CHAPTER

# 11

# Goal-Setting for Peak Performance

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*Without goals you are like a ship without a rudder–heading in no particular direction.*

*–Roy Williams, head basketball coach at the University of North Carolina*

Goal-setting is one of the most used techniques in applied sport psychology. It has been shown to influence the performance of athletes of varied age and ability levels and has also been linked to positive changes in important psychological states, such as anxiety, confidence, and motivation. Goal-setting is also being extensively used in exercise settings to help people of all ages increase their health and fitness, by certified athletic trainers to help athletes rehabilitate injuries, and by sport administrators as a vehicle to achieve organizational goals. It is clearly a technique that coaches, athletic administrators, fitness professionals, and sport psychology consultants should employ regularly.

Unfortunately, goal-setting is not always employed effectively. Coaches and athletes may falsely assume, for example, that because athletes set goals on their own, these goals will automatically facilitate performance. This is seldom the case. Many athletes set inappropriate goals or do not set goals in a systematic fashion, while coaches and sport psychology consultants often forget to initiate the follow-up and evaluation procedures that are necessary if goal-setting is to be effective. To use goal-setting effectively, coaches, sports medicine staff, and sport psychology consultants must understand the goal-setting process and the many factors that can affect it.

This chapter has a fourfold purpose: (a) to examine psychological and sport psychological research and theory on goal-setting, (b) to discuss fundamental goal-setting guidelines, (c) to present a system for effectively initiating goal-setting procedures, and (d) to identify and offer solutions for common problems that arise when setting goals. Each of these will be discussed.

## *Goal-Setting Research and Theory*

Before examining the research on goal-setting and theoretical explanations for the relationships between goal-setting and performance, we must first define goals and distinguish between various types of goals.

### Defining Goals

Locke and Latham (2002) have generated the most widely accepted definition for the term *goal.* For

these investigators, a **goal** is an "objective or aim of action" defined as attaining "a specific standard of proficiency on a task, usually within a specified time limit" (p. 705). From a practical perspective, then, goals focus on achieving some standard, whether it is increasing one's batting average by 10 percentage points, lowering one's time in the 800 meters, or losing five pounds. This definition also implies that such performance standards will be achieved within some specified unit of time, such as by the end of the season, within two weeks, or by the end of practice.

Martens (1987) and Burton (1989) have made distinctions between **outcome goals,** which represent standards of performance that focus on the results of a contest between opponents or teams (e.g., beating someone), and **performance goals,** which focus on improvements relative to one's own past performance (e.g., improving one's time in the mile). Hardy, Jones, and Gould (1996) extended the outcome-performance goal distinction to include **process goals,** which specify the procedures in which the athlete will engage during performance (e.g., a skier focusing on keeping his hands in front of him during a downhill run, a tennis player on keeping her feet moving when fatigued). These distinctions are important because evidence suggests that certain types of goals are more useful in changing behavior than other types of goals.

Finally, Weinberg and Gould (2019, p. 374) have defined group goals as attaining ". . . specific standards of group (not individual) proficiency, usually within a specified time." Typical group goals include having the volleyball team win the regional tournament, having a football team reduce the number of offside penalties called by 20 percent over the first half of the season, or having a golf team reduce the average number of putts taken per round. Research reveals that it is important to set both individual and team goals, as group goals have powerful influences on performance (Widmeyer & DuCharme, 1997). In fact, some have suggested that group goals have more powerful effects than individual goals (Burke, Shapcott, Carron, Bradshaw, & Estabrooks, 2010).

## Goal Effectiveness Research

Extensive psychological research has been conducted on the topic of goal-setting (see Locke & Latham, 1990, 2002; Locke, Shaw, Saari, & Latham, 1981; Tubbs, 1991, for extensive reviews). Typically, this research has involved a comparison of the performance of individuals who set goals or certain types of goals (e.g., specific-explicit goals) with the performance of individuals who are simply told to do their best or are given no goals. Studies sometimes manipulate other factors, such as individual characteristics (e.g., educational level, personality) or situational variables (e.g., the presence or absence of feedback).

Psychological research on goal-setting is impressive in that it has been conducted in a variety of laboratory and field settings and has used with a wide variety of tasks, ranging from truck loading to brainstorming sessions; it has employed diverse samples, including elementary school children, uneducated laborers, managers, and scientists. In addition, a clear pattern of results has emerged with ready implications for sport psychology consultants and coaches alike.

The most important result generated from this line of research is that goal-setting clearly and consistently facilitates performance. In their excellent and comprehensive classic review of well over 100 studies on goal-setting Locke and colleagues (1981) concluded that "the beneficial effect of goal-setting on task performance is one of the most robust and replicable findings in the psychological literature. Ninety percent of the studies showed positive or partially positive effects. Furthermore, these effects are found just as reliable in the field setting as in the laboratory" (p. 145). Thus, a review of the psychological research clearly shows that goal-setting is a powerful technique for enhancing performance.

Given the abundance of research on goal-setting and the consistent pattern of results found in the psychological literature, it is not surprising that sport psychology researchers have been studying goal-setting for over three decades. Botterill (1977) conducted one of the earliest studies when he had youth ice hockey players perform an endurance task, finding that difficult goals were more effective in enhancing performance than easy goals, and explicit goals were more effective than general "do your best" goals. He concluded that explicit, difficult, and group-set goals were most effective in enhancing endurance task performance.

Intense interest in sport psychological goal-setting research was spurred by a 1985 *Journal of Sport Psychology* review article written by noted goal-setting researchers Locke and Latham, which suggested that goal-setting research principles found in the general psychological literature were applicable to the sport context. This has led to a series of sport psychology studies testing Locke and Latham's proposition in the sport environment (see Burton, Naylor, & Holliday, 2002, Burton & Weiss, 2008, and Butt & Weinberg, in press for excellent reviews of these studies) and some healthy dialogue on how to study the process by which goal-setting functions in sport (see Locke, 1991, 1994; Weinberg & Weigand, 1996).

More recent sport psychology goal-setting research investigations have examined such issues as whether specific goals are more effective than general "do your best" goals, the effectiveness of long-term versus short-term goals, the relationship between goal difficulty and task performance, how different types of goals influence performance, and the effectiveness of goal-setting interventions. Results of these studies have shown that goal-setting works well in sport, but not as well as in other settings such as business (Burton et al., 2002, Burton & Weiss, 2008). Robert Weinberg, one of the leading sport psychology researchers in the area, has indicated that research efforts are characterized by a number of methodological problems, such as spontaneous goal-setting by control group participants, competition between comparison group participants, and the failure to control levels of participant motivation and commitment (Weinberg, 1994). Burton et al. (2002) also noted task complexity, the failure to use appropriate goal implementation strategies, and the fact that athletes often operate closer to their performance potential as issues that arise in sport goal-setting research. Goal-setting, then, is more complex to apply in sport than it might appear on the surface.

While goal-setting research in sport has not been easy or simple, it has clearly shown that goal-setting can and does influence performance in sport settings. In fact, in a meta-analytic or statistical review of 36 independent sport and exercise goal-setting studies, Kyllo and Landers (1995) concluded that goal-setting was a successful technique for improving performance. Burton and Weiss (2008) also found that 70 of 88 studies (80 percent) showed moderate to strong effects for goal-setting in sport. Lastly, a recent meta-analytic review focused on examining the effects of multicomponent goal-setting interventions on changing physical activity behavior showed that goal-setting interventions were effective for fostering physical activity in a variety of settings and across a range of populations (McEwan et al., 2016).

Many of these studies were field based. For example, Swain and Jones (1995) examined goal-setting in four university basketball players over a series of games. Using a single-subject baseline design, results revealed goal-setting had positive consequences on three out of four identified behaviors. Hence, goal-setting was found to be effective in changing desired behaviors.

In a very well-designed multiple baseline study with four female speed skaters, Wanlin, Hrycaiko, Martin, and Mahon (1997) had participants take part in a goal-setting package. This package involved developing an overall mission (general subjective goal), a long-term goal, subgoals and practice goals, self-talk, and goal visualization. It was taught to each skater, and performance was compared prior to and after the goal-setting package was used.

Results revealed that the goal-setting package was effective in influencing the skaters to work harder and show fewer off-task behaviors. Race times also improved. Hence, goal-setting was effective in facilitating desirable behaviors and performance in the skaters and decreasing undesirable behaviors.

Finally, more recent studies fall in line with these results. For example, Vidic and Burton (2010) found that an eight-week goal-setting program involving long, intermediate, and short-term goals enhanced the confidence, motivation, and performance of female collegiate tennis players. O'Brien, Mellalieu, and Hanton (2009) found that a ten-week goal-setting program facilitated targeted performance measures, self-confidence, and facilitative interpretations of anxiety in boxers, although results were more consistent with elite versus nonelite participants.

Taken together, these field studies support the earlier findings of Burton (1989). They also reinforce a main contention of this chapter; that is, goal-setting will only be effective when a systematic approach is adopted and a knowledgeable professional customizes the goal-setting process to his or her particular setting and athletes.

In summary, although not unequivocal, the results of the psychological and sport and exercise psychology research literature provide strong support for using goal-setting procedures to facilitate athletic performance. Moreover, these findings are further strengthened by the fact that they have been demonstrated in studies using varied tasks and largely different populations in both laboratory and field settings. A survey of leading sport psychology consultants working with U.S. Olympic athletes also has shown that goal-setting is the most often used psychological intervention in both individual athlete–coach and group consultations (Gould, Tammen, Murphy, & May, 1989). Data from Orlick and Partington's (1988) extensive study of Olympic athletes supports the survey results from the sport psychology consultants. The athletes reported daily goal-setting as a part of their training program.

## *Examining Athletes' and Coaches' Uses of Goal-Setting*

Burton, Weinberg, and their colleagues (Burton, Gillham, Weinberg, Yukelson, & Weigand, 2013; Burton, Weinberg, Yukelson, & Weigand, 1998; Weinberg, Burton, Yukelson, & Weigand, 2000; Weinberg, Butt, Knight, & Perritt, 2001) have spearheaded a line of research examining the goal-setting practices actually employed by athletes and coaches. For example, Burton et al. (1998) surveyed 321 male and 249 female collegiate athletes representing 18 sports regarding their goal-setting practices. Findings revealed that most of the athletes set goals but rated them as only moderately effective, preferred moderate to very difficult goals, and more often reported problems with setting goals that were too hard versus easy.

Most interesting was the researchers' comparison between more and less effective goal setters, which found that more effective goal setters used all types of goals and implemented productive goal-setting strategies more frequently than did their less effective counterparts. Based on these results, it was concluded that coaches and athletes underutilize goal-setting and need further goal-setting education. In particular, more emphasis must be placed on teaching athletes about process goals, the relationship between long- and short-term goals, skill and fitness goals, and implementing goals in practice and competition.

Other studies in this line of research showed that Olympic athletes all set some type of goals (Weinberg et al., 2000). Interviews with collegiate coaches from a variety of sports also showed that they used individual, team, practice, and competition goals (Weinberg, Butt, Knight, & Perritt, 2001), although there was some divergence in how systematic the coaches were in their use of goal-setting.

Summarizing much of this research, Weinberg (2010) indicates that

- Coaches and athletes set both short- and long-term goals
- It is important to set goals in practice and competitions

- Many athletes fail to implement action plans for achieving their goals
- Coaches and athletes do not consistently write down their goals
- Barriers to goal-setting include a perceived lack of time, stress, fatigue, social relationships, injury, and a lack of confidence

## *Goal-Setting and Technology*

With the advent of the information age, today's athlete or exerciser is likely to use a smart phone or other technologies such as a pedometer. It is notable, then, that goal-setting is one of the most popular behavior change techniques used on these devices to promote physical activity and health outcome behavior change (e.g., weight loss). For example, approximately one in five smart phone users has an app that supports setting health-related goals (Conroy, Yang, & Maher, 2014).

While more research in this area is badly needed, initial investigations have explored how goal-setting combined with a package of other prompting and self-monitoring techniques can be used to increase physical activity and promote other positive health outcomes (Fukuoka, Kamitani, Dracup, & Jong, 2011; Fukuoka, Lindgren, & Jong, 2012). DesClouds, Laamarti, Durand-Bush, & El Saddik (2018), in a study tracking university athletes' smart phone usage, found that the athletes spent an average of 31.7 hours a week on their phones, mostly using social media. They urged sport psychology researchers to explore how smart phones can be used to help athletes self-monitor and improve performance and health outcomes.

Given the role technology plays in the lives of athletes, exercisers, coaches, and athletic support staff, consideration must be given to how these technologies can be harnessed to promote athlete and exerciser well-being and performance. Goal-setting principles, like those discussed in this chapter, should certainly be applied to their use.

## Theoretical Explanations for the Relationship Between Goal-Setting and Performance

The old adage that there is nothing more practical than a good theory is an appropriate way to view the goal-setting process. It is important to know that goal-setting influences performance, but it is equally important for coaches and sport psychology consultants to understand how and why goal-setting is effective, especially when problems occur in goal-setting and these individuals must assess the situation and make adjustments.

Several explanations have been proposed to describe how goals influence performance. More specifically, in their **mechanistic theory,** Locke and Latham (2002) contend that goals influence performance in four ways. First, goals direct the performer's attention and action to important aspects of the task. For example, by setting goals, a basketball player will focus attention and subsequent action on improving specific skills, such as blocking out under the boards or decreasing turnovers, as opposed to becoming a better ball player in general. Second, goals help the performer mobilize effort. For example, by setting a series of practice goals, a swimmer will exhibit greater practice effort in attempting to achieve these objectives. Third, goals not only increase immediate effort but also help prolong effort or increase persistence. As a case in point, the boredom of a long season is offset and persistence is increased when a wrestler sets a number of short-term goals throughout the year. Finally, research has shown that performers often develop and employ new learning strategies through the process of setting goals. Golfers, for instance, may learn new methods of putting in an effort to achieve putting goals that they have set in conjunction with their coach.

Locke and associates' subsequent writings (Locke & Latham, 1990, 2002) suggest that a number of factors mediate the goal-setting–performance relationship. These include factors such as importance, self-efficacy, feedback, and task complexity. In essence, Locke has argued against a simple relationship between goals and behavior, indicating that

a number of factors combine to influence effective goal-setting.

In contrast, Burton's **cognitive theory** (1983) focuses solely on how goal-setting influences performance in athletic environments. Athletes' goals are linked to their levels of anxiety, motivation, and confidence. That is, when athletes focus solely on outcome or winning goals, unrealistic future expectations often result; such expectations can lead to lower levels of confidence, increased cognitive anxiety, decreased effort, and poor performance. Unlike outcome goals, performance goals are both in the athlete's control and flexible. Moreover, when properly employed, performance goals assist the athlete in forming realistic expectations. This, in turn, results in optimal levels of confidence, cognitive anxiety, and motivation and, ultimately, in enhanced performance.

Burton and his colleagues (Burton & Naylor, 2002; Burton & Weiss, 2008) further developed his theoretical view of goal-setting. The most interesting aspect of this update was the contention that an athlete's goal motivational orientation interacts with perceived ability to produce one of three goal styles: a performance orientation, where the athlete defines success based on learning and self-improvement and has high perceived ability (although the perceived ability is not judged to be critical to this one orientation); a success orientation, where the athlete defines success on social comparison and winning and has high perceived ability; and a failure orientation, where the athlete defines success on social comparison and winning but has low perceived ability. They predict that goal-setting should best increase performance for the performance-oriented athlete, moderately increase performance for the success-oriented athlete, and slightly decrease performance for the failure-oriented athlete. Moreover, evidence collected with prospective Olympic athletes supports these predictions (Burton et al., 2013). Goal-setting, then, interacts with a variety of personal and situational factors, and these motivational factors must be taken into consideration in any goal-setting program. The implication is that goal-setting will work differently depending on one's goal-setting style.

When setting goals, then, coaches and sport psychology consultants should make every effort to become aware of the mechanisms causing performance changes to occur. Simply stated, theorists indicate that performance changes occur because of

- The influence of goals on such psychological attributes as anxiety, confidence, satisfaction, and motivation
- Directing attention to important aspects of the skill being performed
- Mobilizing effort
- Increasing persistence
- Fostering the development of new learning strategies

### Life Skills Goal-Setting Programs

Goals can also be used to enhance personal development. For example, Steve Danish and his colleagues have used goal-setting as a cornerstone of programs designed to enhance life skills, particularly in at-risk populations (e.g., Danish, Nellen, & Owens, 1996; Papacharisi, Goudas, Danish, & Theodorakis, 2005). In particular, these scholars have initiated intervention programs that are designed to promote health-enhancing behaviors (such as learning how to learn, staying healthy) and decrease health-compromising behaviors (e.g., drug and alcohol use) in participants, particularly at-risk youth. Because of the importance of sport in the lives of many youth, these programs focus on identifying and learning life skills like goal-setting and then transferring the valuable life skills learned in the sport environment to other, more general life situations. Organizers focus on effectively setting and achieving sport goals by helping athletes clarify their training and

competition objectives. Efforts are then made to "teach for transfer" by helping participants apply their new goal-setting skills to other life contexts. An example of the steps followed in such a program is given in Danish et al. (1996):

> (a) the identification of positive life goals, (b) the importance of focusing on the process (not the outcome) of goal attainment, (c) the use of a general problem solving model, (d) the identification of health-comprising behaviors that can impede goal attainment, (e) the identification of health-promoting behaviors that can facilitate goal attainment, (f) the importance of seeking and creating social support, and (g) ways to transfer these skills from one life situation to another. (p. 215)

Finally, these steps are implemented in a series of 10 one-hour workshops.

Additional research on the efficacy of programs to develop life skills based on goal-setting is needed, but initial reports are encouraging (e.g., Papacharisis, Goudas, Danish, & Theodorakis, 2005). Moreover, these programs clearly demonstrate the importance of looking beyond goal-setting as simply an athletic performance enhancement technique to looking at it as a general skill that can positively influence all aspects of one's life. The programs also emphasize the need to teach for transfer and not assume that just because a person can effectively set goals in sport, he or she will automatically use goal-setting in other life contexts.

## *Goal-Setting Guidelines*

The research clearly shows that goal-setting facilitates performance. It is misleading to think, however, that all types of goals are equally effective in enhancing athletic performance. Research reviews conducted by Burton et al. (2002), Burton and Weiss (2008), Locke and Latham (1990), Weinberg (1994), and Kyllo and Landers (1995) indicate that this is not the case. Their work has produced specific guidelines concerning the most effective types of goals to use. Similarly, sport psychology consultants (Botterill, 1983; Gould, 1983; Orlick, 2015; Weinberg, 2010) who have had extensive experience in employing goal-setting techniques with athletes have been able to derive a number of useful guidelines for those interested in utilizing such techniques, the most important of which are summarized here.

### Set Specific Goals in Measurable and Behavioral Terms

Explicit, specific, and numerical goals are more effective in facilitating behavior change than general "do your best" goals or no goals at all. The research has convincingly shown that "when people are asked to do their best, they do not do so" (Locke & Latham, 2002, p. 706). Therefore, it is of the utmost importance that in the athletic environment goals be expressed in terms of specific measurable behaviors. Butt and Weinberg (in press), for example, recommend that subjective goals (e.g., having a positive attitude or feeling more energized) that can be difficult to measure can be made measurable by simply having athletes or exercisers self-rate them on numerical scales (e.g., 1 = not at all positive or energized, 10 = highly positive or energized). Thus, goals such as doing one's best, becoming better, and increasing one's strength are least effective. More effective goals include being able to high jump six feet five inches by the end of the season or increasing one's maximum lift on the bench press to 240 pounds. If athletes are to show performance improvements, specific measurable goals must be set!

### Set Moderately Difficult But Realistic Goals

Locke and his associates (1981) have found a direct relationship between goal difficulty and task performance. That is, the more difficult the goal, the better the performance. It must be remembered, however, that this relationship is true only when the difficulty of the goal does not exceed the

performer's ability. Unrealistic goals that exceed the ability of an athlete only lead to failure and frustration. In fact, in their meta-analysis, Kyllo and Landers (1995) found that moderately difficult (as opposed to extremely difficult) goals lead to the best performance. Thus, it is recommended that goals be set so that they are difficult enough to challenge athletes but realistic enough to be achieved (McClements, 1982).

## Set Short-Range as Well as Long-Range Goals

When asked to describe their goals, most athletes identify long-range objectives, such as winning a particular championship, breaking a record, or making a particular team. However, sport psychology consultants often emphasize the need to set more immediate short-range goals. The superiority of combining short- and long-term goals as compared to focusing only on long-term goals was also demonstrated in the Kyllo and Landers' (1995) meta-analysis. Research also has revealed that both short- and long-range goals are needed to maintain motivation and performance (Weinberg, Butt, & Knight, 2001). Short-range goals are important because they allow athletes to see immediate improvements in performance and in so doing enhance motivation. They have been found to be especially important with complex tasks (Locke & Latham, 2002). Additionally, without short-range goals, athletes often lose sight of their long-range goals and the progression of skills needed to obtain them.

An effective way to understand the relationship between short- and long-range goals is to visualize a staircase (see Figure 11-1). The top stair represents an athlete's long-range goal or objective and the lowest stair her or his present ability. The remaining steps represent a progression of short-term goals of increasing difficulty that lead from the bottom to the top of the stairs. In essence, the performer climbs the staircase of athletic achievement by taking a step at a time, accomplishing a series of interrelated short-range goals.

## Set Process and Performance Goals as Well as Outcome Goals

Many societies place tremendous emphasis on the outcome of athletic events. Because of this, most athletes are socialized to set only outcome goals (e.g., winning, beating a particular opponent). However, outcome goals have been shown to be less effective than performance goals (Burton, 1984, 1989; Burton et al., 2002).

Theorists suggest that focusing on outcome goals has several inherent weaknesses (Burton, 1984, 1989; Burton & Weiss, 2008; Martens, 1987). First, athletes have, at best, only partial control over outcome goals. For example, a cross-country competitor can set a personal best but fail to achieve the outcome goal of winning because he or she came in second. Despite her or his superior effort, this runner could not control the behavior of the other competitors.

A second important weakness of outcome goals is that athletes who employ them usually become less flexible in their goal adjustment practices. For example, an athlete who sets an outcome goal of winning every game but loses the initial contest often will reject goal-setting altogether. However, an athlete who sets an individual performance goal, such as decreasing her or his 100-meter breaststroke time by five-tenths of a second and fails to achieve this goal is more likely to reset the goal to one-tenth of a second.

Finally, process goals (e.g., watch the ball longer by focusing on the pitcher's release, get back on defense) orient the athlete to focus on task-relevant strategies and procedures that need to be executed to have a good performance. Focusing on outcome goals can distract athletes, as they tend to worry about the event outcome and do not attend to task-relevant strategies (Hardy et al., 1996).

Although focusing on outcome goals, especially at the time of competition, has weaknesses, this does not mean outcome goals have no benefits. They can facilitate short-term motivation by helping

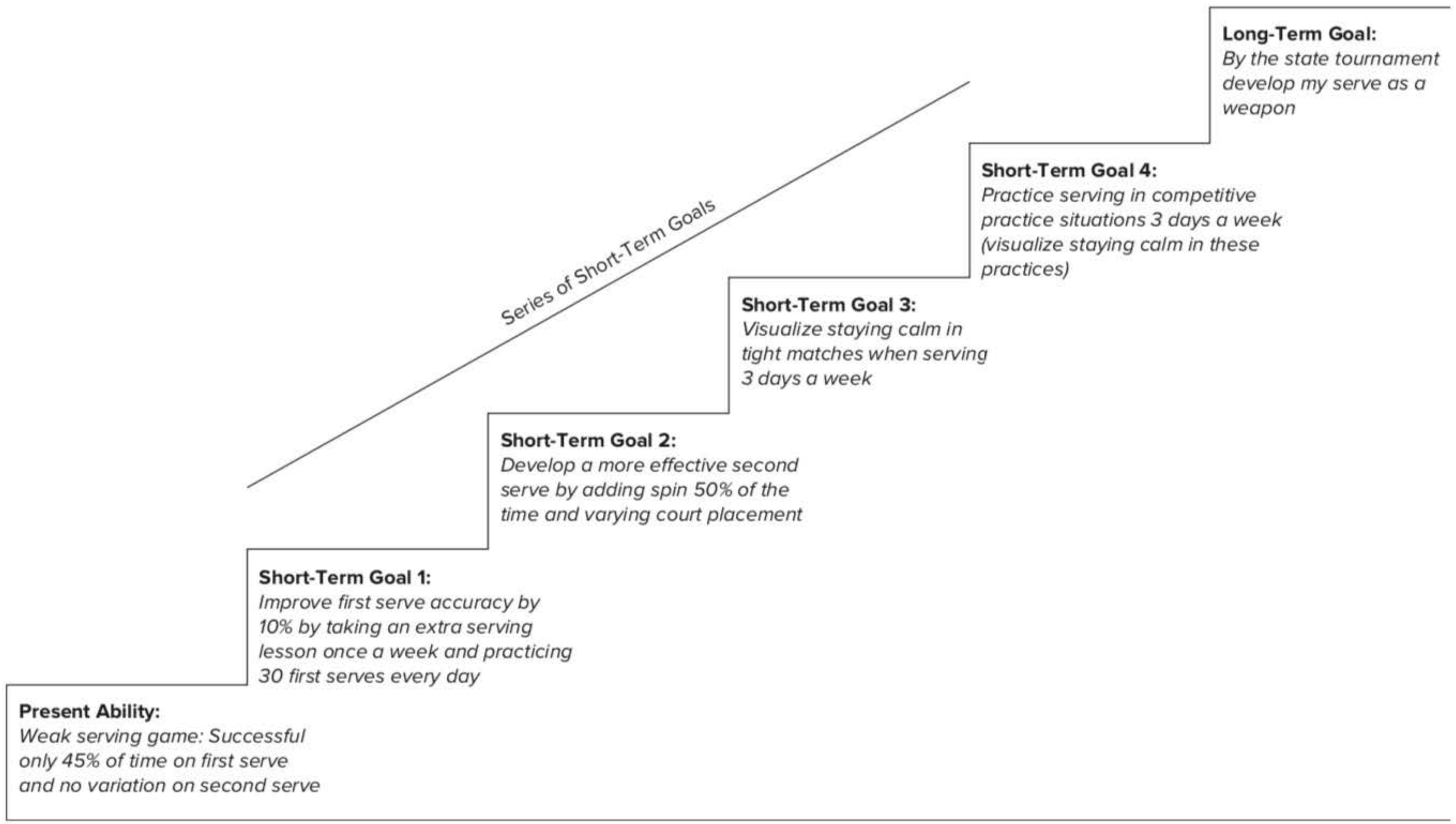


Figure 11-1 **Goal Staircase: A series of short-term goals leads to long-term goals for improved tennis serve**

athletes set long-term priorities and may be especially useful away from competition when athletes may lack the motivation to practice. Athletes with high levels of confidence may also be less affected by the negative side effects of outcome goals (Hardy et al., 1996). It is clear, however, that at or near competitions, it is best to emphasize process and performance goals and that focusing exclusively on outcome goals is ineffective.

Research by Filby, Maynard, and Graydon (1999) also has provided support for the idea of setting performance and process, as well as outcome goals. Moreover, looking across all goals, Burton et al. (2002) reported that nine out of ten studies supported the notion of using a combination of process, performance, and outcome goals. Finally, evidence reveals that setting holistic process goals like "push" or "smooth" were effective in allowing skilled but anxious athletes to perform their best in high-stress situations (Mullen & Hardy, 2010).

In summary, by emphasizing personal performance and process goals in an environment where outcome goals predominate, coaches create greater opportunities for meeting the success needs of all athletes. Those highly gifted competitors who easily exceed the performances of their opponents learn to compete against themselves and, in turn, reach new performance heights. Similarly, the less skilled athletes on the team are no longer doomed to failure; they learn to judge success and failure in terms of their own performance, not solely on the basis of peer comparisons. Finally, focusing on process goals directs the athlete's attention away from outcome and puts it on task-relevant cues.

### Set Goals for Practice and Competition

When implementing a goal-setting program, people frequently make the mistake of setting only goals that relate to competition. This does not imply that setting competitive performance goals is inappropriate; rather, it suggests that *practice* goals should not be forgotten. In fact, Orlick and Partington (1988) found that one characteristic of highly successful Olympians was their routine of setting clear daily practice goals.

Common practice goals may include focusing 100 percent, making five sincere positive statements to teammates, running to and from all drills, and achieving various performance standards. These are typically not the most frequently cited goals of athletes, but they take on special significance when one considers the amount of time athletes spend in practice as opposed to competition. Moreover, most athletes report that it is easier to get "up" and motivated for a game or match, whereas additional motivation is often needed for daily practices.

### Set Positive "Approach" Goals as Opposed to Negative "Avoidance" Goals

Goals can be stated in either positive terms (e.g., increase the percentage of good first serves in tennis) or negative terms (e.g., don't drop the ball). Recent research also distinguishes between approach goals that focus on attaining competence (e.g., finish in the top ten in a marathon) and avoidance goals that focus on avoiding incompetence (e.g., not to finish out of the top ten in the marathon), showing that approach goals are more effective (Lochbaum & Smith, 2015). Although it is sometimes necessary for athletes to set goals in negative terms, it has been suggested that, whenever possible, goals should be stated positively (Bell, 1983). That is, identify behaviors to be exhibited as opposed to behaviors that should not be exhibited. Instead of having goal tenders in ice hockey strive to decrease the number of unblocked shots, have them set goals of increasing the number of saves they can make. This positive goal-setting procedure helps athletes focus on success instead of failure.

### Identify Target Dates for Attaining Goals

Not only should goals describe the behavior of focus in specific measurable terms, but they should also identify target dates for goal accomplishment.

Target dates help motivate athletes by reminding them of the urgency of accomplishing their objectives in realistic lengths of time.

### Identify Goal Achievement Strategies

All too often goals are properly set but never accomplished because athletes fail to identify goal achievement strategies. That is, the athlete fails to understand the difference between setting goals and developing and initiating effective goal achievement strategies. In fact, it has been reported that athletes who use multiple goal-setting strategies have the best performance (Weinberg, Butt, & Knight, 2001). An important ingredient for any effective goal-setting program, then, is identification of multiple ways of achieving goals. For example, a wrestler needing to lose ten pounds prior to the start of the season should identify an achievement strategy of cutting out a midafternoon snack and running an additional two miles a day.

### Record Goals Once They Have Been Identified

Coaches and athletes are not consistent in writing down their goals (Weinberg, 2002). It is easy for athletes to focus attention on their goals soon after those goals have been set. Over the course of a long season, however, goals are sometimes forgotten. Therefore, it is useful for athletes to record their goals in written form and place them where they will be seen (e.g., in their lockers). In fact, in the previously mentioned speed skating study, Wanlin et al. (1997) concluded that using a logbook was a particularly important component of a successful goal-setting package. Additionally, Harris and Harris (1984) recommend that athletes keep notebooks recording goals, goal achievement strategies, and goal progress on a daily or weekly basis. Finally, Botterill (1983) suggests that the coach develop a contract stating all goals and goal achievement strategies for each athlete. Each athlete then signs her or his contract, and the coach keeps the contracts on file. Later the coach can use the contracts to remind the athletes of their goals.

### Provide for Goal Evaluation

Based on their review of the research, Locke and his associates (1990) concluded that evaluative feedback is absolutely necessary if goals are to enhance performance, showing that in 17 of 18 studies goals plus feedback resulted in better performance than goals alone. Therefore, athletes must receive feedback about how present performance is related to both short- and long-range goals. In many cases feedback in the form of performance statistics, such as batting average, assists, goals scored, or steals made, is readily available. Other goals, however, require that coaches make special efforts to provide evaluative feedback. For instance, a coach helping an athlete control his or her temper on the field may have a manager record the number of times the player loses his or her temper in practice. Similarly, a softball coach helping outfielders attain their goal of efficiently backing up one another may have an observer record the number of times players move into or fail to move into correct positions after the ball is hit.

### Provide Support for Goals

A goal-setting program will not succeed unless those individuals who are paramount in the athlete's life support it. This typically includes the coach, the athlete's family, and teammates. Research with British youth soccer players, however, indicates that this does not always occur (Holt, Kinchin, & Clarke, 2012). Therefore, efforts must be made to educate these individuals about the types of goals the athlete sets and the importance of their support and reinforcement in encouraging progress toward the goals. For instance, if an athlete sets performance goals as opposed to outcome goals but significant others in the athlete's life stress only the outcome of the game or match, it is unlikely that performance goals will change behavior. Simply stated, significant others must understand the goal-setting process and support it!

### Set Group Goals

Although the bulk of sport psychology consultants' attention has focused on individual athlete goals, Widmeyer and Ducharme (1997) emphasized the need to set group goals. A particularly important point these authors make is that understanding group goals involves more than knowing individual athletes' goals. The group task must be clearly specified along with the process for achieving group goals. When setting group goals, long-term team objectives should be identified, clear sequences of short- and long-term goals specified, team goal progress assessed, progress toward group goals rewarded, and team confidence fostered in group goals. All team members should have input into the team goal-setting process.

Dawson, Bray, and Widmeyer (2002) also have shown that when setting group goals, the process involves more than setting collective goals. In contrast, they found evidence for four types of goals on any team: (a) an individual member's goals for self (e.g., be the leading scorer on the team); (b) an individual's goal for the team (e.g., qualify for postseason play by finishing in the top half of the league); (c) the group's goals (e.g., win the league title); and (d) the group's goal for the individual member (e.g., lead the team in assists). They also showed that individual goals and expectations might differ from those generated by the collective. For example, one athlete might see his role as the point scorer on the team, while the team sees him as an assist leader. Therefore, it is of the utmost importance that coaches and team leaders discuss and integrate individual goals with team goals. Role clarification and definition are critical if effective team performance is to result (see Chapter 7).

## *A Goal-Setting System for Coaches*

Goal-setting research and guidelines provide coaches with the information necessary for implementing goal-setting techniques with athletes. To be successful in implementing goal-setting procedures, however, coaches must develop and employ a goal-setting system. Botterill (1983) has outlined the essentials of such a system in detail. Of the many elements Botterill discusses, three are paramount and can be incorporated into a three-phase goal-setting system: (a) the planning phase, (b) the meeting phase, and (c) the follow-up/evaluation phase.

### The Planning Phase

Coaches will be ineffective if they attempt to set goals without first spending considerable time planning them. Before discussing goals with athletes, for instance, coaches must identify individual and team needs. These needs may focus on any number of areas such as player fitness, individual skills, team skills, playing time, good sport behavior, and enjoyment.

Following this needs analysis, coaches must identify potential team and individual goals. Most coaches can identify a large number of potential goals for their athletes, so it is important for them to consider how likely it is that their athletes will agree to and accomplish the goals. In doing so, coaches should consider the athletes' long-range goals, individual potential, commitment, and opportunity for practice. Finally, coaches must begin to consider possible strategies that they can use to help athletes achieve their goals. For example, a segment of each practice could be devoted to the accomplishment of identified goals, or extra practices could be held.

### The Meeting Phase

Once coaches have considered individual athlete and team needs, they should schedule goal-setting meetings. The first of these meetings should include the entire team. At the first meeting, coaches should convey basic goal-setting information (e.g., the value of setting goals, areas in which to set goals, types of goals to set, the importance of performance and process goals) and ask the athletes to think about their general objectives for participation, as well as specific

team and individual goals. Coaches must then give the athletes time to reflect on their reasons for participation and to formulate potential goals.

A few days after the initial meeting, a second meeting should be held for the purpose of discussing some of the athletes' goals. It is especially important to examine goals with respect to their importance, specificity, and realistic nature. It is also desirable to examine possible strategies for achieving these goals.

In most cases it will be impossible to set specific goals for each athlete during these initial group meetings. Therefore, coaches must also hold a number of meetings with individual athletes and small subgroup meetings (e.g., forwards, centers, and guards in basketball). In these meetings individual goals should be recorded, specific strategies for achieving these goals identified, and goal evaluation procedures determined. Before and after practice are often the most effective times for holding such meetings.

### The Follow-Up/Evaluation Phase

As previously stated, goal-setting will not be effective unless evaluative feedback is provided to athletes. Moreover, recent research shows that public postings and oral feedback are critical for goal success. Unfortunately, because of the hectic nature of the season, this is often forgotten. It is therefore a good idea to schedule goal evaluation meetings throughout the season. At these meetings, subgroups of athletes should discuss their goals and progress made toward achieving them and reevaluate unrealistic goals or goals that cannot be achieved because of injury or sickness.

Finally, to facilitate goal follow-up and evaluation, coaches should develop systematic ways of providing feedback. Figure 11-2 contains such a system for the sport of basketball. Prior to the season, the coach prints goal achievement cards that athletes complete during the preseason or seasonal meetings. These cards contain places for the athletes to rate their present skills, identify specific goals, describe goal achievement strategies, and develop goal evaluation schedules. In addition, performance evaluation cards are printed (see Figure 11-2) and used to evaluate performance on a percentage scale (0 percent, poor; 100 percent, excellent). The evaluation cards are completed after various competitions and, when combined with other available statistics, serve as feedback for weekly goal follow-up meetings. Although written in the vernacular of the coach, this goal-setting system can also be used by sport psychology consultants as they work with athletes on goal-setting. The suggestions are equally appropriate for goals in the physical and mental skills domains, but they may need to be somewhat modified for sport psychology consultants working with an individual rather than the entire team.

## *Common Problems in Setting Goals*

Goal-setting is not a difficult psychological skill to use. However, it would be a misconception to think that problems do not arise when setting goals. Some of the more frequently encountered problems are outlined next.

### Setting Too Many Goals Too Soon

A natural mistake that occurs when one first implements a goal-setting system is to set too many goals too soon. For example, it is not uncommon for coaches and athletes to set five or ten specific goals. This usually has negative results. The athletes have so many individual goals that they cannot properly monitor goal progress, or if they do monitor progress, they find the record keeping overwhelming and lose interest. A more effective approach is to prioritize goals and focus on accomplishing the one or two most important ones. When these goals are achieved, the athletes then focus on the next most important prioritized goals. As the athletes become more experienced in goal-setting, they also learn to handle greater numbers of goals more efficiently.

Goal Achievement Card—Basketball

Name *B. Jones* Date *9-27-13*

Position *Forward* Years Experience *2*

| Skill–Activity | Strong | Average | Needs improvement | Specific goal | Strategy | Target date |
|---|---|---|---|---|---|---|
| Shooting | | | | *To correctly execute 8 out of 10 jump shots from the 8' to 10' range* | *Shoot 4 sets of 10 jump shots before practice every day* | *October 27* |
| lay-ups | ✓ | | | | | |
| jump shots | | | ✓ | | | |
| free throws | | ✓ | | | | |
| Ball handling | | ✓ | | | | |
| Rebounding | ✓ | | | | | |

Performance Evaluation Card—Basketball

Name *B. Jones* Date *12-4-13*

Position *Forward* Game *3*

| Skill–Activity | Available statistics/Coach performance rating (0–100%) | Comments |
|---|---|---|
| Overall offensive play | 80% | |
| Overall defensive play | 94% | |
| Shooting | 70% | *Jump shot release ball at peak of jump* |
| lay-ups | 2 for 2 | |
| jump shots | 2 for 6 | |
| free throws | 3 for 4 | |
| Ball handling | 90% | |
| turnovers | 1 | |
| Rebounding | 90% | |

Figure 11-2 **Sample goal achievement and performance evaluation cards for the sport of basketball**

### Failing to Recognize Individual Differences

Not all athletes will be excited about setting goals, and some may even have a negative attitude. Coaches and sport psychology consultants must expect this and not overreact. *Forcing* athletes to set goals is ineffective, for individual commitment is needed. Rather, expose all the athletes to goal-setting, and then work with those who show interest. Over time, their success will convince other, less committed athletes to begin setting goals.

As mentioned earlier in this chapter, the theorizing and research of Burton and his colleagues show that performance-oriented athletes respond better to goal-setting than failure-oriented athletes. Yet failure-oriented athletes, who judge success by comparing themselves to others and have low perceived ability, could profit greatly from setting performance and process goals that, when achieved, will help enhance their confidence. So special coaching efforts are needed to get failure-oriented individuals to focus on performance and process, as opposed to outcome goals.

Finally, in a series of four case studies conducted with professional soccer players in Denmark, Larsen and Engell (2013) emphasized that while goal-setting was effective, those working with athletes must take a flexible approach that recognizes individual differences. The sport psychology consultant or coach must look closely at each player's individual goal-setting process. Larsen and Engell go on to emphasize that at times goal-setting can be very complex and will need complex solutions and may depend on the player's ability to be reflective. There seldom will be only one factor included in the process. In essence, "The 'art' of goal-setting is a dynamic, ever changing and complex phenomenon, the method itself must be flexible. . .' (p. 49).

### Setting Goals That Are Too General

Throughout this chapter, the emphasis has been on the need for setting specific, measurable goals. Unfortunately, this does not always occur. Inexperienced goal setters often will set goals that are too general. Improving one's first serve in tennis, executing a better Yamashita vault in gymnastics, and lessening the frequency of negative thoughts are too vague. These goals are more effectively stated as increasing the number of good first serves from 50 to 55 percent in tennis, improving the Yamashita vault by sticking the landing eight out of ten times, and reducing negative thoughts to five or fewer during each practice session. When stating goals, always ask, "How can we make this goal measurable and specific?"

### Failing to Modify Unrealistic Goals

In his extensive five-month study of goal-setting, Burton (1989) found that competitive collegiate swimmers had problems readjusting goals once they were set. Although the swimmers had little difficulty raising their goals once they were achieved, a number of athletes failed to lower goals that became unrealistic because of illness or injury. Coaches must recognize this problem and continually emphasize the appropriateness of lowering goals when necessary.

### Failing to Set Process and Performance Goals

The work of Martens (1987), Burton (1989), and Filby et al. (1999) has demonstrated the value of setting performance and process goals as opposed to outcome goals. For too many athletes, however, winning or outcome goals are the only worthy goals. This is psychologically destructive and illogical, but occurs because of the tremendous emphasis Americans place on winning. Coaches must be aware of this problem and continually emphasize the attainment of performance and process goals. For instance, coaches must continually remind athletes that great performances will typically lead to the best possible outcomes. Finally, coaches must realize that changing their athletes' perception of the importance of outcome versus performance and process goals may take a long-term effort.

## Understanding the Time Commitment Needed to Implement a Goal-Setting Program

It is not uncommon for a coach to become interested in goal-setting and to begin to implement a goal-setting program with her or his athletes during the preseason or early season. However, as the season progresses, less and less time is spent on goal-setting. By the end of the season the goal-setting program is all but forgotten.

Like other psychological skills, goal-setting takes time to implement. It must be recognized that a good deal of commitment on the part of the coach is needed. When planning your goal-setting program, think about the busiest time of your team's season and how much time is available to commit to goal-setting. It is much better to devote 20 minutes a week to goal-setting throughout the season and follow through on that plan than to say you will devote 20 minutes a day to goal-setting and not follow through on it. Similarly, time spent in preseason planning and organization (e.g., mass-producing goal achievement cards and goal evaluation forms) makes the goal-setting process much more efficient and realistic to implement.

Finally, consider program efficiency when organizing your program. One collegiate basketball coach, for example, simply had her athletes write down a practice goal on index cards for the next day's practice. The coaching staff then evaluated and provided feedback relative to these practice goals during each postpractice cool-down period.

## Setting Only Technique-Related Goals

It is very easy to focus all of one's attention on technique-related goals (e.g., shooting statistics, faster running times). However, as previously mentioned, athletes may want to use goal-setting in a number of other areas. For example, a high school volleyball coach who was having trouble with his team's cohesion found it useful to have several key players set goals of giving sincere positive feedback to teammates at least five times per practice; the team manager recorded the number of positive remarks made. Similarly, an injured runner set specific goals for the number of times per week she would practice imagery. Finally, a football coach whose team seemed unenthusiastic and burned out at the end of a long season had considerable success asking the players to identify what elements of football were most fun for them (e.g., lineman throwing and catching the football) and then setting team goals to incorporate specified amounts of fun activities in every practice.

As I discussed earlier, a coach may also adopt a life skills approach by helping an athlete who has learned to set goals in the sport domain (e.g., to improve free-throw shooting percentage by shooting 20 extra shots a day) to transfer this goal-setting ability to other life contexts (e.g., improve his or her math grades by setting a goal of studying 30 additional minutes a day).

## Failing to Create a Supportive Goal-Setting Atmosphere

To reiterate, coaches and sport psychology consultants cannot set goals for their athletes or force them to participate in the goal-setting process. The athletes must be self-motivated and committed to the program. For this reason, the goal-setting leader needs to create a supportive goal-setting atmosphere, and in creating such an atmosphere, communication style is critical. Coaches and sport psychology consultants must act as facilitators of goal-setting discussions, not as dictators (Botterill, 1983). They must share limitations with athletes and identify unrealistic goals, while simultaneously avoiding pessimistic remarks and putdowns. In essence, the leader must adopt a positive communication style that includes good listening skills, a sincere orientation, a positive approach, and the provision of regular feedback related to goal-setting progress (see Chapter 8).

## Summary

This chapter has provided strong empirical and experiential support for the utility of using goal-setting in helping athletes attain personal growth and peak performance. Goals are effective because they influence psychological states such as self-confidence, direct attention to important aspects of the task, mobilize effort, increase persistence, and foster the development of new learning strategies. Guidelines for effective goal-setting include setting behaviorally measurable goals, difficult yet realistic goals, short-range as well as long-range goals, performance and process goals as well as outcome goals, practice and competition goals, and positive/approach as opposed to negative/avoidance goals. Equally important are identifying target dates for attaining goals, identifying goal achievement strategies, recording goals once they have been identified, providing goal evaluation procedures, providing for goal support, and setting group goals. Lastly, common problems that arise when setting goals include setting too many goals too soon, failing to recognize individual differences, setting goals that are too general, failing to modify unrealistic goals, failing to set process and performance goals, not understanding the time and commitment needed to implement a goal-setting program, setting only technique-related goals, and failing to create a supportive goal-setting atmosphere. These problems can be easily avoided or controlled if they are recognized at the onset of the goal-setting process.

Like other psychological skills, goal-setting is not a magic formula that guarantees success. Goal-setting is a tool, a very effective tool, that when combined with hard work and discipline can help coaches, athletes, and sport psychology consultants reap the fruits of personal athletic growth and peak performance. It is highly recommended, then, that coaches and sport psychology consultants at all levels of competition engage in goal-setting with their athletes.

## Study Questions

1. Define what a goal is and differentiate between the following types of goals: (a) specific objective, (b) outcome, (c) performance, (d) process, and (e) group goals.
2. Briefly describe Locke and colleagues' (1981) mechanistic and Burton and colleagues' cognitive explanations for the relationship between goal-setting and performance.
3. Describe what is meant by saying life skill goal-setting programs teach for goal-setting transfer.
4. Think of your own sport and physical activity involvement and identify two goals you have set in the past. Evaluate your two goals relative to the 12 goal-setting guidelines presented in this chapter.
5. Describe the three phases of a goal-setting system for coaches and sport psychology consultants.
6. Indicate why failing to set performance and process goals is a common problem when setting goals with athletes.
7. Is it easier to adjust goals upward or downward? Explain.

8. Give an example of goal-setting that is not technique related.
9. Four types of group goals have been set: individual group members' goals for themselves, the group's goals for individual members, the group's goals for the group, and individual members' goals for the group. Imagine that you are a member of a basketball team and provide an example of each type of goal. For your team to be effective, how best should these goals be related?
10. How can a coach create a supportive goal-setting atmosphere?

## References

Bell, K. F. (1983). *Championship thinking: The athlete's guide to winning performance in sports.* Englewood Cliffs, NJ: Prentice Hall.

Botterill, C. (1977, September). *Goal-setting and performance on an endurance task.* Paper presented at the Canadian Psychomotor Learning and Sport Psychology Conference, Banff, Alberta.

Botterill, C. (1983). Goal-setting for athletes with examples from hockey. In G. L. Martin & D. Hrycaiko (Eds.), *Behavior modification and coaching: Principles, procedures, and research* (pp. 67–85). Springfield, IL: Thomas.

Burke, S. M., Shapcott, K. M., Carron, A. V., Bradshaw, M. H., & Estabrooks, P. A. (2010). *Group goal-setting and group performance in a physical activity context. International Journal of Sport and Exercise Psychology, 8,* 245–261.

Burton, D. (1983). Evaluation of goal-setting training on selected cognitions and performance of collegiate swimmers. Unpublished doctoral dissertation, University of Illinois, Urbana, IL.

Burton, D. (1989). Winning isn't everything: Examining the impact of performance goals on collegiate swimmers' cognitions and performance. *The Sport Psychologist, 3,* 105–132.

Burton, D., Gillham, A., Weinberg, R., Yukelson, D., & Weigand, D. (2013). Goal-setting styles: Examining the role of personality factors on the goal practices of prospective Olympic athletes. *Journal of Sport Behavior, 36,* 23–44.

Burton, D., & Naylor, S. (2002). The Jekyll/Hyde nature of goals: Revisiting and updating goal-setting in sport. In T. S. Horn (Ed.), *Advances in sport psychology* (2nd ed., pp. 459–499). Champaign, IL: Human Kinetics.

Burton, D., Naylor, S., & Holliday, B. (2002). Goal-setting in sport. In R. N. Singer, H. A. Hausenblas, & C. M. Janelle (Eds.), *Handbook of sport psychology* (2nd ed., pp. 497–528). New York, NY: John Wiley & Sons.

Burton, D., Weinberg, R., Yukelson, D., & Weigand, D. (1998). The goal effectiveness paradox in sport: Examining the goal practices of collegiate athletes. *The Sport Psychologist, 12,* 404–418.

Burton, D., & Weiss, C. (2008). The fundamental goal concept: The path to process and performance success. In T. Horn (Ed.), *Advances in sport psychology* (3rd ed., pp. 339–375). Champaign, IL: Human Kinetics.

Butt, J., & Weinberg, R. S. (in press). Goal-setting. In Hackfort, D., & Schinke, R. (Eds), Routledge international encyclopedia of sport and exercise psychology. New York, NY: Routledge.

Conroy, D. E., Yang, C. H., & Maher, J. P. (2014). Behavior change techniques in top-ranked mobile apps for physical activity. *American Journal of Preventive Medicine, 46*(6), 649–652.

Danish, S. J., Nellen, V. C., & Owens, S. S. (1996). Teaching life skills through sport: Community-based programs for adolescents. In J. K. Van Raalte & B. W. Brewer (Eds.), *Exploring sport and exercise psychology* (pp. 205–225). Washington, DC: American Psychological Association.

Dawson, K. A., Bray, S. R., & Widmeyer, W. N. (2002). Goal-setting by intercollegiate sport teams and athletes. *Avante, 8*(2), 14–23.

DesClouds P., Laamarti F., Durand-Bush N., El Saddik A. (2018). Developing and Testing an Application to Assess the Impact of Smartphone Usage on Well-Being and Performance Outcomes of Student-Athletes. In: Rocha Á., Guarda T. (eds) Proceedings of the International Conference on Information Technology & Systems (ICITS 2018). ICITS 2018. Advances in Intelligent Systems and Computing, vol 721. Springer, Cham.

Filby, W. C. D., Maynard, I. W., & Graydon, J. K. (1999). The effect of multiple-goal strategies on performance outcomes in training and competing. *Journal of Applied Sport Psychology, 11,* 230–246.

Fukuoka, Y., Kamitani, E., Dracup, K., & Jong, S. S. (2011). New insights into compliance with a mobile phone diary and pedometer use in sedentary women. *Journal of Physical Activity and Health, 8*(3), 398–403.

Fukuoka, Y., Lindgren, T., & Jong, S. (2012). Qualitative exploration of the acceptability of a mobile phone and pedometer-based physical activity program in a diverse sample of sedentary women. *Public Health Nursing, 29*(3), 232–240.

Gould, D. (1983). Developing psychological skills in young athletes. In N. L. Wood (Ed.), *Coaching science update.* Ottawa, ON: Coaching Association of Canada.

Gould, D., Tammen, V., Murphy, S., & May, J. (1989). An examination of U.S. Olympic sport psychology consultants and the services they provide. *The Sport Psychologist, 3,* 300–312.

Hardy, L., Jones, G., & Gould, D. (1996). *Understanding psychological preparation for sport: Theory and practice of elite performers.* Chichester, UK: Wiley.

Harris, D. V., & Harris, B. L. (1984). *The athletes guide to sports psychology: Mental skills for physical people.* New York: Leisure Press.

Holt, J. E., Kinchin, G., & Clarke, G. (2012). Effects of peer-assessed feedback, goal-setting and a group contingency on performance and learning by 10- to-12-year-old academy soccer players. *Physical Education & Sport Pedagogy, 17*(3), 231–250.

Kyllo, L. B., & Landers, D. M. (1995). Goal-setting in sport and exercise: A research synthesis to resolve the controversy. *Journal of Sport and Exercise Psychology, 17,* 117–137.

Larsen, C. H., & Engell, C. (2013). The art of goal-setting: A tale of doing sport psychology in professional football. *Sport Science Review, 22*(1–2), 49–76.

Lochbaum, M., & Smith, C. (2015). Making the cut and winning a golf putting championship: The role of approach-avoidance achievement goals. *International Journal of Golf Science, 4*(1), 50–66.

Locke, E. A. (1991). Problems with goal-setting research in sports–and their solution. *Journal of Sport & Exercise Psychology, 8,* 311–316.

Locke, E. A. (1994). Comments on Weinberg and Weigand. *Journal of Sport & Exercise Psychology, 16,* 212–215.

Locke, E. A., & Latham, G. P. (1985). The application of goal-setting to sports. *Journal of Sport Psychology, 7,* 205–222.

Locke, E. A., & Latham, G. P. (1990). *A theory of goal-setting and task performance.* Englewood Cliffs, NJ: Prentice Hall.

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal-setting and task motivation: A 35-year odyssey. *American Psychologist, 57*(9), 705–717.

Locke, E. A., Shaw, K. N., Saari, L. M., & Latham, G. P. (1981). Goal-setting and task performance. *Psychological Bulletin, 90,* 125–152.

Martens, R. (1987). *Coaches guide to sport psychology.* Champaign, IL: Human Kinetics.

McClements, J. (1982). Goal-setting and planning for mental preparations. In L. Wankel & R. B. Wilberg (Eds.), *Psychology of sport and motor behavior: Research and practice. Proceedings of the Annual Conference of the Canadian Society for Psychomotor Learning and Sport Psychology* (pp. 165–172). Edmonton: University of Alberta.

McEwan, D., Harden, S. M., Zumbo, B. D., Sylvester, B. D., Kaulius, M., Ruissen, G. R.,. . . Beauchamp, M. R. (2016). The effectiveness of multi-component goal-setting interventions for changing physical activity behaviour: A systematic review and meta-analysis. *Health Psychology Review, 10*(1), 67–88.

Mullen, R., & Hardy, L. (2010). Conscious processing and the process goal paradox. *Journal of Sport & Exercise Psychology, 32,* 275–297.

O'Brien, M., Mellalieu, S., & Hanton, S. (2009). Goal-setting effects in elite and nonelite boxers. *Journal of Applied Sport Psychology, 21*(3), 293–306.

Orlick, T. (2015). *In pursuit of excellence* (3rd ed.). Champaign, IL: Human Kinetics.

Orlick, T., & Partington, J. (1988). Mental links to excellence. *The Sport Psychologist, 2,* 105–130.

Papacharisis, V. P., Goudas, M., Danish, S. J., & Theodorakis, Y. (2005). The effectiveness of teaching a life skills program in a sport context. *Journal of Applied Sport Psychology, 17*(3), 247–254.

Swain, A. B. J., & Jones, G. (1995). Goal attainment scaling: Effects of goal-setting interventions on selected subcomponents on basketball performance. *Research Quarterly for Exercise & Sport, 66,* 51–63.

Tubbs, M. E. (1991). Goal-setting: A meta-analytic examination of the empirical evidence. *Journal of Applied Psychology, 71,* 474–483.

Vidic, Z., & Burton, D. (2010). The roadmap: Examining the impact of a systematic goal-setting program for collegiate women's tennis. *The Sport Psychologist, 24*(4), 427–447.

Weinberg, R. S. (1994). Goal-setting and performance in sport and exercise settings: A synthesis and critique. *Medicine & Science in Sport & Exercise, 26,* 469–477.

Weinberg, R. (2002). Goal-setting in sport and exercise. In J. Van Raalte & B. Brewer (Eds.), *Exploring sport and exercise psychology* (2nd ed., pp. 25–48), Washington, DC: American Psychological Association Press.

Weinberg, R. (2010). Making goals effective: A primer for coaches. *Journal of Sport Psychology in Action, 1*(2), 57–65.

Weinberg, R., Burton, D., Yukelson, D., & Weigand, D. (2000). Perceived goal-setting practices of Olympic athletes: An exploratory investigation. *The Sport Psychologist, 14,* 279–295.

Weinberg, R., Butt, J., & Knight, B. (2001). High school coaches' perceptions of the process of goal-setting. *The Sport Psychologist, 15,* 20–47.

Weinberg, R., Butt, J., Knight, B., & Perritt, N. (2001). Collegiate coaches' perceptions of their goal-setting practices: A qualitative investigation. *Journal of Applied Sport Psychology, 13,* 374–398.

Weinberg, R. S., & Gould, D. (2019). *Foundations of sport and exercise psychology* (7th ed.). Champaign, IL: Human Kinetics.

Weinberg, R. S., & Weigand, D. (1996). Let the discussions continue: A reaction to Locke's comments on Weinberg and Weigand. *Journal of Sport & Exercise Psychology, 18,* 89–93.

Widmeyer, W. N., & Ducharme, K. (1997). Team building through team goal-setting. *Journal of Applied Sport Psychology, 9,* 61–72.

Wanlin, C. M., Hrycaiko, D. W., Martin, G. L., & Mahon, M. (1997). The effects of a goal-setting package on the performance of speed skaters. *Journal of Applied Sport Psychology, 9*(2), 212–228.