personality theory can help advance theory development, research, and interventions in

sport psychology, the sport psychologist's work can help advance the theory. Sport is a wonderful environment to study virtually any psychological process, and its public nature and easily accessible performance measures make it especially attractive in the study of situational, individual difference, and behavioral variables. The research summarized above on behavioral signatures in coaches and on motivational climate effects illustrate only a beginning in how sport psychologists can use and contribute to the further development of personality theory.

AVANCES DE LA TEORÍA COGNITIVO-SOCIAL DE LA PERSONALIDAD: APLICACIONES A LA PSICOLOGÍA DEL DEPORTE

PALABRAS CLAVE: Teoría de la personalidad, *Sistema de Procesamiento Cognitivo-Afectivo* (CAPS), Conductas del entrenador, Objetivos de logro, Clima motivacional, Ansiedad.

RESUMEN: Muchas teorías y técnicas de intervención en psicología del deporte tienen un énfasis cognitivo-conductual y los psicólogos del deporte han estado interesados desde hace tiempo en las diferencias individuales. Los desarrollos recientes en la teoría cognitivo social de la personalidad ofrecen nuevas oportunidades para entender el comportamiento deportivo. El descubrimiento de diferencias individuales estables en las relaciones situación-comportamiento ha ayudado a resolver el debate persona-situación en los últimos años, y las rúbricas conductuales ideográficamente distintivas se han demostrado ahora en los comportamientos de los entrenadores en diferentes situaciones de juego. Además, los comportamientos de los entrenadores se relacionan de manera diferenciada con las preferencias de los deportistas por el entrenador, en función de que ocurran en situaciones en que se está ganando o perdiendo. El Sistema de Procesamiento Cognitivo-Afectivo de Mischel y Shoda (1995) ofrece una nueva herramienta para estudiar constructos de psicología del deporte como los objetivos de logro y la ansiedad. Así como la teoría cognitivo-social puede informar a la investigación, el desarrollo de teoría, y las intervenciones en psicología del deporte, la investigación en los ámbitos deportivos puede avanzar el futuro desarrollo de la teoría cognitivo-social de la personalidad.

PROGRESSOS NA TEORIA SOCIO-COGNITIVA DA PERSONALIDADE: APLICAÇÕES NA PSICOLOGIA DO DESPORTO

PALAVRAS-CHAVE: Teoria da personalidade, *Sistema de Processamento Cognitivo-Afectivo* (SPCA), Comportamentos do treinador, Objectivos de realização, Clima motivacional, Ansiedade.

RESUMO: Várias teorias e técnicas de intervenção na psicologia do desporto possuem uma ênfase cognitivo-comportamental, e os psicólogos do desporto estão desde há muito interessados nas diferenças individuais. Recentes desenvolvimentos na teoria sócio-cognitiva da personalidade oferecem novas oportunidades para compreender o comportamento desportivo. A descoberta de diferenças individuais estáveis nas relações situação-comportamento, têm ajudado a resolver o debate dos últimos anos sobre a interacção pessoa-situação, e têm sido agora demonstrados distintos padrões ideográficos para os comportamentos dos treinadores em diferentes situações de jogo. Além disso, os comportamentos dos treinadores estão relacionados diferencialmente com o apreço dos atletas pelo treinador, dependendo de ocorrerem em situações competitivas de vitória ou derrota. O Sistema de Processamento Cognitivo-Afectivo de Mischel & Shoda (1995), oferece um novo modelo para o estudo de alguns constructos da psicologia do desporto, tais como a orientação para os objectivos de realização e a ansiedade. Enquanto a teoria sócio-cognitiva pode auxiliar a investigação, o desenvolvimento da teoria, e as intervenções na psicologia do desporto, a investigação no contexto desportivo pode contribuir para o desenvolvimento futuro da teoria sócio-cognitiva da personalidade.

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