

Maximizing Strength Training Through Goal Setting

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A RANGE OF PSYCHOLOGICAL methods has been promoted in recent years as a way of improving athletic performance. One of the most popular methods has been goal setting, with research suggesting that a high proportion of athletes set goals and believe in their value (20). However, goal setting is not always used effectively (5). While reviews of the research suggest goal setting enhances performance, reviewers conclude that goal setting needs to be implemented properly to maximize its benefits (5, 19, 21). The purpose of this article is to present a framework that strength and conditioning coaches can use to help maximize the impact goal setting has on their athletes' strength training and performance.

■ What is a goal?

Locke et al. (11) defined a goal as “attaining a specific standard of proficiency on a task, usually with-

in a specified time limit.” Goals help athletes focus on achieving a level of performance such as improving their personal best for the deadlift, reaching a certain total in a powerlifting competition, or being selected for a particular sports team. The above definition also implies that goals will be achieved within a specified time limit such as a certain date, the end of the season, or the end of a career.

Although the definition above helps to describe a goal, it is useful to distinguish between outcome, performance, and process goals (6). Outcome goals focus on the results of competitive events between opponents such as winning a game or beating a rival. Goals that identify the end result of a performance that is largely independent of others are performance goals. Examples include achieving a new personal best total at a weightlifting competition or reducing the time taken to

sprint 200 m. Process goals specify behaviors the athlete will focus on during training and competition, such as keeping a straight back during the squat or lifting with the legs during a deadlift. Although all three types may contribute to enhanced performance, research suggests that different types of goals may have different effects (3, 8). For example, Kingston and Hardy (8) found that process goals lead to improved performance quicker than performance goals and were also associated with lower anxiety, greater self-confidence, and concentration. Nevertheless, research reveals that setting all three types leads to superior performance (3).

■ Does goal setting work?

A number of studies have examined the effects of goal setting on sports performance both in the laboratory and in the field (1–3, 8, 10, 14, 16, 17, 22). This research

Table 1
The Goal-Setting Framework Applied to Strength Training

Stage one: Determine the purpose of strength training.

Why does the athlete need to undertake strength training? The long-term goal may be to enhance performance, to rehabilitate from an injury, or to increase muscle mass.

Stage two: Determine the specific strength gains required.

What type of strength is required to achieve the above goal? It may be maximal strength, power, or endurance. Additionally, which specific muscles or body parts need to be strengthened?

Stage three: Plan how those strength gains will be achieved.

Develop a program to achieve the targets identified above. Try to be as specific as possible. For example, address details like exercises, reps, sets, intensity, frequency, and duration. The focus during program creation is the question, "How will this help achieve the purpose of strength training?" Also consider how strength training will be integrated within the rest of the athlete's training regime.

Stage four: Start implementing the plan.

Encourage the athlete to start following the plan. Emphasize self-responsibility and let the athlete know that the only way to find out how good the program will be is to try it!

Stage five: Regularly review the progress the athlete is making

Often initial planning will not result in the perfect program that fits the athlete. However, the only way to know is to try out the plan, making adjustments along the way. This on-going refinement can also build confidence and enthusiasm because the athlete continually receives feedback on any progress being made.

setting goals. Such a methodical approach to goal setting underlies the way an athlete trains and prepares for competition. Stage one identifies the purpose behind strength training and directs the athlete's attention and effort toward that objective. The second stage then breaks this purpose down into the important components required for the achievement of the long-term goal. Out of the second stage short-term training goals can be established.

Stage three is important to actual goal attainment. During this stage, the strategies that will allow the realization of an athlete's short-term goals are planned. Part of the importance of stage three is that it allows the coach and athlete to determine what is required to attain the athlete's goals. Together, they should consider how strength training fits within the overall conditioning needs of the athlete. While this consideration requires attention to detail, this level of planning may indicate whether the athlete's goals are realistic. It may be necessary to adjust the athlete's goals to ensure that they are kept challenging but achievable.

Stages four and five are intertwined. The design of the perfect program cannot be known before the athlete starts training. Each athlete is an individual who will respond uniquely to strength training (4). It is only once an athlete has begun training that the effectiveness of a program can be determined. However, once training has begun, then it is important to carefully monitor and regularly assess the athlete's progress. The short-term and long-term goals set during stages one and two can be used to evaluate the program's effectiveness. Regular assessment will provide useful feedback on the athlete's strength gains that may

has also used a variety of sports and participants. For example, one study that focused specifically on resistance training found that females who were assigned goals by an instructor or who set their own goals made significantly greater strength gains over a 12-week period compared to the control group (1). A meta-analysis on 36 studies demonstrated that setting goals in sport and exercise leads to improved performance (9). Moderately difficult goals lead to the greatest improvement over goals that were too easy or too difficult (9). Additional moderating variables found to be important included goal specificity, setting both short- and

long-term goals, allowing individuals to participate in setting their own goals, and making goals public (9). Others who have reviewed the literature have also concluded that goal setting leads to increased performance when properly implemented (5, 6, 19, 21). This article will now present a framework that strength and conditioning coaches can use to help ensure that goal setting is correctly employed. This framework is illustrated in Table 1.

■ A Systematic Framework for Setting Goals

As can be seen from Table 1, a systematic approach to goal setting involves more than simply

help to keep the program on track. This feedback could also have the added benefit of developing the athlete's confidence in and perseverance to the program (2, 8).

■ Guidelines to Follow When Setting Goals

There are a large number of very experienced sport psychology consultants who have developed several guidelines that coaches and athletes should follow when setting goals (5, 6, 12, 15, 19, 21). These authors have drawn from both the research and their own extensive consulting experience to develop these guidelines. This section presents the more common and significant guidelines identified by these authors.

Set Both Long- and Short-Term Goals

Long-term goals provide the direction and overall purpose to an athlete's long-term strength training. Short-term goals help to break a long-term goal into small achievable steps. A long-term goal might be to win an Olympic gold medal in weightlifting, while a short-term goal may be to make a minor change to the Snatch Pull technique. The achievement of short-term goals can inspire and encourage an athlete to persevere. Orlick and Partington (13) found that daily training goals were one variable that differentiated successful Olympians from less successful ones, thus reinforcing the value of short-term goals.

Make Goals Challenging but Realistic

Kyllo and Landers (9) found that moderately difficult goals lead to best performance. Goals that are too easy may not inspire and motivate an athlete. Similarly, an athlete who is attempting to attain a goal that is too difficult may be-

come frustrated and eventually give up.

This guideline requires that the strength coach knows the capabilities of the athlete. If the strength coach does not know the capability of the athlete, then setting easier rather than more difficult goals is preferred (5). This will increase the likelihood of success and will build the athlete's motivation. As the athlete achieves these easier goals, more challenging goals can be established.

Make Goals Specific and Measurable

Specific measurable goals are easier to evaluate than vague goals. For example, instead of setting a goal to get stronger on the bench, it is better to set a goal to increase my 1 RM on the bench by 10 kg over the next 3 months. Specific measurable goals provide more information to the athlete and will better mobilize effort. This may lead to more optimal strength gains.

Set Performance, Process, and Outcome Goals

Outcome goals are important because they often summarize an athlete's motive for participating in a sport ("I want to be the strongest"). The strength coach should appreciate the value of outcome goals (3). However, the best way to achieve outcome goals is to focus on performance and process goals, particularly during training and competition ("focus on how to become the strongest") (6). Overemphasizing outcome goals may create anxiety and reduce performance because they are not entirely within the athlete's control (3). The strength coach can prevent this by setting performance and process goals that give an athlete the best chance of achieving the desired outcome goal. For example, a powerlifter's outcome goal of

winning a competition can be restated as a performance goal of attaining a particular total. Furthermore, process goals that focus on technique can also be set to direct the athlete's attention during actual competition.

Identify Goal Attainment Strategies

Stage three of the framework presented above involved planning and highlighted the importance of identifying the strategies that lead to goal attainment. These strategies will help the athlete make optimal progress. For example, an athlete's strategy for increasing upper body strength will include a description of the specific exercises along with an indication of sets, reps, frequency, duration, and intensity.

Set Positive Goals Rather Than Negative Goals

Goals can be negative ("I do not want to fail this lift") or positive ("I want to see the white lights!"). Negative goals may trigger negative self-talk, which is associated with poor performance (18). Consequently, it is better to focus on what you want to achieve, not what you want to avoid.

Put a time Limit on Your Goals

Locke et al.'s (11) definition of a goal stated above implies that goals have a time limit associated with them. This is because people have a tendency to procrastinate. Placing a challenging but realistic time limit on a goal will remind an athlete to keep striving towards its fulfillment. For example, a bodybuilder might set July 1 as the date to have reduced body fat to 6%.

Ensure that the Athlete Is Committed to the Goal-Setting Program

Commitment is a vital factor in goal attainment (17). Uncommit-

Table 2
Training Plan for a Powerlifter

Long-Term Performance Goal:

Total 600 kg in competition (PB): squat 230 kg, bench press 140 kg, deadlift 230 kg.

Use 12-wk build up to competition

Short-Term Performance Goals:

Week	Squat (kg × reps)	Bench (kg × reps)	Deadlift (kg × reps)
1	110 × 10	80 × 10	110 × 10
2	120 × 10	85 × 10	120 × 10
3	130 × 8	90 × 8	130 × 8
4	140 × 8	95 × 8	140 × 8
5	150 × 5	100 × 5	150 × 5
6	160 × 5	105 × 5	160 × 5
7	170 × 5	110 × 5	170 × 5
8	180 × 5	115 × 5	180 × 5
9	190 × 3	120 × 3	190 × 3
10	200 × 3	125 × 3	200 × 3
11	210 × 3	130 × 3	210 × 3
12	220 × 2	135 × 2	220 × 2
Competition			
First attempt	205	130	205
Second attempt	220	135	220
Third attempt	230	140	230

Process Goals:

Squat: Keep the body tight and lower into the squat with control.

Bench Press: Drive the bar back toward the eyes during the ascent phase.

Deadlift: Push with the legs at the beginning of the lift.

ted athletes may not be prepared to do all that is required to achieve a goal. Making a goal attractive and developing self-confidence can promote commitment in an athlete (7). For example, a strength coach can explain that the goal of increasing the weight lifted in the deadlift will give the athlete more leg strength for the Clean and Jerk. Additionally, positive verbal feedback can develop the athlete's self-confidence.

Additional Coaching Hints

A common saying is that "people don't plan to fail, they fail to plan."

Below are some coaching hints for helping athletes make the most of goal setting and thus maximizing their strength gains.

1. Periodically ask the athlete questions such as, "what have you done today to achieve your goal?" These types of questions will encourage the athlete to focus on daily training goals that have been shown to distinguish successful athletes from less successful ones (13).
2. Have the athlete record her/his goals on paper and keep them where they will be seen

regularly. This will help maintain the importance of the goals to the athlete (19). Examples of goal-setting worksheets can be found in applied sport psychology textbooks by such authors as Martens (12) and Rushall (15). Similar to this, training diaries are vital. During strength training, accurate records allow the athlete to evaluate progress regularly, identify aspects of training that are working, and recognize those aspects that need adjustment (4). Table 2 presents a very simple but effective training plan used by an elite powerlifter to guide his build-up to the Junior World Championships.

3. Emphasize that "if it's to be, it's up to me." It makes sense to encourage self-responsibility because ultimately the athlete is the person who requires the increased strength, and the only way that that strength will be obtained is by training.
4. Burton (2) found that athletes sometimes had difficulty readjusting goals once they were set. Specifically, the athletes failed to lower goals that had become unrealistic. Sometimes goals do become unrealistic because of injury or other factors. The strength coach may need to help athletes readjust their goals when appropriate.

Conclusion

Goal setting is not a magic formula or a quick fix that will guarantee success. Although goal setting is an effective tool that can lead to improved performance, it needs to be implemented correctly (5, 19, 21). This article has outlined a framework that the strength coach can use to help an athlete maximize strength gains. Ara Parashe-

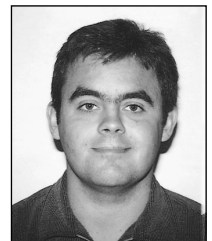
ghian, the former head coach of the Fighting Irish at Notre Dame once remarked that “a good coach will make his players see what they can be rather than what they are.” Goal setting is one method that can help the strength and conditioning coach achieve this! ▲

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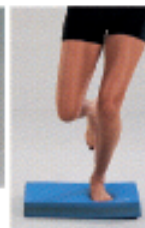
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