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Effects of Goal Setting on Performance in Collegiate Athletes

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Effects of Goal Setting on Performance in Collegiate Athletes
Abstract

This paper explores the effects of goal setting on the performance of collegiate athletes, specifically looking at differences among gender and type of sport and differences among types of goals set. The participants consisted of 68 students (31 male and 37 female) chosen via a convenience sample. Data was gathered using a survey consisting of questions involving goal setting answered using a 1-5 Likert scale. It was analyzed and compared across gender and type and level of sport using a T-test at an alpha level of 0.10. Multiple categories were statistically different. Males set more outcome goals than females (t=1.848), athletes in individual sports set more process goals (t=2.503) and fewer outcome goals (t=-1.79) and achieve fewer goals (t=-3.87) than those in team sports, and high school athletes set more outcome goals (t=1.952) and fewer specific (t=-2.055) and process (t=-2.911) goals than high school athletes. Three of the four hypotheses were supported by the study. Men were found to set more outcome goals than women, athletes in team sports set more outcome goals than those in individual sports, and athletes in team sports saw less of an increase in performance through goal setting than those in individual sports. This study found men to set goals slightly more frequently than women, rejecting the first hypothesis. It also supported that all the characteristics of Sullivan and Strode’s (2010) “SMAART” principle (specific, measurable, aggressive yet achievable, relevant, and timely) lead to successful goals. This study was limited by time and resources available.
Introduction

The act of goal setting has always been an important part of daily life for people everywhere, whether that goal was getting to work on time, acing that calculus test, or being a good parent. People need or want to get things done during their lives, and these things are often accomplished through setting goals. Weinberg and Gould (as cited in Maltbey, 2001) define a goal as “an objective, a standard, an aim of some action, or a level of performance or proficiency” (p. 1). This means that a goal is some standard that one wants to achieve. Goal setting is a very popular motivational technique for improving performance and completing tasks both in life and in sports (Weinberg, Stitcher, & Richardson, 1994).

Goal setting has many benefits in life and in sport. Goals have motivated people to complete tasks and improve in aspects of life for years; however, the idea of psychological influences in sport hasn’t been researched much until recent years. Goal setting in sport began to see interest and research began to be done on this topic around forty years ago. The two men primarily known for beginning the research of goal setting in sport and establishing theories on it are Edwin Locke and Gary Latham (Heider, 1976; Johnson et al., 2011; Stout, 1999). This study further expands their knowledge of goal setting in athletics.

There are many different aspects of goals that influence how successful they are. According to Tod and McGuigan, (2001) the difficulty, specificity, and proximity of goals are key components of a successful goal. It is predicted that goals that are specific and moderately difficult will improve performance more than those that are vague and too difficult or too easy. Goals should have clear target dates, regardless of whether they are short or long term, to be effective (Sullivan & Strode, 2010). Goals must also be measurable. According to Tod and McGuigan, (2001) goals can be categorized into outcome goals, performance goals, and process goals. It is predicted that process goals will result in greater
improvements in performance when compared to outcome goals because they are in the athlete’s control.

Other factors influencing goal setting are factors such as gender, athletic maturity, and the sport participated in (Stout, 1999; Weinberg, 1982). Different types of goals are involved in team sports compared to individual sports, and women and men may look at the goal-setting process differently. This study will further investigate possible differences between genders and different sports, and will control athletic maturity by limiting the study to collegiate athletes.

This study evaluates how goal setting techniques differ from person to person, as well as how gender and influences from different sports affect these processes. It is important because it explores goal setting at a high level of athletics. Student-athletes are very diverse individuals and understanding how athletes set goals for themselves will help to better understand their performances. At this level, athletes are competing not only for themselves, but for their coaches and teammates too. These people may influence athletes differently depending on the sport. The purpose of this study is to examine the effects of goal setting on the performance of collegiate athletes. Specifically, this study will explore differences in the effects of goal setting on performance across genders and sports, as well as explore whether the types of goals set affect performance differently. It is hypothesized that: (1) women will use goal setting more frequently than men; (2) men will set more outcome goals compared to women; (3) more outcome goals will be set by athletes in team sports than by those in individual sports; and (4) athletes in team sports will see less improvement in performance when compared to those in individual sports.


**Review of Literature**

*Types of Goals*

It is important to understand the different types of goals before investigating these ideas. A good starting point can be found in Sullivan and Strode’s (2010) “SMAART” principle. This acronym states that a successful goal should be specific, measurable, aggressive yet achievable, relevant, and timely. Goal specificity is the first category in the SMAART principle, and deals with how focused a goal is. A goal can be broad and vague, or it can be narrow and specific. According to Tod and McGuigan, (2001) specific goals are better than vague goals because they are objective and easier to evaluate.

Maltbey (2001) states that objective goals can be broken down into outcome, performance, and process goals. Outcome goals are centered on beating others and their achievement is often outside of the athlete’s control. These goals can be beneficial, but they should be paired with performance and process goals. Achieving performance and process goals will lead to the accomplishment of outcome goals (Vidic & Burton, 2010). Performance goals focus on improvements in the actual performance while process goals focus on aspects such as form, technique, and strategy while competing (Sullivan & Strode, 2010; Tod & McGuigan, 2001). Both of these types of goals can be controlled by the athlete. These goals increase motivation more compared to outcome goals by allowing more consistent success to be seen. They also help to improve performance by pointing out areas needing improvement.

Specificity is closely related to the next category, which is the measurability of goals. For goals to be measurable, they should be specific and objective. The ability to measure goals to see whether or not they were achieved is very important to the goal being effective. If a goal cannot be measured it is impossible to determine whether or not it was achieved or if it was effective.
The phrase “aggressive yet achievable” means that a goal should be difficult, but not so difficult it becomes unattainable. If goals are too easy, achieving them won’t provide much satisfaction. Locke and Latham (1985) point out that difficult goals produce better results than easy goals and the harder the goal, the better the performance, assuming the athlete has the ability. This is very important because if the athlete does not have the ability to achieve these goals, the goals become unattainable. Unattainable goals should be avoided because they can result in continued failure and lead to decreased motivation and performance, or even the athlete giving up.

Another key component of an effective goal is its relevance to the athlete. The coach should not set a goal and tell the athlete to achieve it without the athlete providing input. The athlete’s input is necessary to believing in the goal and thus the success of the goal (Sullivan & Strode, 2010). Maltbey (2001) adds that since the athlete knows what they want to achieve, they need to be involved in the setting of the goal for it to be relevant. Vidic and Burton (2010) explain that coaches may need to be involved initially to implement the goal so they can support the athlete and provide direction, but as athletes begin setting and accomplishing goals they learn the goal setting process and become more independent.

The final component of Sullivan and Strode’s “SMAART” principle is timely and deals with the frequency and proximity of goals. Goals must have a time limit in order to be effective according to Tod and McGuigan (2001). It is human nature to want to procrastinate, so putting a time limit on goals will help athletes to continue striving to achieve them. Goals should be set and evaluated frequently so the athlete knows their progress to see if they are on pace to achieve their goals in time (Maltbey, 2001). Stout (1999) found that athletes who set goals more frequently were more successful in accomplishing goals.

Goal proximity deals with the time frame of goals and consists of short-term and long-term goals. Long-term goals deal with the future and comprise
some difficult, end goal. Tod and McGuigan (2001) found these goals important in that they provide purpose and direction, but Stout (1999) adds that alone long-term goals are likely too far in the future to hold the athlete’s focus and effort. Short-term goals deal with the near future and are easier to achieve and can be used as stepping stones. They help to break up a long-term goal into smaller chunks and the achievement of these goals helps the athlete to stay encouraged (Tod & McGuigan, 2001). A combination of short-term goals en route to a long-term goal is the best way of goal setting.

**Other Factors Influencing Goal Setting**

There are many other factors influencing goal setting in athletes outside of the SMAART principle, such as the gender and athletic maturity of the athletes, and the sport they participate in. Weinberg et al. (as cited in Stout, 1999) studied variance between genders and found females set more performance goals while males set more outcome goals, and females set more goals in general than males. Stout also found that athletes who have more athletic ability use goal setting more frequently and effectively than those who aren’t as skilled.

The types of goals set for athletes in team and individual sports also vary. Unlike in individual sports, team sports require athletes to cooperate with and support one another, so group goals should be set along with individual goals (Locke & Latham, 1985). As Boyce and King mention, (1993) this can potentially cause some problems as the goals may put more responsibility on some players than others. Higher skilled athletes will be expected to do more than the others and this can cause added stress.

This review of literature focused on the many aspects involved with goal setting. There are many ways to categorize goals as seen in Sullivan and Strode’s (2010) “SMAART” principle. Research has shown that goals should be specific, measurable, aggressive yet achievable, relevant, and timely. Stout’s (1999) study
examined differences between genders in goal setting while Burton et al. (2010) and O’Brien et al. (2009) examined differences in goal setting in elite and nonelite athletes. The differences between team and individual sports were also discussed.

Method

Participants and Design

The participants of the study were 68 students (31 male and 37 female) attending Montana State University. Twenty-nine of the participants were students in a psychology course, while the remaining 39 participants were student-athletes at the university. The participants were chosen via a convenience sample. Information was gathered for the study using a survey consisting of 11 questions answered using a Likert scale from strongly disagree (1) to strongly agree (5) with the exception of the last two questions, which were multiple choice. Question 11 used a separate scale of very easy (1) to unattainable (5). The survey also included a demographic section including the gender, sport played, and highest level that sport was played so the responses could be compared across these parameters.

Analysis

The data was first analyzed collectively to get a general understanding of how the participants used goal setting in their sports. The data was then compared across gender and type and level of sport to look for differences. The data was analyzed by averaging the responses for the Likert scale questions, finding the standard deviations, and comparing these means across categories. Data was compared using two tailed T-tests and determined to be significant or not by using a T-table at an alpha level of 0.10. Categories with fewer than five respondents were left out of the statistical analysis.
Results

In order to determine the effectiveness of goal setting in athletes, the information gathered for each survey question was totaled and averaged in Table 1. It was found that most athletes regularly set goals in sport (M = 4.353, SD = 0.768), set specific goals (M = 4.441, SD = 0.529), and set process goals (M = 4.426, SD = 0.698). Relatively few athletes set outcome goals (M = 3, SD = 1.065) or regularly evaluate their goals (M = 3.5, SD = 0.82). All athletes stated that they set moderately difficult or difficult goals, with the majority setting difficult goals (M = 3.721, SD = 0.452). This information can also be found graphically in Figure 1. Athletes primarily set individual goals (47%) or a combination of team and individual goals (47%), and most athletes set a combination of short-term and long-term goals (78%). This is also demonstrated graphically in Figures 2 and 3.
Table 1

<table>
<thead>
<tr>
<th>Question #</th>
<th>Question</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regularly set goals</td>
<td>4.353</td>
<td>0.768</td>
</tr>
<tr>
<td>2</td>
<td>Goal setting improves sport</td>
<td>4.309</td>
<td>0.697</td>
</tr>
<tr>
<td>3</td>
<td>Specificity of goals</td>
<td>4.441</td>
<td>0.529</td>
</tr>
<tr>
<td>4</td>
<td>Accountability of goals</td>
<td>3.824</td>
<td>0.992</td>
</tr>
<tr>
<td>5</td>
<td>Outcome goals</td>
<td>3</td>
<td>1.065</td>
</tr>
<tr>
<td>6</td>
<td>Process goals</td>
<td>4.426</td>
<td>0.698</td>
</tr>
<tr>
<td>7</td>
<td>Achievement of goals</td>
<td>3.691</td>
<td>0.738</td>
</tr>
<tr>
<td>8</td>
<td>Evaluation of goals</td>
<td>3.5</td>
<td>0.82</td>
</tr>
<tr>
<td>9</td>
<td>Goal setting boosts confidence</td>
<td>3.838</td>
<td>0.784</td>
</tr>
<tr>
<td>10</td>
<td>Goal setting improves performance</td>
<td>4.265</td>
<td>0.704</td>
</tr>
<tr>
<td>11</td>
<td>Difficulty of goals</td>
<td>3.721</td>
<td>0.452</td>
</tr>
</tbody>
</table>

*This table lists the means and standard deviations (SD) for the responses to the first 11 questions of the survey based on the 1-5 Likert scale.*

Figure 1

*This figure shows the means for the responses to the first 11 questions of the survey based on the 1-5 Likert scale.*
Figure 2 - Individual vs. Team Goals

Type of Goals Set

Combination of Two, 47%
Individual, 47%
Team, 6%

This figure shows the percentage of respondents that set team goals, individual goals, or a combination of the two.

Figure 3 - Short-term vs. Long-term Goals

Types of goals set - Duration

Combination of Two, 78%
Long-term 9%
Short-term 13%

This figure shows the percentage of respondents that set short-term goals, long-term goals, or a combination of the two.
Gender Differences

The means and standard deviations for the responses to the survey divided by gender can be found in Table 2, as well as in Figure 4. One category was significantly different and involved the setting of outcome goals. Males were found to set significantly more outcome goals ($t = 1.848$) than females at an alpha level of 0.10 ($t = 1.697$). A majority of males (54.8%) set a combination of team and individual goals while a majority of females (51.4%) set individual goals, and the majority of both males (77.4%) and females (78.4%) set both short-term and long-term goals.

<table>
<thead>
<tr>
<th>Question #</th>
<th>Question</th>
<th>Male</th>
<th>Female</th>
<th>T-score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>1</td>
<td>Regularly set goals</td>
<td>4.355</td>
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<td>4.351</td>
</tr>
<tr>
<td>2</td>
<td>Goal setting improves sport</td>
<td>4.387</td>
<td>0.715</td>
<td>4.243</td>
</tr>
<tr>
<td>3</td>
<td>Specificity of goals</td>
<td>4.516</td>
<td>0.57</td>
<td>4.378</td>
</tr>
<tr>
<td>4</td>
<td>Accountability of goals</td>
<td>3.774</td>
<td>1.117</td>
<td>3.865</td>
</tr>
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<td>5</td>
<td>Outcome goals</td>
<td>3.258</td>
<td>1.094</td>
<td>2.784</td>
</tr>
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<td>6</td>
<td>Process goals</td>
<td>4.29</td>
<td>0.864</td>
<td>4.541</td>
</tr>
<tr>
<td>7</td>
<td>Achievement of goals</td>
<td>3.548</td>
<td>0.81</td>
<td>3.811</td>
</tr>
<tr>
<td>8</td>
<td>Evaluation of goals</td>
<td>3.581</td>
<td>0.72</td>
<td>3.432</td>
</tr>
<tr>
<td>9</td>
<td>Goal setting boosts confidence</td>
<td>3.903</td>
<td>0.746</td>
<td>3.784</td>
</tr>
<tr>
<td>10</td>
<td>Goal setting improves performance</td>
<td>4.29</td>
<td>0.693</td>
<td>4.243</td>
</tr>
<tr>
<td>11</td>
<td>Difficulty of goals</td>
<td>3.806</td>
<td>0.402</td>
<td>3.649</td>
</tr>
</tbody>
</table>

This table compares the means, standard deviations (SD), and T-scores by gender for the responses to the first 11 questions of the survey based on the 1-5 Likert scale. The * represents a significant difference.
Differences by Type of Sport

The means and standard deviations for the responses to the survey divided by type of sport can be found in Table 3, as well as in Figure 5. Three of the eleven categories were found to be significantly different between those playing team sports and those playing individual sports. Those participating in an individual sport were found to set significantly more process goals ($t = 2.503$) than those in a team sport, and those participating in a team sport were found to set significantly more outcome goals ($t = -1.79$) and to achieve their goals ($t = -3.87$) than those in an individual sport at an alpha level of 0.10 ($t = 1.729$). A majority of participants in individual sports (58.3%) set individual goals while a majority of participants in team sports (60%) set a combination of team and individual goals, and the majority of both participants in individual sports (85.4%)
and participants in team sports (60%) set both short-term and long-term goals. No participants of individual sports primarily set team goals.

Table 3 - Comparing Type of Sport Played

<table>
<thead>
<tr>
<th>Question #</th>
<th>Question</th>
<th>Individual</th>
<th></th>
<th>Team</th>
<th></th>
<th>T-score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Regularly set goals</td>
<td>4.375</td>
<td>0.649</td>
<td>4.15</td>
<td>0.998</td>
<td>1.198</td>
</tr>
<tr>
<td>2</td>
<td>Goal setting improves sport</td>
<td>4.396</td>
<td>0.574</td>
<td>4.1</td>
<td>0.912</td>
<td>1.344</td>
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<tr>
<td>3</td>
<td>Specificity of goals</td>
<td>4.5</td>
<td>0.505</td>
<td>4.3</td>
<td>0.571</td>
<td>1.36</td>
</tr>
<tr>
<td>4</td>
<td>Accountability of goals</td>
<td>3.771</td>
<td>0.905</td>
<td>3.95</td>
<td>1.191</td>
<td>-0.604</td>
</tr>
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<td>5</td>
<td>Outcome goals</td>
<td>2.854</td>
<td>1.052</td>
<td>3.35</td>
<td>1.04</td>
<td>-1.79*</td>
</tr>
<tr>
<td>6</td>
<td>Process goals</td>
<td>4.583</td>
<td>0.539</td>
<td>4.05</td>
<td>0.887</td>
<td>2.503*</td>
</tr>
<tr>
<td>7</td>
<td>Achievement of goals</td>
<td>3.521</td>
<td>0.772</td>
<td>4.1</td>
<td>0.447</td>
<td>-3.87*</td>
</tr>
<tr>
<td>8</td>
<td>Evaluation of goals</td>
<td>3.458</td>
<td>0.798</td>
<td>3.6</td>
<td>0.883</td>
<td>-0.62</td>
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<td>9</td>
<td>Goal setting boosts confidence</td>
<td>3.792</td>
<td>0.713</td>
<td>3.95</td>
<td>0.945</td>
<td>-0.674</td>
</tr>
<tr>
<td>10</td>
<td>Goal setting improves performance</td>
<td>4.313</td>
<td>0.624</td>
<td>4.15</td>
<td>0.875</td>
<td>0.754</td>
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<tr>
<td>11</td>
<td>Difficulty of goals</td>
<td>3.667</td>
<td>0.476</td>
<td>3.85</td>
<td>0.366</td>
<td>-1.714</td>
</tr>
</tbody>
</table>

*This table compares the means, standard deviations (SD), and T-scores by the type of sport played for the responses to the first 11 questions of the survey based on the 1-5 Likert scale. The * represents a significant difference.*
This figure shows the means by the type of sport played for the responses to the first 11 questions of the survey based on the 1-5 Likert scale.

Differences by Level of Sport

The means and standard deviations for the responses to the survey divided by level of sport can be found in Table 4, as well as in Figure 6. The only two categories compared were college and high school, because both the club and national categories had fewer than five respondents. Three of the eleven categories were found to be significantly different between collegiate and high school athletes. High school athletes were found to set significantly more outcome goals ($t = 1.952$) than collegiate athletes, and collegiate athletes were found to set significantly more specific goals ($t = -2.055$) and process goals ($t = -2.911$) than high school athletes at an alpha level of 0.10 ($t = 1.796$). A majority of high school athletes (58.3%) set a combination of team and individual goals while the highest percentage of collegiate athletes (50%) set individual goals, and the majority of both high school athletes (75%) and collegiate athletes (82.7%) set both short-term and long-term goals.
Table 4 - Comparing Level of Sport Played

<table>
<thead>
<tr>
<th>Question</th>
<th>High School</th>
<th></th>
<th>College</th>
<th>T-score</th>
<th>Club</th>
<th>National</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>Mean</td>
</tr>
<tr>
<td>Regularly set goals</td>
<td>4</td>
<td>1.128</td>
<td>4.442</td>
<td>0.669</td>
<td>-1.305</td>
<td>4</td>
</tr>
<tr>
<td>Goal setting improves sport</td>
<td>4.083</td>
<td>0.793</td>
<td>4.404</td>
<td>0.664</td>
<td>-1.297</td>
<td>3.667</td>
</tr>
<tr>
<td>Specificity of goals</td>
<td>4.167</td>
<td>0.577</td>
<td>4.538</td>
<td>0.503</td>
<td>-2.055*</td>
<td>4</td>
</tr>
<tr>
<td>Accountability of goals</td>
<td>4</td>
<td>1.044</td>
<td>3.827</td>
<td>0.985</td>
<td>0.522</td>
<td>3</td>
</tr>
<tr>
<td>Outcome goals</td>
<td>3.5</td>
<td>1</td>
<td>2.865</td>
<td>1.067</td>
<td>1.952*</td>
<td>3.333</td>
</tr>
<tr>
<td>Process goals</td>
<td>3.833</td>
<td>0.835</td>
<td>4.577</td>
<td>0.605</td>
<td>-2.911*</td>
<td>4</td>
</tr>
<tr>
<td>Achievement of goals</td>
<td>3.917</td>
<td>0.289</td>
<td>3.673</td>
<td>0.785</td>
<td>1.766</td>
<td>3</td>
</tr>
<tr>
<td>Evaluation of goals</td>
<td>3.5</td>
<td>0.674</td>
<td>3.596</td>
<td>0.799</td>
<td>-0.428</td>
<td>2</td>
</tr>
<tr>
<td>Goal setting boosts confidence</td>
<td>3.667</td>
<td>0.888</td>
<td>3.885</td>
<td>0.758</td>
<td>-0.786</td>
<td>3.333</td>
</tr>
<tr>
<td>Goal setting improves performance</td>
<td>4.25</td>
<td>0.754</td>
<td>4.308</td>
<td>0.701</td>
<td>-0.242</td>
<td>3.667</td>
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<tr>
<td>Difficulty of goals</td>
<td>3.75</td>
<td>0.452</td>
<td>3.731</td>
<td>0.448</td>
<td>0.133</td>
<td>3.333</td>
</tr>
</tbody>
</table>

This table compares the means, standard deviations (SD), and T-scores by the level of sport played for the responses to the first 11 questions of the survey based on the 1-5 Likert scale. Only the high school and college categories were compared and the standard deviation was left out of the club and national categories because they contained fewer than five respondents. The * represents a significant difference.
Figure 6

Means by Level of Sport

This figure shows the means by the level of sport for the responses to the first 11 questions of the survey based on the 1-5 Likert scale.

Discussion

The purpose of this study was to examine the effects goal setting had on the performance of collegiate athletes. Specifically, it explored differences in the effects of goal setting on performance across genders and sports. It also explored whether the types of goals set affect performance differently. The hypotheses were that: (1) women will use goal setting more frequently than men; (2) men will set more outcome goals compared to women; (3) more outcome goals will be set by athletes in team sports than by those in individual sports; and (4) athletes in team sports will see less improvement in performance when compared to those in individual sports.

Hypotheses
The first hypothesis that women set goals more frequently than men was not found to be true based on the data gathered in this study. The data instead suggested that males set goals slightly more often than females. This data disagrees with Stout’s (1999) findings that females set more goals in general than males. The second hypothesis stated that men will set more outcome goals than women. This hypothesis was proven to be true based on the data. Question five involved setting outcome goals, and when compared by gender it was found that males set a significantly higher amount of outcome goals than females. Data also suggested that athletes in team sports set significantly more outcome goals than those in individual sports, proving the third hypothesis to be true as well.

The final hypothesis stated that athletes participating in team sports would see less of an increase in performance through goal setting than those participating in individual sports. This couldn’t be physically tested due to the nature of the study, but questions two and ten dealt with improving in the sport and in performance. In both cases, data did suggest that athletes in team sports saw smaller increases in performance and sport through goal setting than those in individual sports.

**Types of Goals**

Sullivan and Strode’s (2010) “SMAART” principle stated that goals should be specific, measurable, aggressive yet achievable, relevant, and timely in order for the goals to be effective. According to the results of the survey, a vast majority of athletes set specific goals. This supports the idea that goals that are specific lead to the goal being more successful. The fact that none of the forty-eight participants in individual sports primarily set team goals further reinforces that athletes are setting relevant goals.
Specific goals were characterized as being objective goals, which were further broken down into outcome, performance, and process goals. Sullivan and Strode (2010) and Tod and McGuigan (2001) stated that while outcome goals can be beneficial when paired with performance and process goals, they should not be set alone because their achievement is often outside the athlete’s control. Performance and process goals are within the athlete’s control, and if these goals are achieved, the outcome goals will likely follow. Outcome and process goals were examined through questions five and six of the survey. The data showed that significantly more participants set process goals than outcome goals, supporting the idea that athletes see process goals as being more important to improving performance than outcome goals.

The next part of the “SMAART” principle examined was that involving goals being aggressive yet achievable. This was examined through questions seven and eleven. The mean value for the achievement of goals was relatively low, having a higher mean than only questions five dealing with outcome goals, and eight dealing with the evaluation of goals. This suggests that these participants were setting difficult goals. This idea was further supported in question eleven, with every respondent stating that they set either moderately difficult or difficult goals, with the majority setting difficult goals. The mean may seem low since it is less than four, but that is likely due to a bias in the question. Five on the Likert scale should have said “very difficult,” but instead said “unattainable,” which probably lead participants to veer away from choosing this option as not one participant circled unattainable (5) while filling out the survey. Locke and Latham (1985) stated that goals should be difficult, but not too difficult that they become unattainable, resulting in continued failure and decreased motivation and performance.

The final part of the “SMAART” principle is that for goals to be effective they should be timely. This aspect of goal setting was examined through the final question of the survey dealing with the proximity of goals. Tod and McGuigan
(2001) found that long-term goals are important in providing purpose and direction, but should be supplemented with short-term goals so the goals aren’t too far into the future to hold the athlete’s focus and effort. They added that short-term goals are easier to achieve, helping the athlete to stay encouraged. The data gathered in this study suggests that a large majority of athletes set a combination of short-term and long-term goals, which is the most beneficial way of goal setting (Tod & McGuigan, 2001). Another component of goals being timely involves the evaluation of goals to check the progress of that goal’s achievement. Maltbey (2001) stated that goals should be set and evaluated frequently so the athlete knows if they are on pace to achieve the goal in time. However, the data gathered from question eight of the survey suggests that many athletes do not regularly evaluate their goals to check their progress and modify their goals if needed.

Other Factors Influencing Goal Setting

Stout (1999) and Burton et al. (2010) found that athletes who have more athletic ability tend to set goals more frequently and effectively than those with lesser ability. When collegiate athletes were compared to high school athletes, collegiate athletes had a larger mean than high school athletes in regularly setting goals and on goal setting improving the athletes’ sport and performance. This supports Stout’s and Burton et al.‘s findings. Locke and Latham (1985) state that athletes in team sports need to work with their teammates, and so should set group goals along with individual goals. The findings in this study support those of Locke and Latham because only 20% of participants in team sports set individual goals, while 60% set a combination of team and individual goals.

Conclusions
While the findings of this study supported many of the hypotheses and findings of others, some of the findings also contradicted them. This study supported the idea that men set more outcome goals than women, that athletes in team sports set more outcome goals than those in individual sports, and that athletes participating in team sports see less of an increase in performance through goal setting than those participating in individual sports. This study also supports that goals that are specific, measurable, and relevant lead to goals being more successful, that athletes see performance and process goals as being more important to improving performance than outcome goals, that goals should be difficult yet attainable to be effective, that setting a combination of short-term and long-term goals is most beneficial, that athletes with more athletic ability set goals more frequently and effectively, and that athletes in team sports should set group goals along with individual goals. On the other side, this study contradicts findings that women set goals more frequently than men.

**Limitations**

This study was limited by the amount of time and resources available. A convenience rather than random sample was used in selecting participants because of a limited amount of resources and the convenience of the chosen subjects. Due to the nature of this convenience sample, many of the participants in the study only competed in sports at the high school or club level and not at a collegiate level. The selection of student-athletes participating in the study was also biased toward track and field athletes due to convenience.

**Future Implications**

This participants of this study only included students from a course and student-athletes at Montana State University that were chosen via a convenience sample. This study could be replicated across a larger population of student-athletes in the Big Sky Conference or across colleges in Montana chosen...
randomly to get a better picture of the effects of goal setting on the performance of collegiate athletes as a whole. The participants could also include a larger variety of sports as the student-athletes involved in this study were biased towards track and field.
References


Appendix

Goal Setting Survey

Goal setting is an important psychological component in athletics and has been shown to positively impact performance in athletes. There are many different types of goals that can be set, and this survey will help determine the most common and effective types. The purpose of this survey is to gather information regarding goal setting in collegiate athletes and its effect on their athletic performance. Please fill out your gender and sport involved in as the information will be compared across genders and sports.

Sex _____________
Sport _____________________
Highest level played in sport (e.g. high school, club, college) _______________________

For each of the following statements, indicate whether you:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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</tbody>
</table>

I regularly set goals in my sport. 1 2 3 4 5
Goal setting helps me improve in my sport. 1 2 3 4 5
The goals I set are specific to what I want to accomplish. 1 2 3 4 5
I am held accountable for the goals I set. 1 2 3 4 5
My goals normally deal with winning/beating others. 1 2 3 4 5
My goals normally deal with improving skills/performance. 1 2 3 4 5
I achieve a majority of the goals I set. 1 2 3 4 5
I regularly evaluate the goals I set to check my progress. 1 2 3 4 5
Setting goals helps me to feel more confident. 1 2 3 4 5
I believe goal setting improves my performance. 1 2 3 4 5

The difficulty of my goals is: 1 2 3 4 5

- Very Easy
- Easy
- Moderately Difficult
- Difficult
- Unattainable
Please check the box next to your answer.

Do you primarily set individual or team goals?

- Individual
- Team
- Combination of the two

Do you normally set short-term or long-term goals?

- Short-term
- Long-term
- Combination of the two