

CHAPTER 21

Understanding and Enhancing Self-Confidence in Athletes

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The influence of self-confidence on sport performance is one of the most intriguing topics in sport psychology. After achieving peak performances, athletes often describe a strong, almost "shatterproof" sense of confidence that they believe allowed them to perform their best. Conversely, two of the most dreaded psychobehavioral occurrences in sport, choking under pressure and sudden performance slumps, are often attributed to "losing" one's confidence. Research has supported the notion that higher levels of self-confidence are related to success in sport (e.g., Feltz, 1988, 1994; Vealey, 1986, 1999). Coaches and sport psychology consultants, therefore, consider confidence a critical mental skill to be developed and enhanced in athletes.

However, despite the consensus that self-confidence is critical to athlete performance, research in sport psychology has barely scratched the surface in developing an understanding of this area. This may partly be attributed to the relative youth of the field of sport psychology, with the optimistic view taken that advances in the study of confidence in sport are an inevitable development as the field matures. Another perspective, however, is that significant advances in the study of self-confidence in sport await fresh conceptual frameworks and useful methodological vehicles to spur meaningful research questions that have relevance to the world of sport. For example, researchers have established that confidence is important to athletes' performance, and therefore research questions should now focus more on *why* and *how* confidence works to enhance performance. Knowledge gained from these types of questions would then provide meaningful and specific information to practitioners as to the nature of confidence and suggest ideas for quality intervention programs in sport psychology.

Thus, the purpose of this chapter is to discuss the nature of self-confidence in sport, and more important, to attempt to provide a conceptual framework from which research and practice related to confidence in sport may be extended in meaningful ways. The chapter begins with a brief historical summary of how the study of self-confidence has been approached in sport psychology. This summary then leads to a presentation of an integrated conceptual model of sport confidence to serve as the unifying framework for the chapter. The framework is used to overview what is known about confidence, as well as to offer suggestions about what could be known about confidence through the advancement of conceptual models and intervention research. Extending from the conceptual framework of confidence and research evidence/ideas related to this framework, intervention strategies for developing and enhancing confidence in athletes are discussed.

HISTORICAL BRIEF OF THE STUDY OF SELF-CONFIDENCE IN SPORT

Similar to other areas of study, self-confidence has been conceptualized and operationalized in many different ways in the sport psychology literature. Conceptual constructs related to the study of confidence in sport include sport confidence (Vealey, 1986; Vealey, Hayashi, Garner-Holman, & Giacobbi, 1998), self-efficacy (Bandura, 1986; Feltz, 1994), movement confidence (Griffin & Keogh, 1982), perceived competence (Harter, 1981), and performance expectancy (Corbin, 1981; Corbin, Landers, Feltz, & Senior, 1983; Corbin & Nix, 1979; Scanlan & Passer, 1979, 1981). It is counterproductive to debate the relative merits of each approach and how they differ, and especially to debate which approach is "right" or most useful. Rather,

the knowledge base in sport psychology is broadened with an understanding of how these constructs form a constellation of approaches to the study of confidence, each providing bits of evidence to enhance our knowledge of the ubiquitous concept called self-confidence in sport.

The focus of this chapter is on the conceptual model of sport confidence based on its development as a theoretical framework dedicated to the specific study of confidence in sport. Self-efficacy, as a conceptualization of confidence developed in the general field of psychology, has been extensively reviewed by Feltz and Lirgg (this volume). However, several research findings and theoretical predictions from this area are mentioned again in this chapter due to their relevance to the understanding of confidence in sport.

Initial Conceptual Model of Sport Confidence

Building on work in the areas of self-efficacy, perceived competence, movement confidence, and expectancy theory, Vealey (1986) proposed a conceptual model of sport confidence and developed companion inventories to measure the key constructs in the model. A sport-specific construct of self-confidence, termed sport confidence, was defined as the belief or degree of certainty that individuals possess about their ability to be successful in sport (Vealey, 1986). Sport confidence is similar to self-efficacy, defined by Bandura (1986) as the belief one has about being able to execute a specific task successfully to obtain a desired outcome. However, the conceptualization of sport confidence and the development of measurement instruments related to this model were spurred by the need for a sport-specific conceptual framework and inventories to operationalize confidence in relation to the unique context of competitive sport.

The original model of sport confidence (Vealey, 1986) predicted that dispositional sport confidence (called trait sport confidence or SC-trait) interacts with competitive goal orientation to create a momentary sport confidence (called state sport confidence or SC-state) that directly influences behavior and performance. Competitive orientation was included in the model to account for the goal on which sport confidence is based, taken from the idea that success means different things to different people (Nicholls, 1989). The term competitive orientation was established to indicate a tendency for individuals to strive toward achieving a certain type of goal in sport. Vealey chose the two inherent goals of sport—performing well and winning—to represent the competitive orientations in the sport confidence model, because they seem likely to reflect

an athlete's belief that attainment of one of these goals demonstrates competence and success.

The competitive orientation construct is dispositional, meaning that over time, athletes develop a tendency to strive for a certain type of goal (either performance or outcome) and use this goal to define competence and success for themselves. Thus, athletes tend to be either performance-oriented or outcome-oriented, although in theory it is possible for a person to be high in both. This construct was viewed as a critical concomitant to confidence, meaning that understanding the influence of confidence on behavior and performance was facilitated by knowing what athletes were confident about (competitive goal orientation). To complete the model, various subjective outcomes (attributions, perceived success, emotions) were predicted to emanate from an athlete's behavior and feed back in the model to modify existing levels of SC-trait and types of competitive orientations.

To test the sport confidence model, three inventories were developed to operationalize key constructs in the theoretical framework: the Trait Sport Confidence Inventory (TSCI), the State Sport Confidence Inventory (SSCI), and the Competitive Orientation Inventory (COI). The TSCI and SSCI were developed to assess unidimensional constructs of SC-trait and SC-state, respectively. The COI produces a performance orientation score and an outcome orientation score for each individual completing the inventory. A multiphase research project in which over 1,000 participants were tested provided evidence to support the validity and reliability of the instruments, as well as to provide some support for the proposed model of sport confidence (Roberts & Vealey, 1992; Vealey, 1986, 1988b; Vealey & Campbell, 1988; Vealey & Sinclair, 1987).

Limitations of the Initial Sport Confidence Model

Although the original model of sport confidence carved out a sport-specific conceptual framework for the study of confidence in sport, it did not serve as a strong impetus for additional research. Several limitations of this initial conceptual framework may be identified to explain the lack of research in the area.

One weakness of the model seemed to be its dispositional-state approach in distinguishing SC-trait and SC-state, and hypothesizing that SC-state should be the best predictor of behavior/performance. This hypothesis was not supported, and interestingly, SC-trait emerged in various studies as a better predictor of sport behavior and performance than SC-state (Gayton & Nickless, 1987; Roberts

& Vealey, 1992; Vealey, 1986). Certain theorists question the "arbitrary" distinction between personality dispositions and states, and it may be that this distinction has not enhanced the study of self-confidence in sport. Allen and Potkey (1981) state that the trait-state distinction in personality measurement has little conceptual or empirical viability. Mischel (1968) has argued that although the dispositional-state approach is conceptually logical, it is difficult to validate empirically. Problems in predicting sport behavior (particularly performance) using the trait-state approach have been discussed frequently in the literature (e.g., Burton, 1988; Gould, Petlichkoff, Simons, & Vevera, 1987). Therefore, it seemed fruitful to move beyond the arbitrary dichotomy of dispositions and states and think about sport confidence as being on a continuum from trait-like to state-like. In this way, consistency in confidence and behavior over time and situations could be examined in many different ways across the continuum, as opposed to thinking of confidence as being manifested statically in two dichotomous categories.

A second limitation of the initial sport confidence model was that it did not account for the impact of social and organizational factors on the development and manifestation of confidence in athletes. For example, most athletes would agree that such social factors as coaching behavior and expectancies of significant others influence their levels of confidence. This has been supported in research on gender differences in self-confidence, as the perceived cultural appropriateness of an activity has been shown to affect confidence levels of males and females (Clifton & Gill, 1994; Lirgg, 1991; Lirgg, George, Chase, & Ferguson, 1996). This research demonstrated that males were less confident than females on a perceived feminine task, and females were less confident than males on a perceived masculine task. Thus, there is a need to move beyond a narrow focus on self-confidence and performance to more broadly focus on how patterns of confidence are developed and continually influenced by social and cultural factors in society and the subculture of sport.

Reconceptualizing the Sport Confidence Model: A Social-Cognitive Emphasis

In 1998, a revised conceptual model of sport confidence was published with the intent to reconceptualize sport confidence based on social-cognitive theory, a conceptual shift that seemed warranted to enhance the study of confidence in sport (Vealey et al., 1998). Social-cognitive theory emphasizes the social origins of behavior, the importance of cognitive thought processes in human motivation, emotion,

and action, and the learning of complex individualized patterns of behavior in the absence of rewards (Pervin & John, 1997). In social-cognitive theory, behavior is situation-specific, and distinctive situation-behavior patterns are viewed as more defining of personality than the aggregate cross-situational differences emphasized by dispositional theorists. For example, social-cognitive theorists emphasize that it is more important to know about the kinds of situations that enhance or decrease confidence in athletes, as well as the strategies used by athletes in different situations, than to assess athletes' overall levels of innate SC-trait relative to others.

Overall, the reconceptualized model of sport confidence based on a social-cognitive perspective included three new features: (1) a single sport confidence construct, as opposed to separate dispositional and state constructs; (2) the inclusion of organizational culture in the model to emphasize that sociocultural forces must be taken into account to understand how confidence is manifested in athletes in the unique subculture of competitive sport; and (3) the conceptualization of sources of confidence that are salient to athletes (Vealey et al., 1998). These three additions to the model are discussed next.

Deletion of Dispositional and State Confidence Constructs

The first modification to the model was the deletion of separate dispositional and state conceptualizations of sport confidence. Rather, sport confidence was viewed as a social-cognitive construct that can be more trait-like or state-like depending on the temporal frame of reference used (confidence about today's competition vs. confidence about the upcoming season vs. typical level of confidence over the past year). This modification was made in the model because the separate designations (and measures) of SC-trait and SC-state were not found to be useful predictors of behavior in the initial research in this area (Vealey, 1986).

Accounting for Influence of Organizational Culture

The second new feature of the sport confidence model was the inclusion of organizational culture as an influence on the sources and levels of sport confidence experienced by athletes. As discussed previously, psychological constructs such as self-confidence in sport must be studied in relation to the cultural forces that shape human cognition and behavior. Accounting for the sociocultural forces that are part of the organizational subculture of competitive sport is imperative to understanding self-confidence in a

social-cognitive perspective due to the emphasis in this approach on the learning of behavior patterns within a specific cultural system.

Organizational culture factors that seem to influence the development and manifestation of confidence in athletes include level of competition, motivational climate, and the goals and structural expectations of particular sport programs. For example, the organizational culture of an elite gymnastics academy would differ from a local city gymnastics program for children in terms of goals, coaching behaviors, and expected levels of behavioral commitment from the participants. These social-structural-cultural factors are critical to consider when attempting to understand, assess, and enhance self-confidence in athletes of different ages, needs, and levels. Important organizational culture influences might also include stereotypical expectations for individuals' sport participation and behaviors based on ethnicity, class, gender, or sexual orientation. For example, in the United States, if an adolescent girl wanted to pursue competitive wrestling (traditionally a male sport), she would face a great deal of social disapproval, which would certainly influence her level of confidence as well as the sources that she uses to gain and maintain confidence. The main point is that psychological constructs such as sport confidence must be studied in relation to the cultural forces that shape human cognition and behavior.

Conceptualization of Sources of Sport Confidence

The third revision to the sport confidence model was the inclusion of sources of confidence based on a new line of research that identified nine sources of confidence salient to athletes in the sport environment (Vealey et al., 1998). Bandura (1990) states that advances in a field are best achieved when phenomena of interest are rooted in theories that specify their determinants or sources. As a social-cognitive theorist, Bandura emphasizes the need to understand the origins of critical human self-perceptions, such as confidence and self-efficacy, that are developed via social interactions with one's environment.

Most research in sport psychology on the sources of self-confidence has been conducted within the parameters of Bandura's (1986) self-efficacy theory. Bandura asserts that there are four sources of self-efficacy: performance accomplishments, vicarious experiences, verbal persuasion, and physiological states. The effects of these sources of self-efficacy on efficacy expectations and performance have been examined in experimental research in various motor and sport performance situations (see Feltz, 1994; Feltz & Lirgg, this volume). Descriptive research has

also supported the four sources of self-efficacy proposed by Bandura (Feltz & Riessinger, 1990). Bandura's self-efficacy theory has proved to be a fruitful theoretical framework within which to examine sources of confidence. The question remains, however, as to whether these sources are indeed the most salient to athletes within the unique sport context. Thus, this research line was pursued to examine the sources of confidence used by athletes based on the specific nature of competitive sport.

Nine Sources of Sport Confidence Supported by Research. A four-phase research project utilizing over 500 athletes from a variety of sports was conducted to identify relevant sources of confidence for athletes and to develop a reliable and valid measure of the sources of sport confidence (Vealey et al., 1998). Psychometric evidence supported the Sources of Sport Confidence Questionnaire (SSCQ) as a reliable and valid measure of nine sources of confidence in athletes. These sources are identified and defined in Table 21.1.

Mastery is a source of confidence derived from mastering or improving personal skills. *Demonstration of ability* becomes a source of confidence when athletes show off their skills to others or demonstrate more ability than their opponents. These two sources of sport confidence support Bandura's position that performance accomplishments are

Table 21.1 Sources of Sport Confidence

Source	Confidence derived from . . .
Mastery	Mastering or improving personal skills.
Demonstration of ability	Showing off skills to others or demonstrating more ability than one's opponent.
Physical/mental preparation	Feeling physically and mentally prepared with an optimal focus for performance.
Physical self-presentation	Perceptions of one's physical self (how one perceives one looks to others).
Social support	Perceiving support and encouragement from significant others in sport, such as coaches, family, and teammates.
Vicarious experience	Watching others, such as teammates or friends, perform successfully.
Coach's leadership	Believing coach is skilled in decision making and leadership.
Environmental comfort	Feeling comfortable in a competitive environment.
Situational favorableness	Feeling that the breaks of the situation are in one's favor.

an important source of self-confidence. However, the emergence of these two separate sources indicates that accomplishment is manifested in two ways in sport: mastering skills and demonstrating ability. The distinction between demonstrating ability and mastery as sources of confidence or perceived ability has also been supported by the work of Nicholls (1989), Horn and Hasbrook (1987), Duda (1992), and Gill, Dziewaltowski, and Deeter (1988).

Physical/mental preparation involves feeling physically and mentally prepared with an optimal focus for performance. This source of confidence has been supported by Gould, Hodge, Peterson, and Giannini (1989), who found that physical conditioning was one of the highest rated strategies utilized by coaches to develop self-confidence in athletes. Both Horn and Hasbrook (1987) and Williams (1994) also determined that effort was a source of competence information used by athletes. In addition, Bandura (1986) identified physiological arousal as a source of self-efficacy, which is similar to the popular sport concept of "psyching up" for optimal confidence and performance. Williams also noted that "pregame attitude" such as feeling relaxed or energized influences perceptions of competence.

Physical self-presentation is defined as athletes' perceptions of their physical selves, or body image. Previous research in self-efficacy has supported a construct of physical self-efficacy based on perceptions of one's body and physical conditioning (Ryckman, Robbins, Thornton, & Cantrell, 1982). Moreover, research has demonstrated that sport participants are often concerned with the appearance and evaluation of their bodies (Martin & Mack, 1996).

As a source of sport confidence, *social support* is similar to Bandura's (1986) verbal persuasion source of self-efficacy. Weinberg, Grove, and Jackson (1992) found that verbal persuasion was one of the most common strategies used by coaches to facilitate confidence in tennis players. Harter (1981) identified reinforcement from significant others as an important facilitator of perceived competence. Evaluative feedback from coaches, parents, and peers has been shown to be an important influence on children's perceptions of competence (Black & Weiss, 1992; Horn, 1985; Horn & Hasbrook, 1986, 1987; Horn & Weiss, 1991).

Vicarious experience involves gaining confidence from watching others, such as teammates or friends, perform successfully. Similarly, Bandura's (1986) self-efficacy theory predicts that seeing someone else perform successfully serves to enhance one's own confidence. Vicarious experience as a source of confidence has been supported in the sport psychology literature (Gould & Weiss, 1981; McAuley, 1985; Weinberg, Gould, & Jackson, 1979).

Coach's leadership is a source of confidence derived from believing in the coach's skills in decision making and leadership. This source has been supported by research establishing a link between coaching behavior and perceptions of competence in athletes (Horn, 1985).

Environmental comfort is a source of confidence that comes from feeling comfortable in a competitive environment, such as the particular gymnasium or pool, where competition will occur. The "home advantage," or finding that home teams in sport competitions win over 50% of the games played under a balanced home-and-away schedule (Courneya & Carron, 1992), is often anecdotally cited as a source of confidence for athletes. *Situational favorableness* involves gaining confidence by feeling that the breaks of the situation are in one's favor. For example, the popular notion of psychological "momentum" refers to athletes' perceptions that something has occurred that increases their probability of success, which typically creates a surge of confidence (Richardson, Adler, & Hanks, 1988).

It seems conceptually useful to consider the nine sources of sport confidence supported by the research as falling within three broad domains. First, athletes gain confidence from *achievement*, which includes both mastery and demonstration of ability. Second, athletes gain confidence from *self-regulation*, which includes physical/mental preparation and physical self-presentation. Third, athletes gain confidence from a positive and achievement-nurturing *social climate*, which includes the sources of social support, vicarious experience, coach's leadership, environmental comfort, and situational favorableness. That is, athletes gain self-confidence when they achieve their goals, engage in effective self-regulation of cognitions, emotions, and behavior, and train and compete in a competitive climate that is supportive, challenging, comfortable, and motivating. Practically, a clearer understanding of the sources underlying self-confidence and their relationships to other psychological constructs and behaviors may provide useful insight for interventions to enhance self-confidence in athletes. Potential practical implications and interventions are discussed later in the chapter.

Importance of Sources to Athletes. Beyond the identification of salient sources of confidence in sport, it was also of interest to examine which sources were most important for athletes. For individual sport collegiate athletes, the top five sources of sport confidence were physical/mental preparation, social support, mastery, demonstration of ability, and physical self-presentation (Vealey et al., 1998). Physical self-presentation and social support were more important sources of confidence for females than for

males, emphasizing that body image along with social approval from others is learned to be important for females when participating in sport. Female athletes learn that maintaining socially defined feminine qualities affords them social acceptance and approval due to the emphasis placed on how women look in our society. These findings are congruent with researchers who have found that the presence of social evaluation cues influences females' level of confidence more than males' (Lenney, 1977; Lirgg, 1991; Lirgg et al., 1996).

For high school basketball players, mastery, social support, physical/mental preparation, coach's leadership, and demonstration of ability were the top five sources of sport confidence. However, physical self-presentation was the least important source of sport confidence and did not differ based on gender for this sample (in contrast to the collegiate individual sport sample). Typically, greater emphasis is placed on body type and presentation in individual sports as compared to the team sport of basketball, thus physical self-presentation may be a more salient source for athletes in sports where body type is more highly scrutinized. Due to limitations in the samples of this study, an alternative explanation may also be that more elite college athletes place greater emphasis on their physical self-presentation and body image as compared to high school athletes. Future research is needed to more fully examine the nature of physical self-presentation as a source of confidence in different sports and age groups.

Similar to the results with college athletes, social support was a more important source of sport confidence for female than male high school athletes. In addition, male athletes in this sample indicated that demonstration of ability was a more important source of confidence than for female athletes. This finding is supported by research indicating that males experience extreme normative social comparison expectations with regard to sport prowess and participation (e.g., Duda, 1989; Eccles & Harold, 1991; Gill & Deeter, 1988). However, gender differences in demonstration of ability as a source of sport confidence were not found with college athletes, so additional research is needed to further examine whether this gender difference is influenced developmentally or based on level of sport participation.

Summary of Reconceptualized Sport Confidence Model

The initial sport confidence model published by Vealey in 1986 was reconceptualized within a social-cognitive perspective to include an emphasis on salient sources of confidence for athletes and the influence of sociocultural

factors on the manifestation of confidence in sport. In preparing this chapter, however, it became apparent that an even broader, more integrative model is needed to explicitly illustrate the critical psychosocial processes that influence the important yet fragile construct of self-confidence in sport. A chronic problem in sport psychology is the schism that exists between research and practice, which relates to the need for a unifying framework that is relevant to both researchers and practitioners with regard to the study and enhancement of confidence. In the next section, a preliminary integrative model for research and practice is offered. The main focus of the model does not differ radically from previous frameworks, but the objective was to illustrate a broader, more explicit, perspective of how confidence "works" in sport.

An Integrative Model of Sport Confidence for Research and Practice

The point of developing an integrative model of sport confidence is to serve two functions: The model should serve as an organizational framework to elicit meaningful extensions to the research examining confidence in sport, and it should also serve as a foundation for interventions designed to enhance confidence in athletes. Clearly, a model such as this represents only a point of departure for both researchers and practitioners; hopefully, the framework will mature and extend as the knowledge base grows from research and successful interventions. The integrative model of sport confidence is shown in Figure 21.1. In the following section, a description of the model is provided, and relevant research is reviewed to support the model.

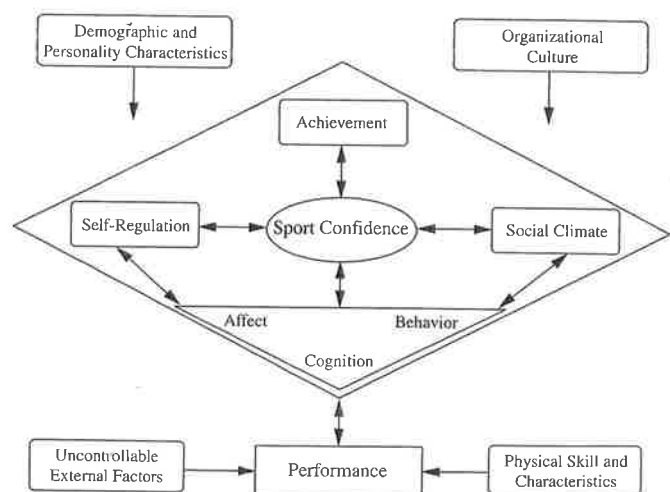


Figure 21.1 An integrated model of sport confidence for research and practice.

Core Psychosocial Constructs and Processes in the Model

The diamond shape in the center of the model contains the core psychosocial constructs and processes that define confidence, fuel its existence, and explain its mediating influence on sport performance. These include the sport confidence construct itself, the three domains representing sources of confidence for athletes (achievement, self-regulation, and social climate), and the ABC (affect, behavior, cognition) triangle, which is predicted to most directly influence athlete performance.

Sport Confidence. Sport confidence is situated as the heart of the model; it is defined as the beliefs or degree of certainty that individuals possess about their ability to be successful in sport. Sport confidence is conceptualized as a social-cognitive construct that may be operationalized as more trait-like or state-like, depending on whatever temporal frame of reference is used. The social-cognitive nature of confidence is supported by Bandura's (1986) definition of self-efficacy as belief in one's capabilities to mobilize motivation, cognitive resources, and courses of action needed to exercise control over task demands. Thus, sport confidence, like self-efficacy, involves more than perceived competence. It is, rather, one's perceived competence to *do something*. That is, confidence is linked to a goal, or an outcome, that is perceived as success to the individual.

Unlike previous unidimensional operationalizations of sport confidence (Vealey, 1986), emerging theory and research supports confidence as a multidimensional construct (Maddux & Lewis, 1995). Preliminary results indicate that athletes possess multiple types of confidence, including confidence about one's ability to execute physical skills, psychological skills, perceptual skills such as decision making and adaptability, physical fitness and training status, and learning potential or ability to improve one's ability (Vealey & Knight, in progress). A new multidimensional Sport Confidence Inventory (SCI) requires researchers to provide respondents with a temporal frame of reference on which to base their responses (Vealey & Knight, in progress). Examples of temporal frames of reference for athletes' confidence that may be used in the SCI are shown in Table 21.2.

ABC Triangle. The triangle shown directly below sport confidence in the model contains the ABCs of sport psychology: affect, behavior, and cognition. That is, the main focus in sport psychology is on how people feel, act,

Table 21.2 Sample Temporal Frames of Reference for the Sport Confidence Inventory (SCI)

Respond to each item based on . . .

1. How you feel RIGHT NOW about your abilities.
2. How you have felt about your abilities DURING THE PAST WEEK.
3. How you feel about your abilities in relation to the UPCOMING COMPETITION.
4. How you feel about your abilities in relation to YOUR TENNIS MATCH THIS COMING WEEKEND.
5. How you feel right now about your abilities in relation to the UPCOMING SEASON.
6. How you felt about your abilities DURING YOUR COMPETITIVE SEASON (retrospective assessment, after the season is over).
7. How you TYPICALLY feel about your abilities.

and think. In the social-cognitive perspective of psychology, the ABCs are termed the "domains of personal adjustment," or the feeling (affect), doing (behavior), and thinking (cognition) of human functioning (Maddux & Lewis, 1995). The ABCs are so interactive, or reciprocal, as determined (Bandura, 1978), that they are illustrated together within a triangle in Figure 21.1 to emphasize their continuous interactional reciprocity.

As a primary mediator of the ABCs of athletes, sport confidence may be considered the "mental modifier," meaning that confidence modifies how athletes feel about, respond to, and think about everything that happens to them in sport. This is the most critical link in the model because it represents the importance of understanding why and how sport confidence influences performance through its effect on how athletes feel, think, and act.

First, confidence arouses positive emotions ("A"), whereas a lack of confidence relates to negative affect such as anxiety, depression, and dissatisfaction (Martens, Vealey, & Burton, 1990; Roberts & Vealey, 1992; Vealey, 1986; Vealey & Campbell, 1988; Vealey et al., 1998). Thus, strong beliefs about personal competence and ability produce adaptive emotional states, whereas a lack of confidence (or beliefs about incompetence and lack of ability) are emotionally painful and lead to ineffective actions and thoughts (Maddux & Lewis, 1995). Interestingly, researchers have demonstrated that higher levels of confidence are associated with more positive perceptions of arousal and anxiety (Jones, Hanton, & Swain, 1994; Jones & Swain, 1995). Thus, confidence seems not only to enhance positive emotions, but also to provide a productive belief system in which emotions generally viewed as negative (e.g., anxiety) are reframed to be viewed as necessary and facilitative to athletic performance.

Second, self-confidence has been linked to productive achievement behaviors ("B") such as effort and persistence (Nelson & Furst, 1972; Ness & Patton, 1979; Weinberg, Yukelson, & Jackson, 1980). A strong sense of confidence leads athletes to set challenging goals, expend maximal effort, and persist in the face of obstacles in attempting to reach these goals, and thus to accomplish more as the result of these proactive behaviors (Bandura, 1986; Maddux & Lewis, 1995).

Third, confident individuals are more skilled and efficient in using cognitive resources ("C") that are necessary for sport success. Confident athletes have more productive attributional patterns, attentional skills, goal orientations, self-perceptions of success and ability, and coping strategies as compared to less confident athletes (Grove & Heard, 1997; Roberts & Vealey, 1992; Vealey, 1986, 1988b; Vealey & Campbell, 1988). Research has also demonstrated that highly confident athletes use more mastery and arousal imagery and have better kinesthetic and visual imagery ability than less confident athletes (Moritz, Hall, Martin, & Vadocz, 1996). Although not directly tested in the sport literature, Bandura and Wood (1989) have shown that confident individuals remain task-diagnostic by focusing on process solutions to problems in the face of obstacles, whereas less confident individuals are more likely to become self-diagnostic and focus on their perceived inadequacies. Remaining cognitively efficient via productive thinking is an essential skill for success in competitive sport, thus emphasizing the importance of self-confidence as a mental modifier of this cognitive efficiency.

Three Source Domains for Sport Confidence. Along with sport confidence and the ABC triangle, the other three constructs in the central diamond portion of the model represent source domains, or categories of factors that develop and/or enhance sport confidence in athletes. As explained previously, *achievement* represents the two sources of confidence used by athletes that are based on their past accomplishments. Specifically, research has shown that demonstrating ability and mastering sport skills are two of the most important sources of confidence for high school and college athletes (Vealey et al., 1998).

Self-regulation is the second source domain for confidence, emphasizing that the human ability to use self-reflection to plan and regulate behavior in pursuit of personal goals is paramount to developing confidence (e.g., Scheier & Carver, 1988). Vealey and colleagues (1998) found that physical and mental preparation were important sources of confidence in athletes, as well as positive self-perceptions about one's physical self.

The third source domain for sport confidence is the *social climate*, the myriad social processes that are typical to achievement situations. Social climate factors that have emerged as salient sources of confidence for athletes include social support, coach's leadership style and effectiveness, vicarious experience or available models, feelings of comfort and acclimation to the competitive environment, and an intuitive feeling of situational favorableness (Vealey et al., 1998). As discussed later, these source domains represent significant areas to target for intervention work on confidence.

Reciprocal Interactionism in the Central Sport Confidence Process. All constructs in the central process part of the sport confidence model (represented inside the diamond shape) interact continuously to influence performance. The three source domains are shown to directly influence athletes' level of sport confidence. Secondary arrows acknowledge the direct relationships between self-regulation and the ABC triangle and social climate and the ABC triangle. This means that although the focus of the model is on the determinants and consequences of sport confidence, self-regulatory forces and social climate factors also impact directly on how athletes think, feel, and respond in the competitive environment. The two-way arrows emphasize that all processes in the core of the model interact in a reciprocal manner.

Self-Confidence and Performance

The core of the model illustrates that, from a psychosocial perspective, the influence of confidence on performance is mediated by the ABC triangle. Specifically, performance is influenced by the thoughts, emotions, and behaviors of athletes. This is, of course, a major tenet of self-efficacy theory. Performance is ultimately shaped by the goals that athletes set, the behavioral choices they make, the effort they engage to pursue their goals, and the persistence they demonstrate when obstacles arise. Performance is also shaped by the ability of athletes to elicit productive emotions and thoughts, as well as their ability to manage and cope with counterproductive emotions and thoughts. As seen at the bottom of the model, performance is also influenced by the physical skill and characteristics of the athlete as well as uncontrollable external factors (e.g., weather, luck, opponents). It seems important to acknowledge these influences to indicate to athletes that they cannot control all things that influence their performance.

It is well established that self-confidence is facilitative to physical performance (Feltz, 1988, 1994; Roberts &

Vealey, 1992; Vealey, 1986). Feltz (1988) found that the correlations between self-confidence and subsequent performance in 28 studies ranged from .19 to .73, with a median of .54. Several correlational studies have demonstrated the importance of confidence in distinguishing between successful and less successful Olympic gymnasts (Mahoney & Avenier, 1977), elite/collegiate wrestlers (Gould, Weiss, & Weinberg, 1981; Highlen & Bennett, 1979; Meyers, Cooke, Cullen, & Liles, 1979), swimmers (Jones et al., 1994), and athletes from a variety of sports (Mahoney, Gabriel, & Perkins, 1987). Thus, although multiple factors influence performance, overall it can be stated that one's self-perceptions of ability to succeed clearly influence motivated behavior and performance in physical activity and sport.

Organizational Culture

Organizational culture remains an important factor in the overall model of sport confidence. As shown in Figure 21.1 (and discussed previously), organizational culture represents the structural aspects of the sport subculture that influence the ways in which confidence is developed and manifested in athletes. For example, Olympic athletes report that the pressure and distractions in world-class competition such as the Olympic Games render their confidence level atypically "fragile" and vulnerable to instability (Gould, Guinan, Greenleaf, Medbery, & Peterson, 1999).

Demographic and Personality Characteristics

The final box in the model represents all the personality characteristics, attitudes, and values of individual athletes, as well as demographic characteristics such as age, experience, gender, and ethnicity. These characteristics are predicted to influence the development and manifestation of confidence in individuals as well as the sources that they use to gain confidence.

For example, competitive orientation, shown to be an important influence on sport confidence in Vealey's (1986) original model, is a personality characteristic that should influence levels and sources of sport confidence. Research has indicated that performance goal orientation was related to a more stable pattern of sport confidence for collegiate field hockey players over the course of a competitive season as compared to outcome goal orientation (Vealey & Sinclair, 1987). Also, competitive orientation has been shown to influence the sources of confidence that athletes use. Physical/mental preparation emerged as a more important source of confidence for performance-oriented athletes,

and demonstration of ability and environmental comfort were the preferred sources of confidence for outcome-oriented athletes. These findings suggest that performance-oriented athletes may use more personally controllable sources to fuel their confidence, whereas outcome-oriented athletes may focus on more uncontrollable sources of confidence such as normative social comparison and the social climate.

Gender is the main demographic characteristic that has been examined in relation to confidence in sport. A fairly consistent finding in the literature is that males tend to be higher in self-confidence than females (e.g., Lirgg, 1991). However, based on Lenney's (1977) now classic assertion that these confidence differences were based on perceived gender-appropriateness of the task (sport), research has shown that females are less confident than males on a perceived masculine task and that males are less confident than females on a perceived feminine task (Clifton & Gill, 1994; Lirgg, 1991; Lirgg et al., 1996). Vealey (1988b) found that although elite male athletes were more confident than male and female athletes at the high school and college levels, there was no difference in confidence between elite male and elite female athletes.

These findings suggest a strong sociocultural influence on the previously found gender differences in confidence. Females at an elite level of sport strongly believe they have the ability to succeed, and they feel this way no less than their male counterparts. An interesting question to address is whether they are selected into elite levels of sport because of their confidence (and ability), or whether they develop high levels of confidence from competing at an elite level. That is, it may be that elite athletes have deeply rooted confidence that is less affected by cultural constraints on acceptable gender behavior, or it could be that their elite status has helped them to develop greater confidence than females at lower levels of competition. However, it seems likely that gender differences in sport confidence have largely been misunderstood based on sport psychologists' neglect to more deeply understand the sociocultural influences on the possession and expression of confidence for females and males in sport.

STRATEGIES TO ENHANCE CONFIDENCE IN ATHLETES

The integrative model of sport confidence and review of literature based on the model provide a basic foundational framework for the development of intervention strategies to enhance confidence in athletes (see Figure 21.1).

Quality of Physical Training and Perceived Achievement

The most obvious point about developing confidence in athletes is that self-confidence must be earned through the development of physical skill and fitness to serve as a basic prerequisite for performance success. This is represented in the conceptual model as the link between achievement and sport confidence. Quality training to hone skills and fitness development are foundational achievements that serve as the basis for confidence building. Coaches clearly understand this, as they have rated physical conditioning as their top strategy in developing confidence in athletes (Gould et al., 1989). Athletes have also rated physical preparation as one of their top sources of confidence (Vealey et al., 1998), and successful world-class athletes have particularly emphasized the importance of *quality* training for their confidence and performance success (Orlick & Partington, 1988). This point should never be overlooked by sport psychology consultants. No mental training intervention can ever take the place of the physical skill and conditioning needed to perform in sport. Coaches and sport psychology consultants should work together to analyze practice methods and teaching strategies to enhance the quality and impact of physical training on athletes' confidence and performance levels. Examples of practice management to enhance confidence include simulation of pressure situations and creating unexpected situations to train adaptability.

Another basic foundation for athletes' confidence is their perception of their past achievement (Bandura, 1986; Vealey et al., 1998). The key here is the emphasis on perception, the point being that athletes must engage in productive attributional assessments of their achievement attempts and perceptions of success based on controllable factors (e.g., appropriate goal setting and evaluation). Higher levels of confidence in athletes have been shown to be related to focusing on sources or strategies that athletes personally control, such as mastery of physical skills, whereas lower levels of confidence were related to uncontrollable socially comparative or environmental sources (Vealey et al., 1998). Coaches and sport psychology consultants should help athletes define success in personally controllable ways, such as through the use of performance and process goals (e.g., Gould, 1998). Similarly, from a young age, athletes should learn to make productive attributions for their successes and failures to enhance their expectancies that they will be successful in the future.

As shown in Figure 21.1, personality characteristics interact with organizational culture to affect sources and

levels of confidence in athletes. From an intervention standpoint, this interactional effect should be carefully assessed in relation to athletes' perceptions of their achievement and success. For example, perfectionism as well as certain personal identity issues have been related to youth athlete burnout, particularly in organizational sport subcultures where young athletes face high expectations of performance and professionalized attitudes about sport (Coakley, 1992; Gould, Udry, Tuffey, & Loehr, 1996). From a structural standpoint, sport researchers and administrators must lobby for institutional change in organizational subcultures that are counterproductive to the skill and confidence development of young athletes. Also, sport psychology consultants should carefully assess the personality of young athletes to identify those "at risk" for the development of negative self-perceptions or a lack of perceived success. Organizational/cultural factors dictate whether athletes perceive success and significant achievement, and these factors should be acknowledged and explained so that athletes become aware of their overriding social influence on their perceptions of competence.

Self-Regulation

Self-regulation has been identified as a significant source of confidence for athletes (Bandura, 1986; Vealey et al., 1998), and it is the central focus of interventions in sport psychology. To self-regulate means to manage one's behaviors, thoughts, and feelings, which is shown in the sport confidence model as a direct link between self-regulation and the ABC triangle. Self-regulation also is a direct source of confidence because it enhances athletes' beliefs in their abilities to be successful. Most mental training programs target confidence as a critical skill to develop and advocate several self-regulatory strategies to enhance confidence (e.g., Moore, 1998; Vealey, 1988a; Zinsser, Bunker, & Williams, 1998). Goal mapping, imagery, and self-talk are the three basic self-regulatory tools advocated by sport psychologists to enhance confidence.

Goal Mapping

The focused and persistent pursuit of goals serves as a basic regulator of human behavior; thus, it seems obvious that goal mapping is an important strategy to enhance the confidence and performance of athletes (see Burton, Naylor, & Holliday, this volume, for more detail on goal setting). A goal map is a personalized plan for an athlete that contains various types of goals and goal strategies as well as a systematic evaluation procedure to assess progress toward goals (e.g., Gould, 1998). Although athletes typically

talk about the motivating qualities of outcome goals (winning, making the Olympic team), research indicates that performance and process goals are better sources of confidence (Burton, 1988; Kingston & Hardy, 1997). These types of goals seem to enhance confidence by allowing athletes to feel a sense of control over their performance and also by providing a specific task focus for productive concentration.

Imagery

Imagery, or visualization, is assumed to enhance confidence in two ways. First, visualizing oneself successfully performing in sport may, in an individualized vicarious sense, provide a perfect mental model for performance. Imagery in this sense serves a cognitive function to improve or refine the physical reproduction of a motor skill (Murphy, 1994; Paivio, 1985). Second, imagery may enhance confidence by influencing the athlete's ABCs through its motivational effect on behavior, creating a productive task focus of "what to do," and/or by creating positive emotion to energize confidence and performance (Vealey & Greenleaf, 1998). Researchers have shown that highly confident athletes tend to image the mastery and emotion associated with sport competition more than less confident athletes (Moritz et al., 1996). Thus, imagery interventions to enhance confidence should focus not only on the cognitive reproduction of skill execution, but also the emotional, attentional, and motivational aspects of performing in sport. Similar to simulation training advocated previously, imagery should simulate all social-environmental conditions and then program athletes' specific and productive emotional, behavioral, and cognitive responses to these various stimuli (Lang, 1979). By repeatedly imaging specific responses, imagery is thought to help athletes create a mental response set that is analogous to what is achieved via physical practice. Research has demonstrated that imagery training enhances sport confidence in athletes (Garza & Feltz, 1998).

Self-Talk

Managing thoughts, or self-talk, is advocated by applied sport psychology sources as an important key for self-confidence (e.g., Zinsser et al., 1998). Athletes who effectively manage their self-talk are, in essence, controlling how they think, as opposed to letting external events dictate how they think. This is essential due to the social-cognitive nature of sport confidence. That is, confidence is a belief system, a set of beliefs about one's ability to be successful in sport. Self-talk is representative of this belief system because what athletes say to themselves is

what they believe. The difficulty in managing self-talk lies in the automaticity and invisibility of athletes' thoughts that make up their belief systems. These belief systems are a product of past social interactions that have reinforced certain ideas about their abilities. These belief systems directly influence, and in fact define, one's self-confidence.

There are several variations of self-talk interventions that may serve to enhance confidence, including negative thought-stopping, countering, reframing, and the use of affirmations (Zinsser et al., 1998). Negative thought-stopping teaches athletes to recognize negative thoughts, self-monitor across time to learn individualized thought patterns in response to social stimuli, and habituate personal cues that allow them to stop negative thoughts from becoming internalized into their belief systems. Countering involves self-debate to understand how irrational and inappropriate beliefs create negative thinking. Rational emotive therapy (Ellis, 1981), as a form of countering negative self-talk, has been shown to enhance confidence in athletes (Elko & Ostrow, 1991). Reframing involves choosing to look at events in alternative ways, typically in more productive ways, and affirmations are a form of productive self-statement repeated over and over to internalize a belief or attitude. All of these interventions focus on the development and internalization of a positive belief structure about oneself; thus, all serve to enhance confidence.

Summary of Self-Regulation

Overall, self-regulation is based on the idea of choice. Athletes have the volition, or will, to choose how they act, think, and feel. Social conditioning clouds this perception and seduces individuals into believing that their thoughts and feelings are controlled by their social and physical environments. The key to consistent, healthy confidence in sport is the exercise of personal volition through self-regulation. Although this is difficult, particularly in the organizational culture of sport, it is possible to learn and enhance self-regulatory skills to maintain optimal self-confidence in sport.

Social Climate

Self-regulation has been hailed as an important and successful strategy to enhance confidence, yet coaches and sport psychology consultants must keep in mind that human behavior always takes place within a social climate. Intervention plans designed to enhance the motivational climate of educational settings have increased the motivation and confidence of learners (Ames, 1992;

Theeboom, De Knop, & Weiss, 1995). Examples of social climate factors that seem to influence confidence are leadership style, types of goal recognition and evaluation, social feedback sources and types, and availability and characteristics of models.

Confidence is enhanced when athletes are part of a productive and congruent social support network, which can be facilitated through team-building activities (Rosenfeld & Richman, 1997). The social influence of coaches' leadership style and feedback patterns have been shown to be important influences on athletes' perceptions of competence and confidence (Horn, 1985; Vealey et al., 1998). Horn and Harris (1996) advocate that coaches who display autonomous coaching styles that facilitate athletes' perceptions of control are more likely to enhance the confidence of their athletes, as compared to coaches who use more controlling leadership styles. Coaches can be more autonomous in their styles by providing contingent reinforcement and informative, as opposed to evaluative, feedback (Horn & Harris, 1996).

Based on the importance of vicarious experience as a source of confidence (Vealey et al., 1998), athletes should be provided effective models for not only skill execution, but also for achievement behaviors such as effort and persistence. Although environmental comfort emerged as a significant source of confidence for athletes, teaching athletes to rely on such external and uncontrollable factors to enhance their confidence seems problematic. Athletes should learn to base their confidence more on self-regulatory control of perceptions, emotions, and behaviors, so that they are not subject to the inconsistent type of self-confidence that is dependent on social and environmental confidence builders.

Summary of Intervention Strategies to Enhance Confidence

In summary, intervention strategies for confidence may be targeted from many different positions within the model of sport confidence. The reciprocal arrows throughout the model emphasize that confidence, although typically viewed as critical to performance, is also influenced by performance. Note that the ABC triangle of affect, behavior, and cognition mediates this reciprocal influence of performance on confidence. Thus, to enhance confidence, it may be more viable to focus interventions directly on the ABCs that relate so strongly to self-confidence. The idea is that by enhancing athletes' thoughts, feelings, and behaviors in relation to competitive demands, confidence may be enhanced.

FUTURE DIRECTIONS FOR THE STUDY AND ENHANCEMENT OF CONFIDENCE IN SPORT

An important objective for this chapter was to stimulate ideas for research and interventions in the area of confidence in sport. Hopefully, the predictions offered in the integrative model of sport confidence may serve as an initial conceptual vehicle to launch additional lines of research and confidence interventions.

One seemingly fruitful line of inquiry is research that attempts to explain how and why self-confidence facilitates performance. The literature contains ample evidence that confidence and successful performance are linked; thus, it seems important to turn our attention to an explanation of the processes or mechanisms by which this occurs. As illustrated in the sport confidence model, this would typically involve examining the affective, cognitive, and behavioral concomitants of confidence. Specifically, key ABCs such as persistence in goal striving, cognitive efficiency or the utilization of cognitive resources, and emotional adaptiveness should be examined in relation to self-confidence (Maddux & Lewis, 1995). Intervention research that evaluates the effectiveness of different types of self-regulation strategies in optimizing targeted affective, cognitive, and behavioral outcomes as well as subsequent levels of sport confidence is needed.

Another area that has not been examined is the nature of the expectancy construct in relation to confidence and performance. Expectancy is sometimes viewed as synonymous with confidence, in that athletes have beliefs about their abilities that lead them to expect to perform well and succeed. However, expectancy, as it relates to sport confidence, has not been extensively examined from a conceptual standpoint. As athletes and coaches can attest, expectancy often becomes a burden, especially when lofty and often unrealistic expectations are heaped onto young athletes. Moreover, a common belief in sport psychology is that flow, or peak performance, occurs best when athletes are in a state of automaticity and where there is an absence of any type of expectancy (Moore, 1998). Thus, the relationship between sport confidence and expectancy should be examined to provide a deeper understanding of this puzzling social phenomenon. Perhaps related to expectancy, the nature of overconfidence needs to be conceptually clarified to provide greater conceptual and practical insight into this popular term.

More research is needed to fully understand how self-confidence is manifested uniquely in the sport context, including the relevance of various dimensions, or types, of

sport confidence (Vealey & Knight, in progress). Are certain types of confidence more critical to performance, and does this differ across sports and individuals? From an intervention perspective, different dimensions of confidence may be targeted by specific interventions, similar to the "matching hypothesis" applied in anxiety interventions to match the type of intervention to the specific type of anxiety (Martens et al., 1990). Also, the stability or fluctuation of confidence across time should be examined to better understand the factors that influence stability and change in different domains of sport confidence. The stability of confidence is important due to the often fleeting nature of confidence across competitive events.

The model of sport confidence advocated in this chapter was conceptualized to be integrative in nature, to provide a "big picture" of the plethora of constructs and processes that influence the complex relationship between confidence and performance. Future research should begin to account for this complexity by situating the study of confidence within the unique organizational subcultures represented in sport. Questions abound in relation to this point, including: What organizational and social structures work best to develop confidence in youth sport? How do athletes' sources and level of confidence develop, stabilize, and/or change developmentally as they move through the various organizational subcultures of sport? How do sources and level of confidence change over the course of a competitive season in relation to various factors in the social climate?

To enhance intervention work in building confidence in athletes, the development of applied assessment instruments related to confidence could be very useful. Most assessment tools that measure self-confidence were developed and validated as research tools, and these tools are not particularly useful for intervention work in sport psychology (Vealey & Garner-Holman, 1998). Obviously, sport psychology consultants have multiple ways of assessing confidence in athletes, such as by observation and interview/discussion. However, a fruitful area of future applied research would be the development of an applied confidence-assessment system to be used as a template to assess and monitor athletes' confidence and factors related to confidence.

Hopefully, the integrative model of sport confidence presented in this chapter will spark additional lines of inquiry and significant intervention ideas related to self-confidence in sport. Overall, researchers and practitioners are encouraged to remain mindful of the social-cognitive nature of confidence so as to account for the powerful

influence of social learning and cultural factors on the manifestation of confidence in sport. It seems important to move beyond research that tests social psychological theories to see how well they "fit" in sport, to the pursuit of more socially valid research objectives based on the unique factors in sport that influence the development, stability, and change in the self-confidence of athletes over time.

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