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THE EFFECTS OF A GOAL SETTING INTERVENTION
AND DISPOSITIONAL OPTIMISM/PESSIMISM
ON SELECTED GOLF SKILLS:
A QUALITATIVE DESIGN

Matthew James Wilson



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Optimism/Pessimism on Selected Golf Skills:

A Qualitative Design

by

Matthew James Wilson

A Thesis Submitted to the Faculty
of the College of Graduate Studies
at Georgia Southern University
in Partial Fulfillment of the
Requirements for the Degree of
Master of Education
in the Department of Health and Kinesiology


Statesboro, Georgia

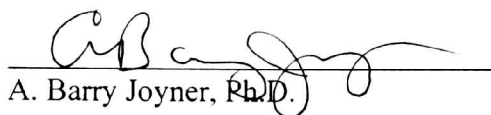
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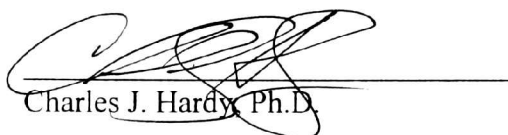
The Effects of a Goal Setting Intervention and Dispositional Optimism/Pessimism
on Selected Golf Skills: A Qualitative Design


by

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Dedication

This thesis is dedicated to the Wilson and Borrelli families:

James E. Wilson: Throughout the years you have taught me the importance of persistence, work ethic, and responsibility. The task of being a father is a tremendous one, I commend you and thank you for the successful job you have done. I love you.

Mary B. Wilson: I thank you for the love you have shown me throughout my life. You have taught me the ability to care and respect others. No matter the circumstances, you have always been there for me and I thank you. I love you.

Rocco V. Borrelli: To have been able to spend twenty-seven years with such a special man goes beyond words. To my paisan, I love you and thank you.

Alba Krawiecki: Throughout my educational career I have come in contact with several educators. However, you are the foundation of all that I have achieved in my educational life. You were the first teacher to “teach” me how to learn. I thank you.

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To Cari Pawlicki, your caring and understanding are greatly appreciated and will always be remembered. To my friends: Dan Czech, Garth Spendiff, and Dave Coradini, I believe that if you can go through life and call two people close friends you are lucky. I feel fortunate to say that I will leave this institution with three people I can consider my close friends. Guys I wish you all the best in your future endeavors, I know you all will be successful.

To the rest of the Health and Kinesiology Department I say thank you all for making my time here the exciting and successful experience that it was. Lastly, I thank the baseball coaching staff for bringing me to Georgia Southern and allowing me to develop into the person I am today.

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Abstract

The purpose of this study was to examine the effects of a goal setting intervention on selected golf skills over the course of a competitive golf season. A secondary purpose of this study was to investigate a comparison of optimism and pessimism in relationship to goal attainment. Subjects (n=7) were elite golfers from a university men's golf team. A two-month goal setting intervention was implemented consisting of the individual golfers selecting three golf skills from five separate categories (fairways in regulation, greens in regulation, total putts per round, up and downs conversion rate, and putts per green in regulation) to set and implement performance goals. Baseline data were gathered through statistical charting of the five categories during practice and competition rounds. Goal setting data were collected from the practice and competitive rounds during the golf team's spring season. Optimism and pessimism was measured by the Optimism and Pessimism Scale (Dember et al., 1989). The following research questions were posed: 1) Would there be improvement in the targeted golf skills selected due to the goal setting intervention? 2) Would there be an appreciable change in the non-targeted golf skills? 3) Would there be a positive relationship between optimism and goal attainability? 4) Would there be a negative relationship between pessimism and goal attainability? Results indicated that six of the seven golfers improved in at least one of their three targeted golf skills. While four of the golfers improved in at least two of their three

targeted golf skills. Changes did occur in the non-targeted golf skills, however these changes were in direct relation to changes in the targeted golf skills. A statistical relationship was found to exist between those individuals scoring higher in optimism and goal attainability. The five golfers with the highest optimism scores, also attained the highest percentage of their goals. Lastly, the two golfers with the lowest optimism scores and two of the three highest pessimism scores, were found to have had the lowest percentage of goal attainability. Results from this study supported the previous research that goal setting may be an effective psychological tool for improved performance and that optimism/pessimism may play an important role towards goal attainability.

The Effects of a Goal Setting Intervention and Dispositional Optimism/Pessimism on Selected Golf Skills: A Qualitative Design

Goal setting has been studied in various environments such as industry, school, personal life, and sport. Much of the impetus for this research can be attributed to Locke's (1968) goal setting theory based on the belief that goals serve to regulate human actions towards accomplishment of a task, and that setting specific challenging goals produce better levels of performance than "do-your-best" or "no goal" settings (Kingston & Hardy, 1997).

Tasks performed in the industrial/organizational settings and laboratories have much in common with sport activities in that both involve mental and physical actions directed toward a goal (Locke & Latham, 1985). It has been perceived that goal setting in the sports arena would match, if not surpass similar goal setting results found in the industrial/organizational setting. This supposition is based on the fact that the measurement of performance outcomes, such as batting averages and golf scores are easier to chart than measurements in the work setting (Weinberg, Stichter, & Richardson, 1994). However, despite the overwhelming evidence of the beneficial effects of goal setting in the industrial/organizational settings, the findings in sport and exercise domains have been equivocal (Weinberg, Burke, & Jackson, 1997; Weinberg & Weigand, 1993).

The lack of congruity and null findings found within goal setting in sports has led to substantial debate among leading psychological professionals (Locke, 1991; 1994; Weinberg & Weigand, 1993; 1996). The former have stipulated several methodological considerations and limitations as reasons for these equivocal findings: spontaneous goal setting in control groups; levels of motivation, commitment, and competition; and the setting of personal goals in addition to assigned goals.

Goal setting research within the sport psychology field has primarily focused on the individual components of goals, i.e., goal specificity (Weinberg, Bruya, & Jackson, 1985), goal difficulty (Hall, Weinberg, & Jackson, 1987), and goal proximity (Boyce, 1992). Yet, the amount of research examining the effectiveness of goal setting interventions with competitive athletes in a natural competitive setting has received minimal investigation.

Weinberg, Stichter, and Richardson (1994) contend that one of the major practical applications for the use of goal setting techniques is with individual and team sport athletes over the course of a season. However, the use of longitudinal goal setting training programs has received minimal attention (Kingston & Hardy, 1997). This form of research would help address the concern in sport psychology for studies to have enhanced external validity and generalizability.

Burton (1989) conducted one of the first goal setting studies that incorporated an athletic team during an entire competitive season. Results indicated that the athletes setting performance goals felt enhanced perceived ability, competitive cognitions, and

improved swim times. Weinberg, Stichter, and Jackson (1994) assessed the effectiveness of a season long goal setting intervention on a university lacrosse team. No significant statistical differences were found; however the consistency of performances were strongly in favor of the goal setting group. Anderson, Cromwell, Doman, and Howard (1988) used goal setting and feedback to examine their effectiveness on a college ice hockey team. Results showed goal setting to have contributed to increased hit rates. Miller and McAuley (1987) implemented a goal setting intervention to study its effects on basketball free-throw performance. Even though no significant differences were shown between the groups, the goal setting group was found to have higher levels of self-efficacy and perceptions of success. Kingston and Hardy (1997) examined the relative efficacy of two different goal setting interventions. Performance goal setting and process goal setting programs were implemented over a single golf season for amateur golfers. Results indicated that those golfers setting process goals were found to significantly improve and have less anxiety levels.

Swain and Jones (1995) chose a different direction towards studying the effects of goal setting on basketball performance by utilizing a single-subject design format. The researchers believed that the study would maintain a high degree of external validity. Results showed significant improvement in selected basketball skills.

Various sport skills have been used in applied sport psychology studies to examine the effects of psychological skills training on athletes. Several of these studies have incorporated the sport of golf as a measurement instrument. Kingston and Hardy's

(1997) before mentioned study implemented a goal setting program with club amateurs over the course of a single season. Golfers were trained in two groups, the first group set traditional performance goals while the second group set process goals. Results indicated the process-oriented goal setting group demonstrated significant improvements in personal handicap levels from the first to second test, whereas the performance goal setting group did not show significant improvement in handicap until the third test.

Successful athletes have been shown to make better use of goal setting and evaluation techniques for attaining peak performance (Gould, Eklund, & Jackson, 1992; Orlick & Partington, 1988). Ericsson and Charness (1994) investigated and found evidence that elite performance is attained through the practice and repetition of numerous complex cognitive structures and skills over a long extended period of time. Rotella and Boutcher (1990) reported that several professional golfers suggested that golf performance is as much 90% mental and only 10% physical. This contention has sparked a wide range of psychological skills training studies in recent years.

Several golf skills have been used to investigate the benefits of mental training in golf. Crews and Boutcher (1986), using students from a college physical activity class, found that a designed preshot routine improved male golfers overall golf score. Kirchenbaum and Bale (1980) investigated the effects of a cognitive-behavioral skills training program on golfers and found three of the nine golfers did improve their golf scores during the study. McCaffery and Orlick (1989) found that touring professionals set more specific goals and have more elaborate evaluation techniques than club

professionals. Statistically, the sport of golf has been analyzed to observe if any one category is more important than another (Davidson & Templin, 1986; Nix & Koslow, 1991).

Perhaps a variable that has been overlooked or not extensively researched is a golfer's "outlook" on life or how this "outlook" may influence his/her performance. Peterson and Bossio (1991) state an individual's outlook about his/her future experiences may be described as optimistic or pessimistic. Optimistic people have been found to demonstrate higher levels of motivation, persistence, and performance (Carver, Blaney, & Scheier, 1979; Taylor & Brown, 1988). On the otherhand, pessimistic individuals depict a negative bias towards their participation in the world (Peterson & Bossio, 1991). Optimism and pessimism have been studied primarily within the clinical and health psychology settings, but its significance in sports can also be a contributing factor for success or failure.

Kavussanu and McAuley (1995) investigated the effects of exercise on optimism and pessimism. Subjects were required to complete the Optimism/Pessimism Scale (Dember et al., 1989) and a personal questionnaire. Results indicated that those individuals who were highly active were significantly more optimistic and less pessimistic than inactive/low active individuals.

A similar relationship between goal setting and optimism/pessimism has been found by Peterson and Bossio (1991). Optimistic people have been found to set more

specific goals and at the same time have more confidence in goal attainability than pessimistic people (Peterson & Bossio, 1991).

Seligman, Nolen-Hoeksema, Thorton, & Thorton, (1990) observed the relationship between optimism/pessimism, feedback, and swimming performance. Results indicated that pessimistic swimmers given negative feedback about poor prior performance performed at lower levels when compared to more optimistic swimmers.

Greenspan and Feltz (1989) stated that the majority of sport psychology studies investigating performance have been remiss in using athletes' performances in actual competition as the dependant variable. Weinberg (1992) has stated that sport psychology research is in need of more studies being conducted that are similar to Burton (1989) because of the high external validity. No previous studies were found that analyzed the effects of a goal setting intervention and optimism/pessimism on golfers during a competitive season.

Method

Participants

Participants consisted of the seven members of a NCAA Division I southeastern university golf team. The subjects' ages ranged from 18-24 years ($x=21.4$) with an average of 10.2 years of playing experience. All subjects were right-handed players with a team consisted of two juniors, three sophomores, and two freshman. Permission was obtained from the head coach (Appendix E) and each athlete was required to sign an informed consent form before participation (Appendix E).

Instrumentation

Optimism and pessimism was measured using the Optimism/Pessimism Scale (OPS) (Appendix D) (Dember et al., 1989). The OPS consists of 18 items measuring optimism, 18 items measuring pessimism, and 20 filler items. Individuals respond to a 4-point Likert scale from strongly agree to strongly disagree. Items in each subscale are then added together to provide a single score for each subscale. The scale has been shown to be reliable, with alpha coefficients of .84 and .86 for optimism and pessimism (Dember et al., 1989). Test-retest reliability over a two-week period were $r = .75$ for optimism and $r = .84$ for pessimism (Dember & Brooks, 1989).

Golf statistics were collected using the Statistical Golf Sheet (Appendix D) given to each subject before each round of golf. This chart was design by the researcher and the golf coach to chart the five categories in the most appropriate manner. The categories listed were: fairways in regulation (FIR), greens in regulation (GIR), average putts per greens in regulation (APPGIR), total putts per round (TP), and up and down conversion rate (UDCR).

Design and Procedure

This project was designed as a goal setting intervention over a two-month time period. At the start of the program the participants were given a Golf Questionnaire (Appendix D) and the OPS (Dember et al., 1989) (Appendix D). This questionnaire and inventory were administered during the golf team's initial meeting to begin the 1997-1998 season. The questionnaire provided the researcher with background data

concerning the subjects biographical and playing history. Instructions were provided by the researcher concerning the OPS stating the need for the participants to answer the questions on an individual basis and as honestly as possible. The participants were instructed to answer the way they felt and not the way they believed the researcher would like them to answer.

Once the questionnaire was completed, the athletes were presented with a Statistical Golf Sheet (Appendix D). The subjects were informed to carry and record their performance in the five specific categories listed on the sheet. These particular categories were chosen on the basis of their importance on the three professional golf tours. Scores were then charted for a total of a one month time period (six or more rounds of competitive golf). Each round consisted of 18 consecutively played holes of golf. Baseline data were collected from rounds of golf played during four competitive tournaments in the fall season (October & November). More baseline data were collected from preseason play and qualifying golf rounds during the spring season (January & February).

At the end of this two-month period, the researcher held individual meetings with each subject to discuss the results of the preliminary charting process. Golfers were informed of their baseline averages from the collection of the preliminary data. The golfers were informed to choose three of the five categories to be the target behaviors for the goal setting intervention. Once the categories were chosen, the researcher thoroughly explained the concept and structure of various goals. The researcher and golfer then

established goals that were realistic and performance based. For example, one golfer set the goal of hitting an average of eight fairways in regulation for a particular time period. At the next meeting, the researcher offered feedback to the golfer concerning goal attainment. The goals may then be modified according to performance levels. Each of these goal feedback meetings were audio tape recorded by the researcher. A Goal Setting Protocol (Appendix D) was followed for each meeting. Golfers were presented their statistics from the previous week. These statistics were compared to the previous weeks statistics with regards to the goals set. The golfers were then allowed to provide feedback concerning their play for that week. The golfers discussed their ball striking, decision making, and overall practice concerning their individual goal setting for the targeted golf skills. The golfer's goals were then reevaluated, if the goal was matched, exceeded or within .2, then a new realistic, challenging goal was set. If the goal was not meet, then that same goal was kept for the following period of time and progress was examined towards goal attainment. Golfers were also provided a Practice Sheet for Goal Attainment (Appendix D) to chart the amount of time spent each week working towards the three categories chosen for the goal intervention. The golfers then began a two-month long recording program using the same charting format as in the preliminary period. All five categories were again recorded, however the main focus was placed on the three areas chosen for improvement. The researcher and golfers continued to meet once a week for eight consecutive weeks.

A Goal Setting Questionnaire (Appendix D) was administered preseason, midseason, and postseason to assess various attitudes concerning the goal setting intervention. For example, a question posed is “Rate your level of goal commitment from 0 = not committed at all to 5 = highly committed. At the end of the study the golfers were administered a Post-Training Questionnaire (Appendix D) which provided the golfers with the opportunity to answer questions and write comments related to the goal setting intervention.

Statistical Analysis

Statistical data were calculated and charted through the use of SPSS. Tables (1-8) were used to depict the progress or regression of the subjects. The seven subjects’ baseline average scores and intervention averages were charted. The data were analyzed to observe if an experimental effect had occurred over the duration of the intervention.

Also for the purpose of this study, the following criteria were used for inspection. First, the remaining two non-targeted categories for goal setting were charted and plotted. This was done to compare differences on golf skills in which goals were implemented and golf skills which did not receive goal setting attention. Optimism/Pessimism was measured through the administering of the OPS, from which possible relationships between optimism/pessimism and goal attainability were examined.

Results

All golf rounds consisted of 18 consecutively played holes of golf. Baseline data varied by subject, as seen in Table 1, because of qualifying and eligibility reasons.

Baseline data ranged from 4 to 17 golf rounds.

Golfer One: Results of Targeted and Non-targeted Golf Skills

Golfer One's targeted golf skills included TP, UPCR, GIR. Golfer One's non-targeted golf skills included FIR and APPGIR. See Table 1 for baseline and intervention results. Prior to the implementation of the goal setting intervention, baseline data (15 rounds of regulation golf) were collected.

Golfer One showed consistent progress until finally attaining his goal for TP during Phase III of the intervention. Continued improvement was attained in Golfer One's GIR, matching or exceeding goals in Phases I, III, and IV.

The non-targeted golf skills indicated inconsistent results. FIR decreased slightly during Phases I and II. However, FIR increased during Phases III and IV. APPGIR also showed inconsistent results from Phase to Phase.

Optimism and Pessimism Results

See Table 2 for Golfer One's results from the OPS. Golfer One made four negative statements and nine positive statements in discussions concerning individual play during the Phase I meeting. Six negative statements and one positive statement were made in discussions concerning individual play during the Phase II meeting. Two negative statements and five positive statements concerning individual play were made

during the Phase III meeting. During the Phase IV meeting, Golfer One made seven negative statements and four positive statements concerning individual play.

Golfer One made statements concerning inability to putt on three separate occasions. In general, positive statements concerning ball striking were made during three of the four meetings. Blame was placed on external variables on three separate occasions during the intervention. “Coach gave me a bad tip while I was on the practice tee before the first round,” “The greens were too small and hard,” and “The weather was bad.” He also took responsibility for poor play. “I failed to make the adjustment to the course,” and “I failed to make the adjustment to my swing until the final nine holes of golf.” During one meeting he was discussing his difficulty reading the greens for speed and break, he stated, “When I am not putting well I try to revert back to the fundamentals I was taught and attempt to focus on one blade of grass in the back of the cup and use that as my target, so that if I slightly miss the putt I am still in the hole.”

Golfer Two: Results of Targeted and Non-targeted Golf Skills

Targeted golf skills included APPGIR, UPCR, and GIR. Non-targeted golf skills included FIR and TP. See Table 3 for baseline and intervention results. Prior to implementation of the goal setting intervention, baseline data (15 rounds of regulation golf) were collected. When compared to the baseline data, improvement in two of the three intervention categories occurred. The single intervention category GIR did not match baseline results, but is important to note that during two phases of the intervention categorical averages were above baseline figures. Phase goals were matched or exceeded

for at least two of the four phases of the intervention. The non-targeted golf skills showed inconsistent results throughout the intervention.

Optimism and Pessimism Results

See Table 2 for Golfer Two's results from the OPS. Golfer Two made one negative statement and eight positive statements during discussions concerning individual play in the Phase I meeting. Two negative statements and four positive statements were made during discussions concerning individual play in the Phase III meeting. Phase IV discussions produced five negative statements and no positive statements concerning individual play.

General statements of improvement concerning short game and course management were made by Golfer Two. A common statement was made when responding to the question about how the golfer perceived his overall play, he states, "I didn't do anything real great."

Golfer Three: Results of Targeted and Non-targeted Golf Skills

Targeted golf skills included TP, UDCR, and GIR. Non-targeted golf skills included FIR and APPGIR. Prior to implementation of the goal setting intervention, baseline data (12 rounds of regulation golf) were collected. See Table 4 for baseline and intervention results. Golfer Three was unable to improve on any of his baseline categorical averages. However, he did meet two goals for GIR and one goal for TP. An important finding concerns observed improvements in all three targeted golf skills when

comparing Golfer Three's results from Phase III to Phase IV. Non-targeted skills offered inconsistent results over the course of the intervention.

Optimism and Pessimism Results

See Table 2 for the results from the OPS. Nine negative statements and four positive statements were made during discussions concerning individual play of Phase I. Six negative statements and two positive statements concerning individual play were during Phase II discussions. During Phase III four negative statements and three positive statements concerning individual play were made. The final Phase contained three negative statements and four positive statements concerning individual play.

A common theme of discussions was the problems of the short game. Many similar statements made about "poor chips around the green" and "poor course management decisions". Golfer Three always took responsibility for poor play and did not make excuses about his play. Statements consistently started with the same statement, "I didn't do this...." A positive statement that was repeated on several occasions was "I was striking the ball really well," or "I have never hit it as well as I am right now." Another intriguing point about this golfer was Phase IV. This was the only phase Golfer Three had more positive statements made than negative statements concerning play. However, this golfer had a relatively low optimism score compared to other golfers.

Golfer Four: Results of Targeted and Non-Targeted Golf Skills

Targeted golf skills included TP, UDCR, and GIR. Non-targeted golf skills included FIR and APPGIR. Prior to the implementation of the goal setting intervention, baseline data (16 rounds of regulation golf) were collected. See Table 5 for baseline and intervention results. When compared to baseline averages, improvement did occur in 2 out of 3 targeted golf skills (TP & UDCR). Although, the baseline average was not matched for GIR, improvement was made during Phases I, III, IV.

Optimism and Pessimism Results

See Table 2 for results from the OPS. During Phase I nine negative statements and three positive statements concerning individual play. One negative statement and four positive statements concerning individual play were made during Phase II. While four negative statements and three positive statements concerning individual play were made during Phase III discussions. Phase Four had four negative statements and three positive statements concerning individual play.

Three of the four goal setting meetings had a general statement, "I didn't play well." When statement was made hardly any one aspect of Golfer Four's game was going well. He discussed missing putts "because the greens were slow or real hard to read." Also statements similar to "My course management was getting better," were made during almost every meeting.

Golfer Five: Results of Targeted and Non-targeted Golf Skills

Targeted golf skills included TP, UDCR, and GIR. Non-targeted golf skills included FIR and APPGIR. See Table 6 for baseline and intervention results. Prior to the implementation of the goal setting intervention, baseline data (four rounds of regulation golf) were collected. When analyzing baseline results and intervention results, improvement did occur in both UDCR and GIR at each Phase of the intervention. He exceeded his goal for TP at Phase IV of the intervention, but was unable to match the overall baseline results for this category. Non-targeted golf skills showed inconsistent results during the intervention. APPGIR improved consistently throughout the intervention.

Optimism and Pessimism

See Table 2 for results from the OPS. One negative statement and four positive statements concerning individual play were made during Phase III discussions. While four negative statements and three positive statements concerning individual play were made during Phase IV discussions.

Golfer Five routinely commented, "Various parts of my game are getting better." He states, "My course management is getting better." During final meeting he continually mentioned "A poor decision made on the last hole of a tournament that turned my score from even par to double bogey and that dropped my finish down seven places."

Golfer Six: Results for Targeted and Non-targeted Golf Skills

Targeted golf skills included TP, UDCR, and FIR. Non-targeted golf skills included GIR and APPGIR. See Table 7 for baseline and intervention results. Prior to implementation of the goal setting intervention, baseline data (seven rounds of regulation golf) were collected. Improvement was made in only one category (UDCR) during the intervention. Performance levels for the non-targeted golf skills were inconsistent throughout the intervention.

Optimism and Pessimism Results

See Table 2 for results from the OPS. Five negative statements and four positive statements concerning individual play were made during Phase III discussions. Phase Four discussions produced four negative statements and two positive statements concerning individual play.

Unique to Golfer Six was that his statements addressed a self-realized problem concerning play in tournaments and practice rounds of golf. "I believe that the reason I play bad in tournaments is because I put too much pressure on myself." He continued, "When I am playing practice rounds I am relaxed and hit the ball well, but when I play tournaments I make poor decisions." He blames poor play on the "inability to practice the necessary short game shots at the practice facility." He further explains poor play on, "The lack of competitive rounds that are played in between tournaments. I play better under competitive situations."

Golfer Seven: Results of Targeted and Non-targeted Golf Skills

Targeted golf skills included TP, UDCR, and GIR. Non-targeted golf skills included FIR and APPGIR. See Table 8 for baseline and intervention results. Prior to the implementation of the goal setting intervention, baseline data (six rounds of regulation golf) were collected. Improvement in all three targeted golf skills during his intervention. Non-targeted performance levels were inconsistent throughout the program.

Optimism and Pessimism Results

See Table 2 for results from the OPS. Two negative statements and two positive statements concerning individual play during Phase III discussions. Phase IV discussions offered one negative statement and six positive statements concerning individual play.

He states, "I struggle getting off the tee and this puts a lot of pressure on the rest of my game." He further stresses, "I have a lot of confidence in my short game, I have been hitting, chipping, and putting very well." Golfer Seven also was happy with his course management decisions.

Discussion

The purpose of the present study was to examine the effects of a goal setting intervention on golf skills. In addition, comparisons were made examining the effect that optimism and pessimism may have on goal attainment.

The initial research question asked if improvement in targeted golf skills would occur due to the goal setting intervention. Two examinations were conducted to analyze the successes of the golfers. The first examination compared overall intervention

averages with baseline averages. Under this criteria, six of the seven golfers improved in at least one of their three targeted golf skills. While Golfers Two, Four, Five, and Seven were observed to have improved on their baseline averages in at least two of the three targeted golf skills. These findings support past research (Anderson, Cromwell, Doman, & Howard, 1988; Burton, 1989; Kingston & Hardy, 1997; Swain & Jones, 1995) from studies that were more applied and ecologically valid using competitive athletes in competitive situations (Hardy, Jones, & Gould, 1996).

A reason for these positive results may be attributed to the manner in which the goal setting was constructed. Goal setting was produced in a participatory nature with golfers involved in the goal setting process. Each golfer was allowed to set his own goal for each targeted golf skill based upon personal and statistical feedback concerning performance. Within the industrial/organizational setting, participatory goal setting has been found to be superior than assigned goals. Latham and Yukl (1975) found participatively set goals led to higher performance than assigned goals for uneducated loggers. Latham, Mitchell, and Dossett (1978) found that participatory goal setting lead to a higher standard of goals and higher levels of performance than assigned goals. Kyllö and Landers (1995) meta-analysis found that goal setting is more effective at improving performance when the individual is allowed to participate in the goal setting.

A second explanation for the positive results of the present intervention may be the heightened degree of concentration towards goal attainment created through the goal

setting process. During the last meeting of the intervention, each golfer was asked to elaborate upon his thoughts concerning this intervention. One common statement was made by every golfer concerning his change in the structuring of practice time. The golfers stated that this goal setting focused their practice towards bettering the skills that they could see needed improvement. Several golfers had said that in the past practice time was spent hitting some balls, then putting, then playing. Now their practice time was spent really focusing on improving specific shots in the areas that need improvement. This focus of attention towards specific areas of needed improvement has long been a guideline for goal setting to be its most effective.

The role of self-efficacy could also be considered another plausible explanation for the positive results of this intervention. Bandura (1986) has stated that self-efficacy is the belief of one's own ability to perform a task successfully. Performance accomplishments have been found to be a direct determinant of level of self-efficacy (Weinberg & Gould, 1995). Theodorakis (1995) found that from a motivational standpoint, self-efficacy is a key component in affecting personal goals and performance. Perhaps the goal setting in this investigation was effective because it created a situation for the golfers to believe their performance levels were enhanced through the ability to focus and achieve specific goals set for specific golf skills. This focus may have eliminated unnecessary focus on unimportant factors.

A further explanation may be proposed that the amount of practice time spent towards improving a skill was the main reason for skill improvement. This is a valid

point, but in this study practice time was charted for the targeted golf skills. Subjects were found to have spent an average of two hours during daily practice improving skills in direct relationship towards goal attainment. Ericsson and Charness (1994) found that elite performance is attained through practice and repetition of both cognitive and physical skills over a long periods of time. However, if increased practice was the explanation for positive results, then every category should have shown improvement. This did not occur.

Unique to this goal setting intervention is the fact that more than one skill was targeted for goal setting. The majority of past research has incorporated one skill to improve on (i.e., improving performance on a 1-minute sit up endurance test, or overall bowling score) during goal setting interventions in the sports domain. Few studies were found using multiple skills for goal setting. This point may be viewed as a “double-edged sword” with respect to success and failure. On the one side, by using more than one skill for goal setting the opportunity for success is increased for goal attainment. However, just the opposite also may hold true for failure. As the opportunities rise for success, so do the opportunities rise for failure. For example, during any particular phase, a golfer may not have hit his drives well, thus lowering his FIR, but his putter was working well and lowered his TP. This golfer still has the opportunity to experience goal attainment. Whereas, if one goal to lower overall score was set this individual may not have had the opportunity to attain success because of poor play in one area of his game.

Optimism and pessimism may play a significant role when examining this contention. Depending upon the results experienced by the golfer, the meeting of one goal and not another may make an optimistic individual work harder towards goal attainment. A pessimistic individual might focus on the one failure and make generalizations concerning all the goal setting opportunities. Within this study, the implementation of multiple goal categories enabled the golfers to experience successes and failures throughout the intervention.

This intervention's second research question asked if there would be an appreciable change in the non-targeted golf skills. For the majority of the golfers their non-targeted golf skills did not show much change either positively or negatively. However, some non-targeted skills did improve during the goal setting intervention. An explanation can be offered through an examination of the relationship between two specific statistical categories; GIR and UDCR.

A negative relationship can be observed between those golfers that had decreases in their GIR with their TP and APPGIR. For example, Golfers Two and Four decreased their number of GIR. These same golfers also had improvement in their TP and APPGIR. With the number of GIR reduced, the number of putting opportunities may have been reduced allowing the golfer fewer TP. When the number of GIR are decreased more "one-putts" may occur because the golfers have a better chance of getting the ball closer to the hole when they are hitting an approach shot from just off the green and thus,

have a shorter putt. However, this circumstance does not always hold true. Golfers One and Seven had an increase in GIR, and had increased their APPGIR averages for the duration of the intervention. These golfers may have been hitting their approach shots closer to the hole and made more “one-putts” over the duration of the program.

A second category worthy of examination is UDCR. In each case where GIR decreased, UDCR increased with the exceptions of Golfers Five and Seven. These two categories impact each other. The less GIR, the more up and down opportunities available to the golfer. In regards to Golfers Five and Seven, both GIR and UDCR increased over the duration of the intervention. This may be explained due to the fact that these golfers had fewer opportunities to convert up and downs.

Further examination of Golfers Two and Four, showed them to have improved both of their non-targeted golf skills. This result may indicate that the goal setting intervention did not hinder or distract from other performance areas. Practice time was not just limited to the practice of improving the targeted golf skills. All aspects of the golf game were practiced.

However, just the opposite situation may have presented itself in Golfer Seven’s results. He improved on all three targeted golf skills, while at the same time showed performance decrements in both of his non-targeted golf skills. An explanation for the decline in performance of his non-targeted golf skills may be that the goal setting intervention was directly related to his success. The non-targeted golf skills may not

have been focused upon as thoroughly as the targeted golf skills. The golfer's Goal Attainment Practice Sheets did not chart practice for the non-targeted golf skills. In this situation, the goal setting may have worked because it enabled the golfer to focus his practice towards attaining his goals for certain categories.

The third research question posed if a positive relationship would exist between optimism and goal attainability. Optimistic people have demonstrated higher levels of motivation, persistence, and performance (Carver, Blaney, & Scheier, 1979; Taylor & Brown, 1988). When examining the results from the OPS (see Table 2), Golfers One, Two, Four, Five, and Seven scored highest on the optimism component and had the highest rate of success towards goal attainment. A higher optimistic perception of future events may have predisposed these golfers to higher levels of self-efficacy towards goal attainment. This may have in turn led these individuals to set higher levels of goals because confidence in ability was greater than less optimistic or higher pessimistic individuals.

The final research question posed would there be negative relationship between pessimism and goal attainability. Golfers Three and Six had the highest scores for pessimism. Both golfers discussed their poor decision making and ability to cope with a bad score or shot as a reason for their poor play. During only one phase did Golfer Three's positive statements outnumber the negative statements. There was no discussion period in which Golfer Six's positive statements outnumbered his negative statements.

This inability to cope with negative results may be a direct reason for these golfers shooting “big numbers.”

When analyzing Golfer Three's statements, much of the discussion focused on poor shots or decisions being made which lead to high scores. However, a marked difference for Golfer Three was that he took responsibility for his poor play. Reasons for poor play began with “I did this” or “I didn’t do this.” Whereas, Golfer Six placed blame on external variables as the reason for poor play (i.e., poor practice facilities for the shots that were needed to be improved, not being able to play enough competitive rounds, and tournament pressure). An explanation for these responses may be offered through the discussion of attribution theory (Weiner, 1972). The attribution theory is a cognitive approach to motivation explaining ways in which people strive to explain, understand, and predict events based upon their cognitive perception (Weiner, 1972). From this theory, two forms of locus of control have been developed. An internal locus of control consists of an individual believing that his/her actions influences personal outcomes. An individual having an external locus of control believes that personal outcomes are influenced by outside forces (Weiner, 1972). Golfer Three may be classified as having an internal locus of control. He accepted and placed full responsibility for poor play on himself. His internal locus of control contributed to his beliefs that his actions influenced his performance outcomes. Athletes that attribute

failure internally are most likely to feel guilty about their performance, especially when other teammates are involved (Cox, 1998). Golfer Three stated, “I feel guilty because the decision that I made was stupid and cost not only myself, but my team important strokes.” Whereas, Golfer Six attributed his poor play to external variables. He blamed his poor play on tournament pressure, not enough competitive practice rounds and poor practice facilities (external locus of control). This subject may have felt that he had no control over what transpired on the golf course.

Goal perspective has also been related to attribution style (Duda, 1992).

Task-oriented individuals place more credence in effort attributions, whereby success is perceived to come from hard work and practice. Ego-oriented individuals place greater emphasis on ability attributions, whereby success is perceived to come from the ability to beat someone else (Duda, 1992). Task-oriented athletes have been shown, regardless of playing ability, to seek challenging goals that require hard work to reach. Ego-oriented athletes tend to select goals that are easier to attain with less effort (Duda, 1994).

Ego-oriented environments have been found to lead to high levels of anxiety (Duda et al., 1990), low self-efficacy (Nicholls, 1989), and a reduction of effort in performance (Duda & Chi’s study as cited in Cox, 1998). Golfers Three and Six, may be task-oriented, while Golfer Six may have been an ego-oriented golfer.

Further differences between Golfers Three and Six were found among responses to a single question on the Goal Setting Questionnaire that was administered at the beginning, middle, and end of the intervention. Golfer Three’s response to the question

“Will you dedicate yourself to attaining your goals?” remained “highly committed” throughout the intervention, while Golfer Six started out responding as “highly committed” but ended responding “committed.” Scheier and Carver (1987) found that pessimists were not as likely to continue to strive to achieve outcomes that were thought to be difficult in nature as often as optimists. Pessimists are more likely to give up once faced with a difficult situation (Kavussanu & McAuley, 1995).

Further reasons for the results in the present study may be found in the structure of the sport of golf. In golf, no one singular shot is usually attempted as often as the putting stroke. For an average course, par is between 70-72 strokes per eighteen holes. The average of two putts per green is a consistent estimate as stated by the Professional Golf Association’s statistics (Johnson, 1997). If the golfer hits an average of two putts per green and hits all eighteen greens, then the putting stroke may account for one half of all strokes taken during a round of golf if this golfer scores even par. Putting made up 40% of the categories offered in this intervention and requires extensive analysis to further understand its importance.

Several extraneous variables need to be examined when attempting to understand the total putts per round category. This golf statistic may be misleading. The PGA statistics indicate the 1997 average total putts per round was 29.14 putts (Johnson, 1997). However, this category may not offer a true statement about putting ability. Riccio (1994) stated that the number of putts per round is often accused of being a poor measure of putting ability because it does not take into consideration the different probabilities of

making putts of different lengths. This category does not take into consideration whether or not the green was hit in regulation or from where was the up and down opportunity hit. This was observed in two rounds played by Golfer One during the intervention. During the first round, he hit only 9 GIR, had only 29 TP, and converted on 6 of 10 UDCR opportunities. While during the second round, he hit 15 GIR and had 36 TP. Golfer One stated he was striking the ball better during round two and scored better during this same round. However, because more GIR were hit, there were more opportunities to putt.

All golfers, except Golfer Two, targeted TP for the intervention. The majority of Golfers (Three, Four, Five, Six, & Seven) matched or exceeded their goal during Phase Two of the program. It was also during this phase that Golfers Three, Four, Six, and Seven had lower GIR scores. While Golfers One, Four, Five, and Seven matched or exceeded their goals during Phase Three of the program. Golfers Four and Seven matched or exceeded two of their goals during the intervention and in both cases these golfers had lower GIR.

All seven participants targeted the UDCR category for the intervention. All golfers (except Golfer Three) matched or exceeded at least one of the goals throughout the program. Golfers Two and Seven showed consistent improvement across phases of the intervention. Golfers Two, Four, and Five matched or exceeded three of the goals set during the program. Golfer Five improved during each phase of the intervention. Even though Golfer Three's goals were never met, improvement was observed from Phase I to Phase IV. This level of overall success lends support that the goal setting intervention

may have been successful because of the ability of the golfers' focus to be directed toward specific aspects of their skills.

All golfers, with the exception of Golfer Six, targeted GIR for their intervention. All of the golfers matched or exceeded at least one of the goals set for the program. Golfers Three and Seven matched or exceeded two of the goals set, while Golfers One and Five matched or exceeded three of the goals set during the intervention. A positive relationship was found in accordance with the PGA statistical research conducted by Belkin, Gansneder, Pickens, Rotella and Striegel (1994). This study found GIR was most highly related to low scoring average. The three highest GIR averages also had the three lowest stroke averages per round.

Examination of the by-phase comparison offered an intriguing result. A team performance decrement was observed to have occurred during Phase IV. The conference tournament was the culmination of the 1997-1998 golf season. The conference tournament was important to the golfers. This may have led to higher degrees of emphasis being placed upon level of play by each golfer. Golfer One had stated, "A top three showing by the team would be a nice way to finish and give us some momentum going into next year with everyone coming back."

Golfer One increased upon baseline average performance levels in three of the five categories over the duration of the intervention. However in a breakdown by phases, he showed decreases in performance levels from Phase III to Phase IV in all golf skills

categories. When questioned about this tournament's performance Golfer One explained his performance from a pessimistic view attributing his play to an external locus of control. However, Golfer One had the highest optimistic and lowest pessimistic scores (see Table 2) on the OPS. Statements like "I had easy chip shots and blew it," "Up and downs were horrible," along with "I didn't make any putts all day," and "The last day's weather was terrible and it wasn't easy to play," suggested a pessimistic viewpoint. This finding lends support to the belief by Dember (1989) that a person can be a high optimist and a high pessimist depending on the situation.

On the otherhand, Golfer Three produced the exact opposite results for this same time period. His performance levels increased in all three targeted golf categories from Phase III to Phase IV. Upon examination of the statistics over the course of the intervention, this golfer failed to improve on baseline averages in all of the golf skills charted. His OPS score was one of the highest for pessimism, however his statements were the most optimistic of any single phase of the intervention. When questioned concerning this finding, he stated that a heightened level of confidence going into this tournament led to better performance. When questioned about this higher level of confidence, he replied, "I had been hitting the ball well for awhile and going into the tournament my practice round was really solid." This is the only phase in which the subject had more positive statements than negative statements concerning his play.

The present study found that goal setting may improve performance of golf skills and that optimism and pessimism may have an effect on goal attainability. The reason

for these findings to have occurred may be the abilities of goals to increase levels of self-efficacy within each golfer. Previous research has found certain goals to produce higher levels of performance, but goals may be directly related to increases in athlete's belief that he/she can accomplish a task. Past research has found goals to have the ability to focus attention to very specific tasks at hand. The golfers in this study stated that this goal setting intervention made them more cognizant of their areas of needed improvement and focused them on ways to improve specific aspects of their games.

The role of optimism and pessimism was found to possibly have a direct effect on goal attainment capabilities. A positive relationship was found to exist between higher optimism scores and greater goal attainability, while a negative relationship was also found to exist between higher pessimism scores and lower amounts of goal attainability. These relationships may have a direct effect on the levels of goals set and the level of confidence toward goal attainment of the athlete. Whether or not an athlete is more optimistic or more pessimistic may be an extremely important component to be considered when assisting an athlete attain his/her goals.

Future research into goal setting needs to incorporate elite athletes during their competitive seasons. By studying athletes within their own competitive settings, researchers are provided the best opportunity to analyze athletes in the most relevant environment. These settings may provide the most accurate feedback for understanding the effects of goal setting and other psychological training tools on sport performance.

Future research within goal setting may want to incorporate more single-subject designs. This design has been found to work well with previous goal setting interventions. A single-subject design provides the researcher with the opportunity to observe any changes in performance levels concerning the athletes participating in this design. In turn, this design allows for the incorporation of elite athletes into future studies. Elite athletes level of improvement may not be as significant as a beginning athlete, and thus could go unnoticed within another research design. However, single-subject designs have the ability to detect the slightest change in any athlete's performance.

The role of goal orientation as it relates to the sport of golf requires further study. For example, does a golfer's goal orientation have an affect on goal attainability over the course of a competitive season? Most of the past research has been conducted analyzing athletes that are either high task-oriented or high ego-oriented towards performance. Studies need to include athletes that may be moderately task-oriented or ego-oriented. More studies are necessary to understand these orientations may be state qualities. Both goal orientations may exist within an athlete depending upon the situation. This fact may play an extremely important role in understanding how athletes are motivated to excel.

Future goal setting research may want to examine the effects of a goal setting intervention of both individuals and teams. A better understanding of which environment is most conducive for goal setting success; individual, team, or a combination. Personal and team accountability may have a larger role in goal setting effectiveness. The concept

of goal collectively is of importance for a more complete understanding of which are the most conducive goal setting environments.

The roles that optimism and pessimism play in goal attainment needs further scientific attention. The present study found a relationship to exist between these variables and goal attainment. Further studies need to examine if the level of goal set is effected by a person's optimistic or pessimistic outlook. Also, attributional style may be a possible explanation for success or failure in goal attainment. More studies need to examine the possibility that an athlete's perceived locus of control may have an effect on the ability to reach a goal. Additional research needs to examine to what degree does self-efficacy influences the level of goal being set.

More research needs to investigate to the degree a coach's optimistic or pessimistic outlook may influence the team. Coaches are the leaders and teachers of athletes, and as a leader a coach has significant influence on an athlete. Granted, it is the athlete that performs on the playing field, but it is the coach who attempts to instruct the athlete as to the most effective way to perform his/her sport. How players react to success and failure is many times a direct reflection of how their coach responds to these situations. The role that a coach's outlook may play in a player's ability to attain goals needs further scientific examination.

Further research needs to explore which types of goals are more appropriate for athletes success. Previous research has shown process goals to be effective in goal setting interventions. The present study found performance goals to be effective. Future

research may want to explore the combination of both goal types as it would pertain to athlete's performance.

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Table 1

Golfer 1: Baseline data, goals, and results of intervention

Targeted Golf Skills	BL	G1	R1	G2	R2	G3	R3	G4	R4	Total
TP	30.23	29.50	32.00	29.50	31.80	29.50	29.60*	29.50	33.30	31.60
UDCR	.58	.62	.47	.62	.35	.62	.83*	.65	.29	.49
GIR	11.80	12.00	13.40*	12.50	10.40	12.50	14.40*	13.00	13.00*	12.80#
Non-targeted Golf Skills										
FIR	10.20		9.00		9.50		12.30		12.10	10.70
APPGIR	1.78		1.81		1.95		1.80		1.97	1.88

*Matched or exceeded goal

#Matched or exceeded baseline average

Note: G = goal setting; R = results; TP = total putts; UDCR = up and down conversion rate; GIR = greens in regulation; FIR = fairways in regulation; APPGIR = average putts per green in regulation.

Table 2

Optimism and Pessimism Scores

Subject	Optimism	Pessimism
Golfer One	64	23
Golfer Two	63	41
Golfer Three	50	36
Golfer Four	59	34
Golfer Five	53	35
Golfer Six	48	41
Golfer Seven	61	39

Note: Optimism and pessimism scores could range from a low of 18 and a high of 72.

Table 3

Golfer 2: Baseline data, goals, and results of intervention

Targeted Golf Skills	BL	G1	R1	G2	R2	G3	R3	G4	R4	Total
UDCR	.44	.50	.58*	.58	.64*	.60	.56	.60	.61*	.60#
GIR	10.60	10.90	10.30	10.90	11.00*	11.20	8.70	11.20	11.00*	10.25
APPGIR	2.02	1.97	1.97*	1.95	1.99	1.95	1.96*	1.93	2.01	1.98#
Non-targeted Golf Skills										
FIR	8.90		7.30		9.00		10.60		10.20	9.30
TP	32.91		30.30		32.20		30.30		31.50	31.10

*Matched or exceeded goal

#Matched or exceeded baseline average

Note: G = goal setting; R = results; TP = total putts; UDCR = up and down conversion rate; GIR = greens in regulation; FIR = fairways in regulation; APPGIR = average putts per green in regulation.

Table 4

Golfer 3: Baseline data, goals, and results of intervention

Targeted Golf Skills	BL	G1	R1	G2	R2	G3	R3	G4	R4	Total
TP	32.25	31.50	34.30	31.50	31.00*	31.00	34.00	31.00	33.00	33.10
UDCR	.48	.50	.22	.50	.39	.50	.35	.50	.38	.34
GIR	11.50	11.70	13.70*	12.00	6.70	12.00	11.00	11.70	12.10*	10.90
Non-Targeted Golf Skills										
FIR	10.30		7.20		9.00		11.30		10.40	9.50
APPGIR	1.93		1.91		2.06		1.98		1.97	1.98

*Matched or exceeded goal

#Matched or exceeded baseline averages

Note: G = goal setting; R = results; TP = total putts; UDCR = up and down conversion rate; GIR = greens in regulation; FIR = fairways in regulation; APPGIR = average putts per green in regulation.

Table 5

Golfer 4: Baseline data, goals, and results of intervention

Targeted Golf Skills	BL	G1	R1	G2	R2	G3	R3	G4	R4	Total
TP	32.68	31.00	32.70	31.00	31.20*	30.50	30.30*	30.00	32.30	31.60#
UDCR	.47	.50	.50*	.55	.44	.55	.60*	.57	.72*	.57#
GIR	11.50	11.70	12.60*	12.00	8.70	12.00	10.40	12.00	10.70	10.60
Non-targeted Golf Skills										
FIR	11.10		11.10		12.60		11.80		11.40	11.70
APPGIR	1.93		1.91		1.93		1.89		1.90	1.91

*Matched or exceeded goal

#Matched or exceeded baseline averages

Note: G = goal setting; R = results; TP = total putts; UDCR = up and down conversion rate; GIR = greens in regulation; FIR = fairways in regulation; APPGIR = average putts per green in regulation.

Table 6

Golfer 5: Baseline data, goals, and results of intervention

Targeted Golf Skills	BL	G1	R1	G2	R2	G3	R3	Total
TP	30.50	30.20	31.40	30.20	32.30	30.50	30.30*	31.30
UDCR	.38	.45	.56*	.50	.54*	.53	.58*	.56#
GIR	9.50	10.00	12.00*	10.70	12.80*	11.50	11.70*	12.20#
Non-targeted Golf Skills								
FIR	13.00		11.80		11.60		11.30	11.50
APPGIR	2.13		1.91		1.81		1.77	1.83

*Matched or exceeded goal

#Matched or exceeded baseline averages

Note: G = goal setting; R = results; TP = total putts; UDCR = up and down conversion rate; GIR = greens in regulation; FIR = fairways in regulation; APPGIR = average putts per green in regulation.

Table 7

Golfer 6: Baseline data, goals, and results of intervention

Targeted Golf Skills	Baseline	G1	R1	G2	R2	G3	R3	Totals
TP	32.71	31.00	32.00	31.00	34.70	31.00	32.50	33.10
UDCR	.10	.40	.62*	.55	.30	.55	.64*	.52#
FIR	10.60	10.80	9.30	10.80	8.20	10.00	8.00	8.50
Non-targeted Golf Skills								
GIR	11.30		10.00		9.80		12.60	10.80
APPGIR	1.99		1.98		2.24		2.00	2.07

*Matched or exceeded goal

#Matched or exceeded baseline averages

Note: G = goal setting; R = results; TP = total putts; UDCR = up and down conversion rate; GIR = greens in regulation; FIR = fairways in regulation; APPGIR = average putts per green in regulation.

Table 8

Golfer 7: Baseline data, goals, and results of intervention

Targeted Golf Skills	BL	G1	R1	G2	R2	G3	R3	Total
TP	30.50	30.00	29.00*	29.00	30.80	29.00	26.50*	28.76#
UDCR	.48	.50	.75*	.60	.52	.60	.57	.61#
GIR	8.50	9.00	8.30	9.00	9.00*	9.50	9.50*	8.93#
Non-targeted Golf Skills								
FIR	9.50		8.50		7.50		9.40	8.93
APPGIR	1.75		1.72		1.82		1.89	1.81

*Matched or exceeded goal

#Matched of exceeded baseline averages

Note: G = goal setting; R = results; TP = total putts; UDCR = up and down conversion rate; GIR = greens in regulation; FIR = fairways in regulation; APPGIR = average putts per green in regulation.

Appendices

Appendix A
Research Questions

Research Questions

- Question 1): Would there be improvement in the targeted golf skills chosen by the golfers due to the goal setting intervention?
- Question 2): Would there be an appreciable change in the non-targeted golf skills?
- Question 3): Would there be a positive relationship between optimism and goal attainability?
- Question 4): Would there be a negative relationship between pessimism and goal attainability?

Appendix B

Delimitations, Limitations and Assumptions

Delimitations

- 1) Subjects were only male golfers.
- 2) Subjects were only from a single southeastern university.
- 3) Subjects were only from the United States.
- 4) Subjects were all Caucasian.
- 5) The implementation and data collection only occurred for two months.
- 6) Subjects were all right-handed golfers.

Limitations

- 1) The sample size is small.
- 2) Baseline data was small due to the amount of overall rounds played by the members of the golf team.
- 3) The data collection does not just come from competitive NCAA golf tournaments, the scores are also collected from practice and qualifying rounds.
- 4) The individual golfers may not possess a true understanding of goal setting.
- 5) The best effort will be given by the subjects in reaching the goals that they have set.
- 6) The goal setting intervention was short, lasting for only two months.

Assumptions

- 1) The subjects will strictly follow their practice schedule for goal attainment.
- 2) The subjects will not set personal goals outside of the goals being set within the intervention.

- 3) The subjects will perform to the best of their abilities.
- 4) The subjects will answer all information and questionnaires honestly.

Appendix C

Definitions of Terms

Definitions

- 1) Goal an aim of some action or level of performance or proficiency (Weinberg & Gould, 1995)
- 2) Objective goals attaining a specific standard of proficiency on task, usually within a specified time (Locke, Shaw, Saari, & Latham, 1981)
- 3) Subjective goals goals that cannot be objectively measured that are based on personal expectations towards a task. Examples are having fun, trying hard, giving 100% (Weinberg & Gould, 1995)
- 4) Outcome goals goals focusing on a competitive result of an event (Weinberg & Gould, 1995)
- 5) Performance goals goals that specify an end product of performance that is based upon a previous performance and is independent from another's control (Hardy, Jones, & Gould, 1996)
- 6) Process goals goals set that focus on improvement of a single aspect of a technique (Kingston & Hardy, 1997)
- 7) Fairways in regulation the number of fairways hit during an 18 or 9 hole round of golf
- 8) Up and down percentage the percentage of times a golfer can hit a shot just off the green and one putt the ball into the hole.

- 8) Greens in regulation the number of greens hit within the allowable limit to provide the opportunity to putt for a birdie on any given hole.

Appendix D
Instrumentation

Golf Questionnaire

Name _____

Date _____

Age _____

Hometown _____

Swing: *Right* or *Left* (Circle One)

Current Athletic School Classification: *FR* *SO* *JR* *SR*

Please indicate if you have been redshirted: *Yes* or *No*

Total years of playing experience _____

Total years of competitive playing experience _____

Optimism/Pessimism Scale

INSTRUCTIONS: The 56 statements printed below represent individual differences in viewpoint. Using the scale shown below, please respond with your own point of view to all of the statements: for example, if you strongly agree with a statement then circle 1 (SA). Do not spend a lot of time thinking about each one; just indicate your first impression. Remember, respond to these statements according to how you feel about them right now.

	1— Strongly Agree 2— Agree 3— Disagree 4— Strongly Disagree			
	SA	A	D	SD
1. I like people I get to know.	1	2	3	4
2. It is best not to set your hopes too high since you will probably be disappointed.	1	2	3	4
3. There is so much to be done and so little time To do it in.	1	2	3	4
4. I have a tendency to make mountains out of molehills.	1	2	3	4
5. Rarely do I expect good things to happen.	1	2	3	4
6. Everything changes so quickly these days that I often have trouble deciding which are the right rules to follow.	1	2	3	4
7. All in all, the world is a good place.	1	2	3	4
8. When it comes to my future plans and ambitions in life, I expect more to go wrong than right.	1	2	3	4
9. My hardest battles are with myself.	1	2	3	4
10. I believe there is not much hope for the human race.	1	2	3	4
11. It does not take me long to shake off a bad mood.	1	2	3	4
12. If you hope and wish for something long and hard enough, you will eventually get it.	1	2	3	4
13. People get ahead by using "pull" and not because of what they know.	1	2	3	4
14. Even when things in my life are going okay, I expect them to get worse soon.	1	2	3	4

	1-Strongly Agree 2-Agree 3-Disagree 4-Strongly Disagree			
	SA	A	D	SD
15. With enough faith, you can do almost anything.	1	2	3	4
16. I enjoy myself most when I am alone, away from other people.	1	2	3	4
17. When I undertake something new, I expect to succeed.	1	2	3	4
18. Honesty is the best policy in all cases.	1	2	3	4
19. I generally look at the brighter side of life.	1	2	3	4
20. If I make a decision on my own, I can pretty much count on the fact that it will turn out to be a poor one.	1	2	3	4
21. I generally make light of my problems.	1	2	3	4
22. It is always a good thing to be frank.	1	2	3	4
23. Where there's a will, there's a way.	1	2	3	4
24. I have a tendency to blow up problems so they seem worse than they really are.	1	2	3	4
25. All in all, it is better to be humble and honest than important and dishonest.	1	2	3	4
26. As time goes on, things will most likely get worse.	1	2	3	4
27. It is the slow, steady worker who usually accomplished the most in the end.	1	2	3	4
28. When I go to a party I expect to have fun.	1	2	3	4
29. Times are getting better.	1	2	3	4
30. Everyone should have an equal chance and an equal say.	1	2	3	4
31. Better to expect defeat: then it doesn't hit so hard when it comes.	1	2	3	4
32. It is wise to flatter important people.	1	2	3	4
33. I expect to achieve most of the things I want to in life.	1	2	3	4

	1-Strongly Agree	2-Agree	3-Disagree	4-Strongly Disagree
	SA	A	D	SD
34. It seems the cards of life are stacked against me.	1	2	3	4
35. What is lacking in the world today is the old kind of friendship that lasted for a lifetime.	1	2	3	4
36. When the weatherman predicts 50% chance of rain, you might just as well count on seeing rain.	1	2	3	4
37. Before an interview, I am usually confident that things will go well.	1	2	3	4
38. Sometimes I feel down, but I bounce right back again.	1	2	3	4
39. The future seems too uncertain for people to make serious plans.	1	2	3	4
40. When I have undertaken a task, I find it difficult to set it aside even for a short time.	1	2	3	4
41. Tenderness is more important than love.	1	2	3	4
42. When gambling, I expect to lose.	1	2	3	4
43. Anybody who is willing to work hard has a good chance for success.	1	2	3	4
44. The future looks very dismal.	1	2	3	4
45. If I had to choose between happiness and greatness, I'd choose greatness.	1	2	3	4
46. Minor setbacks are something I usually ignore.	1	2	3	4
47. In general, things turn out all right in the end.	1	2	3	4
48. It is better to be a dead hero than a live coward.	1	2	3	4
49. Give me 50/50 odds and I will choose the wrong answer every time.	1	2	3	4
50. It is hard to get ahead without cutting corners here and there.	1	2	3	4

1-Strongly Agree
 2-Agree
 3-Disagree
 4-Strongly Disagree

	SA	A	D	SD
51. If I were in competition and contestants were narrowed down to myself and one other person, I would expect to be runner-up.	1	2	3	4
52. April showers bring May flowers.	1	2	3	4
53. I can be comfortable with nearly all kinds of people.	1	2	3	4
54. The worst defeats come after the best victories.	1	2	3	4
55. In the history of the human race, there have probably been just a handful of really great thinkers.	1	2	3	4
56. Every cloud has silver lining.	1	2	3	4

Golf Skills

Name: _____

Date: _____

Instructions: Select two skills from the first category and one skill from the second category for your goal setting intervention program.

Category 1

1. Putts per green in regulation
2. Total putts per round
3. Up and Down Conversion Rate

Category 2

1. Fairways in Regulation
2. Greens in Regulation

Goal Sheet

Name: _____

Date: _____

Short Term:

Long Term:

Goal Setting Questionnaire

Name: _____

Date: _____

Instructions: Answer the following questions as honestly as possible.

1. Do you believe that this goal setting intervention will benefit your golf game?

not committed		committed		highly committed
1	2	3	4	5

2. Will you dedicate yourself to attaining your goals?

not committed		committed		highly committed
1	2	3	4	5

3. Do you believe you goals are realistic in nature?

not realistic		realistic		highly realistic
1	2	3	4	5

4. The level of difficulty/ease of my goals are?

extremely easy		neither easy or difficult		extremely difficult
1	2	3	4	5

5. Did you accept the goals that you set?

not accept		accept		fully accept
1	2	3	4	5

Goal Setting Intervention Protocol

Procedures:

1. Show results of previous week's statistics compared to goals set and baseline data.
2. Ask for feedback concerning week's play, (i.e., strengths and weaknesses of ball striking, putting, short game, driving, and course management). Have players be specific in their descriptions.
4. Assess Goal Attainment Time Sheet and open discussion about practice drills conducted toward goal attainment.
5. Analyze and offer feedback concerning progress towards goal attainment.
6. In the case of a goal being matched or exceeded the player will set a new goal for the following week.
7. In the case of the goal not being matched or exceeded the player will keep the same goal for the following week. Explain to the player the importance of continue to working hard toward goal attainment. If the goal is not meet the second week, then the player will have to modify the goal.
8. Have player write down new goals on the goal setting sheet.

Post-Training Questionnaire

Name: _____

Date: _____

Instructions: Answer the following questions as honestly as possible.

1. Did you feel comfortable with the procedures in setting your goals?

strongly disagree		neutral		strongly agree
1	2	3	4	5

2. Did you feel that the researcher offered relevant feedback concerning your program?

strongly disagree		neutral		strongly agree
1	2	3	4	5

3. Did you feel that you gave your best effort towards attaining your goals?

strongly disagree		neutral		strongly agree
1	2	3	4	5

4. What do you feel could have been done to make this program more effective?
(Please write any feedback below).

Appendix E
Consent Forms

**Georgia Southern University
Coach's Consent Form**

I understand that the study I about to allow my players to complete is part of a research project entitled "The Effects of a Goal Setting Intervention and Dispositional Optimism/Pessimism on Selected Golf Skills: A Qualitative Design", conducted by Matthew J. Wilson (912-871-1993), under the supervision of Dr. Kevin L. Burke (912-681-5267).

The research is designed to study the effects of a goal setting intervention on a selected golf skills. The data shall be gathered during normal practice rounds and tournament rounds of collegiate golf. By signing below, I am agreeing to let Matthew J. Wilson use the information my team provides in both presentation and publication. I understand that any information that I provide will remain confidential.

I hereby authorize Matthew J. Wilson and any assistants as may be selected by him to collect and chart my players scores in the before mentioned areas of their golf game. I also hereby authorize Matthew J. Wilson to assist in the implementation of a two month long goal setting program after the collection of preliminary data.

There is always the risk of injury directly resulting from the participation in sport. In the event of physical injury occurring from the research procedures, no financial compensation can be provided. If injury does occur, all facilities and professional skills from Georgia Southern University will be provided.

I also realize that I can terminate my participation in this study at anytime without any consequences. By participating in this study my players will receive feedback concerning their play and goal setting. Data gathered from this study may help my player's individual game and the overall success of my team. I also understand that none of my players data can be viewed without their written consent.

Should I have any questions concerning this study I may contact Dr. Kevin L. Burke (912-681-5267), or the Coordinator of The Office of Research and Sponsored Programs at (912-681-5464).

COACH'S SIGNATURE _____

WITNESS _____ DATE _____

**Georgia Southern University
Consent to Act as a Human Subject**

I understand that the study I am about to complete is part of a research project entitled “The Effects of a Goal Setting Intervention and Dispositional Optimism/Pessimism on Selected Golf Skills: A Qualitative Design,” conducted by Matthew J. Wilson (912-871-1993) under the supervision of Dr. Kevin L. Burke (912-681-5267).

The research is designed to study the effects of a goal setting intervention on a selected golf skills. The data shall be gathered during normal practice rounds and tournament rounds of collegiate golf. By signing below, I am agreeing to let Matthew J. Wilson use the information I provided in both presentation and publication. I understand that any information that I provide will remain confidential.

I hereby authorize Matthew J. Wilson and any assistants as may be selected by him to collect and chart my scores in the before mentioned areas of my golf game. I also hereby authorize Matthew J. Wilson to assist in the implementation of a two-month long goal setting program after the collection of preliminary data.

There is always the risk of injury directly resulting from the participation in sport. If injury does occur, all facilities and professional skills from Georgia Southern University will be provided.

I also realize that I can terminate my participation in this study at anytime without any consequences. By participating in this study I will receive feedback concerning my play and goal setting. Data gathered from this study can help my individual game and the overall success of my team. I also understand that no coach or athlete will see my data without my written consent.

Should I have any questions concerning this study I may contact Dr. Kevin L. Burke (912-681-5267) or the Coordinator of The Office of Research and Sponsored Programs at (912-681-5464).

SUBJECT'S SIGNATURE _____

WITNESS _____ DATE _____

Appendix F

Review of Related Literature

Goal Setting

Goal setting has been studied in various environments, such as industry, sport, school, and personal life. Much of the impetus for the recent research on goal-setting and performance can be attributed to Locke's (1968) initial study of workers within the industrial/organizational setting. Locke's (1968) goal setting theory is based on the belief that goals serve to regulate human action towards accomplishment of a task, and that setting specific challenging goals produce better performance levels than "do your best" or "no goal" conditions (Kingston & Hardy, 1997). The strength behind goals comes from a discrepancy between what an individual does and what an individual wants to do. This want which in turn leads to self-dissatisfaction if the goal is not attained, serves as an incentive for the person creating the goal to achieve (Bandura & Jourden, 1991).

Goals can be defined as "attaining a specific standard of proficiency on task, usually within a specified time" (Locke, 1981, p.129). Goals focus on the improvement of some standard or level of performance, increasing the work output of an individual from 80 to 100 units per hour, or lowering a golf stroke average from 73 to 72 strokes within a certain period of time.

Consequently, sports psychologists have taken Locke's definition a step further and dissected goals into three categories: 1) general objective goals, (i.e., winning a title or making a team), 2) specific objective goals, (i.e., increasing the number of strikes thrown by a pitcher in a game), and 3) subjective goals, (i.e., having fun or giving 100%

specific objective goals), increasing the number of strikes thrown by a pitcher in a game (Gould, 1993).

Objective goals allow an individual the opportunity to receive the necessary feedback for measuring progress towards goal attainment. Subjective goals, on the other hand, tend to be more difficult to measure. Accordingly, Burton (1989) and Martens (1987) have categorized goals into three subsections. First, goals can be outcome based, (i.e., an individual sets a goal for winning a tournament or being the number one tree cutter for a crew over the course of a year). Secondly, goals can be performance based, (i.e., an individual attempts to improve on a past performance). Lastly, goals can be process based, (i.e., an individual focuses on improvement of a specific aspect of a technique). Due to the numerous external variables that can influence the end result of a performance, outcome goals may be more difficult to reach because these type of goals cannot be controlled by the person setting the goals (Gould, 1993, p.162).

Performance goals, which focus the individual towards achieving standards of performance based on the individual's previous performance, differ from outcome goals (Gould, 1989, p.163). Performance goals are controllable by the individual doing the goal setting with attainment of these goals based solely on the individual's own performance. The majority of control is placed in the individual's own hands. The breakdown of goals into smaller subunits is important because evidence from research suggests that specific objective goals and performance goals are the most useful when attempting to change behavior (Gould, 1993, p. 159).

Two theories have been proposed that describe the direct mechanistic view and an indirect thought process view (Locke & Latham, 1985). The direct mechanistic view states that goals influence performance in one of four ways: (a) goals direct attention to important elements of the skill being performed, (b) goals mobilize performers efforts towards goal attainment, (c) goals prolong the individual's persistence, and (d) goals foster the development of new learning strategies along the path towards goal attainment (Locke & Latham 1985). The indirect thought process describes goals as influencing performance by affecting an individual's psychological state, including confidence level, anxiety, and satisfaction (Burton, 1984; Garland, 1985).

A plethora of goal setting research has been conducted to examine the effects of goal difficulty, goal specificity, and goal proximity. Goal difficulty consists of an individual setting a hard, but realistic goal. The previous research provides evidence showing the harder the goal, the more effort the individual exerts trying to reach that goal (Locke, 1991). If no effort is needed to be exerted by the participant, the participant tends to lose desire towards goal achievement (McClements, 1982). The goals being set should be difficult enough to challenge individuals, but realistic enough to be achieved.

Goal specificity, according to Steers and Porter (1974), provides the individual with information concerning some end product. By setting a goal that is clear in nature, the individual creates a positive situation to develop a focused plan of action toward goal attainment. Specific goals narrow the focus of the participant so that concentration can be placed on the most effective plan of action towards goals attainment.

Goal proximity, according to Boyce (1992), allows the individual the opportunity to set short- or long-term goals. Research conducted by Locke and Bryan (1968) found that long-term goals were more appropriate than short-term goals in a two hour addition task. Bandura (1986) believed that long-term goals were more flexible than short-term goals. However, Carver and Scheier (1982) believed that long-term goals were too far off and not tangible enough to offer the individual prolonged incentive like short-term goals.

Feedback and Goals

The usefulness of feedback for performance enhancement has been depicted as one of the most dependable and tested principles in psychology. Feedback has been proven to be essential not only for adults, but for children as well. Both teams and individuals have been found to benefit from the use of feedback (Chapanis, 1964). Research as to the effects of feedback on performance go back as far as the 1950's. Presenting feedback in the work-setting creates an environment for the employee to learn and understand how to improve. Knowledge is usually provided by intrinsic or extrinsic feedback informing the participant about his/her progress towards achieving a goal.

Chhokar & Wallin (1984) studied the effect of feedback frequency on performance. The feedback was varied as to the times given along with other interventions, including goal setting. The participants (58 workers) were monitored over a 10 month period. The workers' performance levels reached the set goal level only after feedback was provided, either weekly or once every two weeks. The performance level

declined when feedback was withdrawn, and only improved again when feedback was reintroduced, indicating the importance of feedback related to performance levels when setting goals. These findings suggest it is possible to improve performance through a combination of training, goal setting and feedback together.

Goal Setting in Industry

Within the realm of the industrial/organizational setting, hundreds of studies have been conducted showing the positive effects goal setting has had on workers. Locke's (1968) goal setting theory has prompted over 500 studies and has laid the foundation for numerous research to date. In a review of some 400 studies, Locke (1981) found over 90% of the tests resulted in goal setting having a positive effect on behavior. Much of the goal setting research has shown setting difficult and specific goals facilitated higher levels of performance as compared to generalized goals (Locke, 1981).

Ronan, Latham, and Kinne (1973) collected survey data from 292 independent southern pulpwood producers. Analysis of the data supported the research that goal setting resulted in higher productivity and lower number of injuries among workers. Latham and Kinne (1974) experimentally assessed the effects of a one-day training program on goal setting over a 12-week period. The independent producers setting specific production goals for their crews had higher productivity and lower absenteeism than those workers who were randomly matched and placed into a "do-your-best" group.

Latham and Baldes (1975) investigated the effects of goal setting on a logging company's truck performance. Investigators hypothesized a goal setting program would

increase the level of performance compared to the truck's baseline performance and evidence of this improvement would be observed within the first month of implementation. The results supported this hypothesis and showed an immediate change in the truck's level of performance. This change steadily increased and continued for the next nine months.

Locke's (1968) contends that goal setting has motivational properties such that the setting and acceptance of a difficult goal will lead to higher levels of performance than the setting and acceptance of a goal less challenging. Further investigation conducted by Locke (1975) helped to establish a correlation between goal setting, motivation, performance, level of effort exerted, and choice of certain behaviors that are engaged in when working. Locke (1975) concluded that goal setting alone has been proven to be successful, however the participant's motivation becomes even greater when the necessary plan of action towards goal attainment is included in the participants training program. Locke (1975) strongly contends increases in effort may not always be the most appropriate choice of behavior for attaining stated performance goals. Locke's (1975) continued pursuit into goal setting, found that consistent success on behalf of the participant may be further facilitated by implementing the pertinent action plans to direct the wanted behavior of the participant.

Terborg (1976) produced research into the motivational components of goal setting, believing that participants with set goals would exert greater effort, better direction of behavior toward more appropriate activities, and have greater performance

outcomes than participants with no stated performance goals. Results supported this hypothesis.

Goal Setting In Sport

Locke and Latham (1985) have argued that tasks performed in industrial/organizational settings and in the laboratory have much in common with sport activities in that both involve mental and physical actions directed toward some goal. It may be perceived that goals set in the sports arena would elicit the same, if not better responses than similar goals set in industrial/organizational settings. This belief is based on the fact that the measurement of performance outcomes, such as batting averages and golf scores are easier to chart than measurements in the work setting (Weinberg, Sticher, & Richardson, 1994). However, despite the overwhelming evidence of the beneficial effects of goal setting in the industrial/organizational settings, the findings in sport and exercise domains have been equivocal (Weinberg, Burke, & Jackson, 1997; Weinberg & Weigand, 1993). The lack of congruity and null findings found with goal setting in the sports arena has led to much debate among psychological professionals (Locke, 1991; 1994; Weinberg & Weigand, 1993; 1996). This debate has focused on five major areas: 1) subject motivation, 2) goal setting in the “do-your-best” group, 3) feedback in the “do-your-best” group, 4) setting of personal goals, and 5) goal difficulty.

Weinberg and Weigand (1993) argued that participants may be more motivated in sport and exercise studies than industrial/organizational psychology studies, since the participants in the sports settings have volunteered for the activities in which they are

tested. Locke (1994) insists this argument is invalid because the industrial/organizational participants have also volunteered on their own to participate. However, Weinberg and Weigand (1993) contend the individuals participating in sport research studies have already chosen a physical activity class for bettering their own personal health. The self-motivation of these subjects tends to be higher and more persistent towards achieving set goals.

Locke (1991) argued that a major methodological error occurs in sport and exercise psychology with the “do-your-best” or control group setting. Numerous goal setting studies have witnessed members of the “do-your-best” setting their own goals when no goal setting is required. Weinberg and Weigand (1993) believe that participants in the sport psychology studies are unique to research because the setting of personal goals is common place within the sport setting (Weinberg & Weigand 1996).

Locke (1994) contend the lack of feedback given to participants does not create a research design problem. This design is not a problem because feedback, separate from goals, does not affect motivation (Locke & Latham, 1990). However, within the motor learning domain feedback (i.e., knowledge of results) is motivating (Adams, 1978, 1979; Schmidt, 1991). Intrinsic feedback for participants in sports does not create a design problem because it can be controlled for by using methods to distract the participants attention toward keeping score (Locke, 1991). Weinberg and Weigand (1993) proclaim this to be an invalid point because these experiences do not occur in the sport setting and would lead to application problems for the performer.

Yet, another contention towards goal setting research is the setting of personal goals by the participants when goals have already been assigned for the participants. Weinberg and Weigand (1993) stress regardless of the setting, participants in the sport and exercise environment have a tendency to set their own goals in addition to the assigned goals given to them by a researcher or coach.

Another concern for these equivocal findings is to what level of difficulty are the most effective goals set. At times participants that have moderate goals perform better than “do-your-best” groups (Locke, 1994). The main discrepancy is in sport and exercise studies where specific, difficult goals do not produce significantly higher performance than do-your-best, easy, or moderate goals (Locke, 1994).

Gould (1993) stated that goal setting will only be effective when a systematic approach is adopted and a knowledgeable professional customizes the goal setting process to the particular setting and athletes. Goal setting research within the sport psychology field has primarily focused on the individual components of goals, i.e., goal specificity (Weinberg, Bruya, & Jackson, 1985), goal difficulty (Hall, Weinberg, & Jackson, 1987), and goal proximity (Boyce, 1992).

The sport psychology research within goal specificity has offered researchers equivocal results. Several studies have indicated that setting specific goals led to increased performance over “do-your-best” or control groups (Hall & Byrne, 1988; Hall, Weinberg, & Jackson, 1987; Weinberg, Bruya, Longing, & Jackson, 1988). However, numerous other studies have revealed no significant differences between specific goals

and no goals at all (Barnett, 1977; Garland, Weinberg, Bruya, & Jackson, 1988; Miller & McAuley, 1987; Weinberg, Bruya, Jackson, & Garland, 1987). Likewise, the findings within the goal proximity area have offered inconsistent data. Some studies conducted had found differences between short-and-long term goals, and “do-your-best” or control groups (Boyce, 1992; Boyce, 1990; Hall, et al., 1984; Locke & Bryan, 1968; Tennenbaum et al., 1991; Weinberg et al. 1988). However, other studies found no significant differences (Weinberg et al., 1985). Goal difficulty research in sport psychology has differed from the research findings in the industrial/organizational settings. Extremely difficult goals have been found to produce a decrease in sport performance when these goals are compared to other goal level difficulty (Garland et al., 1988; Weinberg, Fowler, Jackson, Bagnall, & Bruya, 1991; Weinberg et al., 1987).

The reasons for these equivocal findings have been linked to methodological errors in the structure of the studies. Goal setting in control groups, competition among participants, and the level of commitment to the program by the participants, are all believed to cause less consistent findings.

The sport and exercise research settings tend to differ from industrial/organizational settings. Sport and exercise research participants are usually obtained from physical education activity classes. Whereas, the industrial/organizational research participants are participating for extra credit. The motivation to excel tends to be higher in the sport and exercise participants because these individuals are already trying to better themselves (Weinberg & Weigand, 1993). Their persistence and desire tends to

be higher than the industrial/organizational research participants (Weinberg & Weigand, 1993, 1996). Also, due to the simplicity of work within the industrial/organizational setting, goals from a motivational standpoint may be more effective than within the sport and exercise arena (Weinberg & Weigand, 1993).

Another explanation for these inconsistent findings within sport psychology research is supplied by Kylo and Landers (1995). Their meta-analysis presented evidence as to the low statistical power found in goal setting research in sport environments. The average sport goal setting study consisted of only 26 participants, while the average goal setting study from the industrial/organizational study consisted of 43 participants. The lack of subjects could be a limitation as to the amount of statistical power provided in the sport research.

Types of Goals in Sport

At least three different types of goals have been identified and discussed in the sport psychology literature: outcome goals, performance goals, and process goals (Hardy & Jones, 1994). Outcome goals focus on the outcomes of particular events; for example, winning a championship. Performance goals focus on the improvement of a participant with reference to a past performance. Raising first serve percentage during the first set from one tennis match to the next would be an example of a performance goal. Process goals focus on the processes or behaviors which the participant experiences during a performance, such as properly setting oneself before a shot in golf.

Some researchers contend that outcome goals have several weaknesses

(Burton, 1984, 1989; Martens, 1987). Attainment of outcome goals is not totally within the participant's control. Outcome goals do not take into consideration the ability levels of the goal setter's competition. This lack of controllability with outcome goals has been found to be in direct relationship with higher levels of anxiety within the individual setting the goals (Burton, 1988).

Athlete Involvement in Goal Setting Process

Athletes have been found to be more accepting and committed to the goals that they have had a part in setting rather than to the goals that have been set for them (Erez & Kanfer, 1983, Gould, 1993). Latham and Yukl (1975) found participatively set goals led to higher performance than assigned goals for uneducated loggers. Latham, Mitchell, and Dossett (1978) found that participatory goal setting lead to higher standard of goals and higher levels of performance than assigned goals. Erez and Zidon (1984) examined goal acceptance and if a relationship of influence permeates between goal difficulty and performance. Results showed that when goals are accepted, the relationship between goals and difficulty was positive contrary to when goals were not accepted the relationship was negative. The act of setting personal goals even when assigned goals are issued happens in a high percentage of the studies (Weinberg & Weigand, 1996).

The use of feedback as a motivational and informational tool is also believed to have had a positive effect on performance. Erez (1977) found higher level of performances occurring within a goal setting group receiving feedback compared to a goal setting group not receiving feedback. Feedback, through publically posting results,

was found to improve performance levels of university hockey hit rates within the study conducted by Anderson, Crowell, Doman, and Howard (1988). But, this explanation does not view feedback as a motivator by itself. In this case, feedback is viewed as a point of reference to have allowed the athlete's focus to be shifted towards the necessary areas of needed improvement. Kyllö and Landers (1995) concurred that goal setting is most effective in the sport environment improving when the individuals using goals are allowed to set or at least participate in their goal setting process. Debate and discussion has occurred in recent years over whether participative goal setting is significantly better than assigned goals. The literature findings suggest that participants are more accepting and committed to goals they set themselves than goals set for them by others (Gould, 1993). Weinberg and Weigand (1996) have contested that most participants prefer to set their own goals and will set them in conjunction with the assigned goals already set for them. However, Locke and Latham (1990) have offered evidence to suggest that participative goal setting does not lead to greater goal commitment or productivity than assigned goals.

Another consideration for the lack of significant findings in the sport goal setting research is the lack of understanding how, when, why, and which goals are most important to the athlete (Weinberg, Burke, & Jackson, 1997). Recent studies (Gould, Ekland, & Jackson, 1992; Scanlon, Stein, & Ravizza, 1989) have found that athletes can and do provide significant information regarding their own athletic careers and how goals can impact their own performance. Recent studies concerning feedback have been

conducted in which a plethora of information has been provided by the athlete in regards to the effectiveness, frequency, and importance of goals on their performance (Weinberg, Burke, & Jackson, 1997; Weinberg, Burton, Yukelson, & Weigand, 1993).

Yet another reason for the ambiguous findings in sport goal setting research is the abundance of studies using noncompetitive participants involved in noncompetitive environments. These environments and participants place constraints on the research, the laboratory based tasks results in the research having low ecological validity and generalization (Swain & Jones, 1995).

Past research has been remiss in creating studies that involve the implementation of a goal setting program intervention within a real-life sporting situation. Miller and McAuley (1987) conducted a study examining the effects of a goal setting training program on basketball free throw performance. This study consisted of undergraduate students being matched together according to free throw ability. The participants were then randomly placed into either a goal setting or non-goal setting group for a five week time period. These results did not depict a significant relationship towards improvement with free throw accuracy, however the goal setting participants did report higher perceptions of success and self efficacy. But, the study lacked actual athletes participating in actual game-like settings. To date, the majority of the research pertaining to athletes and performance has not involved athletes in their natural sports environments (Greenspan & Feltz, 1989).

Goal Setting in Competitive Situations

Weinberg, Stichter, & Richardson (1994) believe that one of the major practical applications for the use of goal setting techniques is with individual and team sport athletes over the course of a season. This type of research would address the concern in sports psychology for enhancing the external validity and generalizability of the studies. Unfortunately, the number of studies conducted in this manner have been minimal.

One of the preliminary studies conducted incorporating an athletic team in a competitive season was by Burton (1989). Evaluation of the effects of a goal setting training program on a university swimming team over a five month season were examined. The swimmers who participated in the program were compared against swimmers from another university devoid of any type of psychological training program. The swimmers participating in the program were instructed how to set specific, short-term, and performance goals. The results of the program were analyzed systematically through interteam, intrateam, and case study data. The swimmers who effectively set specific, realistic, short-term goals had better performances and expressed heightened levels of focus than the swimmers without any psychological skills training. However, this study lacked an appropriate control group, which in turn limited its internal validity.

Weinberg, Stichter, and Jackson (1994) assessed the effectiveness of a season long goal setting intervention on a university lacrosse team. Male team members (n= 40) were randomly matched and placed into either a goal setting group or a “do-your-best”

group. Manipulation checks performed throughout the study showed the athletes to be highly committed to reach their goals, had accepted their goals, and believed their goals were both realistic and moderately difficult. In fact, the goals were so difficult only 5 of the 24 players reached their individual goals. Results from the study were both negative and positive. The negative findings showed no significant statistical differences were found between the goal setting and “do-your-best” groups on any of the performance measures. The positive results indicated that the direction and consistency of performances were strongly in favor of the goal setting group. The lacrosse coaches reported their favorable impression of the differences between the group with the goal setting intervention having shown drastic amounts of improvement over the no goal setting group. This study differed from the previous study (Burton, 1989) with regards to the coaches setting realistic but difficult goals for their players. Assessment was directed towards determining the effectiveness of setting specific, difficult goals on lacrosse performance and not on the athlete’s goal setting ability.

Goal setting intervention with competitive athletes in a competitive setting research was also conducted under similar conditions by Anderson, Cromwell, Doman, and Howard (1988). Their study examined the interventions of goal setting and publicly posted performance feedback as part of a behavioral management intervention with a university ice hockey team. The study was conducted to increase the rate of legal body checking (hit rates). The players were placed into one of four groups: goal setting only, feedback only, goal setting and feedback, and a control group. The results showed that

the goal setting group had increased their hit rates. However, the goal setting and feedback group showed the most improvement.

Swain and Jones (1995) examined the effects of a goal setting intervention program on selected basketball skills during a competitive season. A single-subject multiple-baseline was implemented. Through this design, the researchers believed that the study would maintain a high degree of external validity. The four participants were elite university basketball players. These players were statistically charted in specific behavior categories over the first eight games of the season. The data and statistics gathered on the players were in four separate categories: turnovers, assists, rebounds, and steals. At the mid-season break, an intervention occurred between the researcher and the players on an individual basis. The players then selected one behavior to target for improvement. For the next eight games, the same statistical categories were charted, however, a goal setting intervention was imposed. The data was collected and analyzed with three of the four subjects showing improvements in performance following the intervention.

Kingston and Hardy (1997) compared a goal setting program based on the use of process-oriented goals with the traditional performance goal program (i.e., goals that are performance based). The researchers hypothesized that all of the dependent variables would be beneficially influenced by the goal setting program. These benefits would then allow the golfers to experience lower levels of anxiety, elevated self-efficacy, and better concentration than those golfers trained in the use of performance goals (Kingston &

Hardy, 1997). The participants (n=37) were male golfers with handicaps ranging from 0-28. All of the golfers were regular players in club competitions. The participants were placed into two goal setting training programs for one entire golf season. The results of the study supported the hypothesis of goal setting as a valuable psychological intervention strategy. A second hypothesis supported the significance of the efficacy aspect of the process-oriented goal setting compared to the traditional performance goal setting. The process-oriented goal setting group did demonstrate significant improvements in the skills that were thought to cause higher levels of performance. The golfers were found to have lower levels of anxiety.

Single-Subject Design in Goal Setting

Single-subject designs are an important methodology that contributes to applied and experimental work (Lerner, Ostrow, Yura, & Etzel, 1996). Wollman (1986) has stated that single-subject designs permit the detection of successful effects for certain individual subjects who otherwise would have their success hidden by a nonsignificant group design. Smith (1988) has observed that case studies and single-subject designs can be a strong source for providing important insights concerning the processes underlying behavior by serving as a source of observations of how intervention techniques work.

In the single-subject design research, observation of an individual's behavior occurs during a pretesting phase before the intervention of a goal setting program occurs. Pretesting allows for the elimination of the need for a control group and allows the researcher the time to thoroughly investigate the athletes for any problems that may

present themselves with regards to statistical findings. As Wollman (1986) stated, there is a need to monitor and understand the internal experience of the athlete while within the research process. Goal setting research needs more studies that assess how athletes think and feel about setting goals and the process by which the athletes actually use the goals (Weinberg, Burke, & Jackson, 1997). Recently studies have begun to be conducted using single-subject designs and multiple-baseline-across-subjects designs to assess the significance of other interventions with athletes in real-life situations (Cohn, Rotella, & Lloyd, 1990; Kendall, Hrycaiko, Martin, & Kendall, 1990; Swain & Jones, 1995;) and all were found to have shown some form of improvement. In a review of psychological interventions, Greenspan and Feltz (1989) found six studies that had shown significant improvements in performance, but only one study had used a goal setting intervention (Swain & Jones, 1995). The remainder of the studies tended to use combinations of different techniques such as imagery and relaxation.

Optimism and Pessimism

Optimism and pessimism may be described as a psychological dimension in which optimism represents a bias in perceptions and expectations in favor of positive features in life and pessimism represents a negative bias (Peterson & Bossio, 1991). Optimism and pessimism describe an individual's outlook about future experiences (Peterson & Bossio, 1991). Optimism can be defined as a set of beliefs that leads people to approach the world in an active manner (Peterson & Bossio, 1991). Optimistic

individuals believe that the future holds positive opportunities with successful outcomes. People that hold an optimistic outlook on life have demonstrated higher levels of motivation, persistence, and performance (Carver, Blaney, & Scheier, 1979; Taylor & Brown, 1988). On the otherhand, pessimistic individuals tend to look at the world and future experiences in a negative fashion. Pessimistic people view the world as a place of bad experiences and events.

Recently, optimism and pessimism has been associated with several points of interest within clinical and health psychology (Lewis, Dember, Schefft, & Radenhausen, 1995). Natail-Alemay (1991) found optimism to be positively associated with adaptive coping skills. While Weintruab, Carver, & Scheier (1986) found pessimism to be associated with maladaptive coping strategies. Optimism and pessimism have also been shown to relate to different patterns of preferred defense mechanisms (Dember, Martin, Hummer, Howe, & Melton, 1989).

However, people may not be only optimistic or only pessimistic. Depending on the situation, most people posses characteristics of being an optimist and a pessimist (Peterson & Bossio, 1991). An example to illustrate this belief can be found in a person that may be optimistic toward his/her job, but pessimistic towards his/her spousal relationship. When considering optimism, certain guidelines must be taken into account (Peterson & Bossio, 1991). First of all, optimists must take into account reality as it pertains to the real world. A person that weighs 185 pounds can not realistically believe that he could wrestle for his high school team at 100 pounds. Secondly, optimism creates

activity within the person, enabling an individual to focus toward completion of a task or a goal. Lastly, optimism cannot be looked at as a panacea for everything. A person diagnosed as having terminal cancer will probably not be healed because of his/her optimistic outlook towards life.

Optimism and Pessimism Inventories

At the current time, two views exist that explain the dimensions of optimism and pessimism. The bipolar view looks at optimism and pessimism lying on separate poles of a single bipolar continuum. The separate dimensional view states that optimism and pessimism can both exist within a person. No matter the view, optimism and pessimism has been linked to mental and physical well-being.

Frank (1974) found that optimism was a reliable predictor of rehabilitation effects during therapy. Stotland (1969) found optimism to be a major contributor in the development of hopeful schemas to overcome emotional disturbances. Pessimism has been studied more in relation to depression (Beck, 1963) poor physical health, (Peterson, Seligman, Vaillant, 1988) and suicide (Copley & Weckowicz, 1966).

The bipolar dimensional view has two measures: Scheier and Carver's (1985) Life Orientation Test (LOT) and Seligman et al.'s (1976) Attributional Style Questionnaire (ASQ). The LOT is the most commonly used instrument to measure dispositional optimism. Dispositional optimism is a generalized belief that good things will happen (Kavussanu & McAuley 1995). The inventory contains eight coded statements worded optimistically and eight questions worded pessimistically. Questions are answered using

a five-point scale. A revised edition of the LOT-R was created (Scheier, Carver, & Bridges 1994) by removing two coping items from the original LOT. This scale focused more on expectations of good versus bad outcomes. Internal consistency and test-retest reliability remained high (Scheier, Carver, & Bridges, 1994).

The Optimism and Pessimism Scale (OPS) (Dember, et al., 1989) was created to analyze the individual differences in conformity to the Pollyanna Principle, which is a person ability to accentuate the positive (Martin & Stang, 1978). The OPS consists of 18 items measuring optimism, 18 items measuring pessimism, and 20 filler items. Individuals respond to a 4-point Likert scale from strongly agree to strongly disagree. Items in each subscale are then added together to provide a single score for each subscale. The scale has been shown to be reliable, with alpha coefficients of .84 and .86 for optimism and pessimism (Dember et al., 1989). Test-retest reliability over a 2-week period were $r=.75$ for optimism and $r=.84$ for pessimism (Dember & Brooks, 1989). Dember and Penwell (1980) believed that individuals conforming to the Pollyanna Principle would score high on a test of optimism. However, as test construction continued, optimism and pessimism showed signs of the possibility that they may not be bipolar (Dember et al., 1989). From the initial evaluation of the psychometric constructs of the scale, two scales were found to be working at the same time (Hummer et al., 1992). When the two scales were correlated, results indicated that the scales were correlated at a lower value ($r=-.52$) than the values of internal consistency. This partial independence of

optimism and pessimism has been shown in other studies (Dember & Brooks, 1989; Terezis, 1990).

Chang, D'Zurilla, and Maydeu-Olivaries (1994) assessed the dimensionality of three instruments designed to measure optimism and pessimism: Life Orientation Test (LOT), the Hopelessness Scale (HS), and the Optimism and Pessimism Scale (OPS). Subjects were 389 undergraduates asked to complete each of the three measures. Results showed that the LOT was found to be bidimensional, the HS was unidimensional, and the OPS was multidimensional. These results provide evidence that individuals can be both optimistic and pessimistic.

Terezis's study (as cited in Lewis, Dember, Schefft, & Radenhausen, 1995) attempted to influence optimism and pessimism scores by using mood-inducing procedure (MMIP). Subjects were placed into three groups, hearing either heightening, depressing, or neutral music before completing the OPS. Results of the study found that neither versions of music had any effect on optimism or pessimism. These findings showed that optimism and pessimism are stable traits that are not affected by current mood states (Terezis, 1990).

Lewis et al., (1995) conducted a similar study to analyze the effects of a mood-inducing procedure and its relationship to scores on the OPS. Subjects were placed into one of six groups: elating music, depressing music, elating video conditions, depressing video conditions, elating Velten conditions, and depressing Velten conditions.

However, this study showed a substantial amount of influence on optimism/pessimism with relationship to the music tapes. Those individuals listening to the elating music tapes were found to score higher on the OPS. Thus showing the possibility of optimism and pessimism being influenced by temporary mood states.

Hummer, in Dember (1989), hypothesized the reason for the partial independence of optimism and pessimism may be the result of individual biases: defensive pessimism and the Pollyanna Principle. Defensive pessimism is believed to be an individual's defense mechanism whereby the individual states low expectations for a challenging situation to prepare oneself for a negative outcome (Dember et al., 1989).

Schwab's study (as cited in Hummer, Dember, Melton, & Schefft, 1992) examined the possible relationship between optimism and pessimism and the Pollyanna response. Subjects ranged from normal to mildly depressed individuals. Results found that subjects repeatedly overestimated their ability to attain success. Schwab (1984) found that mildly depressed individuals, may at times, answer some of the optimism items in much the same manner as more optimistic people. This occasion may be a cause as to the low correlation between the optimism and pessimism subscales (Hummer et al., 1992)

Hummer et al., (1992) examined the possibility that the OPS may be susceptible to the response biases of defensive pessimists and followers of Pollyannism. The results of the study did not produce evidence that these biases exist. By proving that this scale is

vulnerable to response sets, it can be concluded that optimism and pessimism are not polar opposites, but partially independent outlooks (Hummer et al., 1992). Results from this study support the belief that optimism and pessimism can coexist within the same person (Hummer et al., 1992).

Optimism/Pessimism and Health and Exercise

Optimism has been linked to psychological and physical well-being (Kavussanu & McAuley, 1995). Optimism has been associated with reports of happiness and mental health (Taylor & Brown, 1988). Several studies have also investigated the effects of optimism and pessimism on physical health. One of the first studies conducted into this area was produced by Riker and Wong's study (as cited in Scheier & Carver, 1992).

Participants were institutionalized and non-institutionalized males, with each group being administered an inventory to assess optimism. A list was constructed to include a set of positive statements that the men were asked to answer in the form of agreement or disagreement. The participants were also required to write down information concerning their physical and psychological health. Results produced data depicting those men that were classified as optimists reporting more positive physical and psychological health characteristics.

Numerous studies have investigated the effects of optimism and pessimism on recovery from illness. Scheier et al., (1989) studied a group of males partaking in the procedure of a coronary artery bypass surgery. The individuals were administered the Life Orientation Test on the day before surgery, a week post surgery, and six months

post-surgery. Results showed the more optimistic people to have felt better at every stage.

Pozo et al., (as cited in Scheier & Carver, 1992) conducted a study examining the effects of optimism and the psychological adaptability of women diagnosed with the early stages of breast cancer. Subjects were administered the LOT on the day of being diagnosed with breast cancer, the day before surgery, one-week post-surgery, and then at three, six, and twelve month intervals. The LOT was used to survey the level of optimism and individual interviews were used to rate the level of distress experienced by the individual patients. Results indicated that optimism was a significant predictor of distress among the patients.

Aspinwell and Taylor study (as cited in Scheier & Carver, 1992) examined the adaptations and adjustments undertaken by first semester college freshmen. Optimism was assessed with the administration of the LOT during the first day on campus. The same inventory was again administered three months later. Results showed a direct correlation between optimism and the levels of distress experienced by the freshmen. It was found that higher levels of optimism were directly related to lower levels of distress.

Scheier and Carver (1992) conducted a similar study again using first-semester college freshmen. Optimistic students were observed to have lower levels of stress, depression, and loneliness than did their more pessimistic counterparts. The optimistic students were also found to have become more socially involved than the pessimistic students.

Peterson, Seligman, and Vaillant (1988) found a correlation between young adults explanatory style and their health status later in life. Young adults who categorized negative events as internal, stable, and global were not as healthy as those young adults who labeled negative events as external, unstable, and specific. The individuals having the internal, stable, and global perspective are referred to as having a pessimistic outlook towards life. Those individuals having an external, unstable, and specific perspective are referred to as having an optimistic outlook towards life (Seligman, 1991).

Optimism has also been inversely related to depression (Carver & Gaines, 1987), and with lower levels of trait anxiety. Through a meta-analytic review Petruzzello et al. (1991) identified optimism as a leading explanation for significant reductions in anxiety levels. Pessimism has been found to be a determinant of poor physical health (Peterson, Seligman, & Vaillant, 1988). Pessimism has also been related to depression (Abramson, Metalsky, & Alloy, 1988) and suicide (Copely & Wickowicz, 1966).

Scheier and Carver (1985) investigated the relationship between optimism and physical health symptoms by examining college students over the last weeks of a semester. The study's participants were each given the LOT along with a physical checklist covering the last month of the semester and final exams. Results indicated that the students found to be optimistic were also found to have reported developing fewer physical symptoms.

The effects of regular exercise on physical health have also been well-documented (Powell, 1988). Most of the research performed over the last couple of decades has

examined the beneficial effects of regular exercise on an individual's psychological well-being. A negative correlation has been found between exercise and depression (North, McCullagh, & Tran, 1990) and anxiety (Petruzzello et al., 1991).

Hamid (1990) investigated if optimists differ from pessimists with regards to a self constructed list of important health-promoting behaviors. Participants were administered the LOT in conjunction with a 5-point Likert scale listing the occurrence of health behavior. Also, the third area investigated the likelihood of the individual experiencing the flu or flu-like symptoms. Results indicated that optimists exercise and ate healthier than pessimists. Optimists were also less likely to experience flu-like symptoms.

Numerous factors have been shown to assist in the development of optimism (Peterson & Bossio, 1991). Optimism is believed to be rather stable across time and context. Short bouts of physical activity are not believed to affect overall optimism (Kavussanu & McAuley, 1995). However, long periods of exercise have been shown to influence mood states namely trait anxiety (Petruzzello et al., 1991) and Type-A behavior (Lobitz, Brammel, Stoll, & Niccoli, 1983).

Kavussanu and McAuley (1995) examined the relationship between exercise and optimism, hypothesizing that highly active individuals were more optimistic than no/low active individuals. A second contention was examined to investigate if trait anxiety and physical self-efficacy had any relationship to exercise and optimism. Participants were

members of three health clubs and members of a university staff. Participants were administered the Optimism and Pessimism Scale (Dember et al., 1989) and the Physical Self-Efficacy scale (Ryckman et al., 1982). Results suggested that individuals who are highly active are more optimistic and less pessimistic than inactive/low active individuals. A relationship was also found between moderate to high active individuals having higher physical self-efficacy and lower trait anxiety than inactive/low active individuals.

Optimism/Pessimism and Sport

Peterson and Bossio's (1989) research into the overall team performance and their level of success offered interesting results. Peterson and Bossio (1989) investigated, through the technique of Content Analysis of Verbatim Explanations (Caving) (Peterson, et al., 1983) the losing streak of the 1988 Baltimore Orioles. Caving requires the researcher to find and document every paper clipping about every game the Orioles played during the streak. These articles would be rated according to the causal explanations made after every loss. To start the 1988 season, the Baltimore Orioles lost the first 21 games played. This study analyzed the team's explanatory style during the streak. Results indicated that the longer the streak lasted, the more pessimistic the explanations became. Initial explanations ranged from "the wind was blowing out, and the sun was in my eyes," to "there's tremendous pressure on us, and we've got all of the excuses, the weather, not getting the breaks, but it's still just losing." As the streak persisted, the athletes' attitudes became more and more pessimistic.

Seligman (1991) conducted two similar caving studies of professional baseball and basketball teams and their explanatory style. The first investigation analyzed and compared the 1985 New York Mets and the 1985 St. Louis Cardinals. The Mets were slowly building into a dynasty that would eventually win the 1986 World Series. The Cardinals were falling apart and heading towards the bottom of their division. The Mets' players explained many of their losses in a context (minor set back, no excuses, come back and get a win tomorrow). On the otherhand, the Cardinal players explained their losses to be a continuation of bad play by individuals and the team as a whole. The form of explanatory style produced by the Mets could be labeled as an optimistic explanatory style, the players believed the loss to be a temporary state and that a win would come the next day. The Cardinals were found to have a pessimistic explanatory style that was characteristic of reasons being overall bad play by everyone with no confidence that a win may occur the next day.

Similar results were found to exist between the 1984 Boston Celtics and the 1985 New Jersey Nets. Seligman (1991) also attempted to equate the explanatory style of the team and the percentage of times the team rebounded from a defeat to cover the predicted point spread the following night. The Celtics demonstrated an optimistic explanatory style while the Nets were found to demonstrate a pessimistic explanatory style. The Celtics were also found to "cover the point spread" 68.4% of the time after a loss, while the Nets were found to cover the point spread 31.8% of the time.

Optimism/Pessimism and Goal Setting

Optimistic individuals have been found to set goals that are more specific in structure than pessimistic people (Peterson & Bossio, 1991). An optimist would set a goal that explained exactly what is trying to be achieved. An example would be a swimmer setting a goal to improve her overall breaststroke time by one full second over the course of a year. Consequently, optimists and pessimists differ in the level of confidence in setting goals. Optimistic people have been found to have higher levels of confidence and believed in their ability to attain their goals more than pessimistic people (Peterson & Bossio, 1991). It is not that pessimistic people set goals that are negative, pessimists set goals that may not be fully believed to be attainable (Peterson & Bossio, 1991). In athletics, competitive swimmers with a pessimistic outlook have been found to perform poorly after receiving false feedback indicating poor prior performance (Seligman, Nolen-Hoeksema, Thorton, & Thorton, 1990).

Sheppard, Maroto, and Pbert (1996) examined through a longitudinal study, if dispositional optimism is predictive of patient success towards making health changes with relations to lowering the risk of coronary heart disease. Subjects participated in an 18-week cardiac rehabilitation program. Optimism and pessimism were measured with the LOT. The subjects were each assigned goals (lose 20 pounds). Results indicated that the optimism measured at the beginning of the program was associated with a greater success rate of goal attainment than pessimistic subjects.

Scheier et al., (1989) examined the effects of optimism and pessimism on an individual's physical health and ability to attain recovery goals. Participants were patients recovering from coronary heart surgery. Optimism was measured with the LOT inventory, however results of the study were also taken from physical health status, recovery time, and a self report list. Results showed that the more positive patients had less symptoms of myocardial infarction and quicker recovery times. The optimistic patients were also able to reach their recovery goals sooner than pessimistic patients. A follow-up data collection was taken five years later (Scheier et al., 1989). The data showed that the optimistic patients were more likely to be working full-time and less likely to still be feeling pain from the operation.

Psychological Skills Training in Golf

Psychological skills training for athletes has become one of the focal points for sport psychology research in recent years (Vealy, 1994). Successful athletes have been shown to make better use of goal setting and evaluation techniques for attaining peak performance (Gould, Eklund, & Jackson, 1992; Orlick & Partington, 1988). In the past, the belief held by many was that successful athletes were born with the genetic makeup to be successful. Ericsson and Charness (1994) investigated and found evidence that elite performance is attained through the practice and repetition of numerous complex cognitive structures and skills over a long extended period of time.

Arguably one of the most difficult sports to play from a psychological standpoint is golf. From a competitive standpoint, a golfer competes and struggles against him/herself. The sport is purely individualistic in that the golfer is in total control of the action of hitting a golf ball. A golfer does not have to compete against another individual while attempting to swing a golf club. Golfers do not have a defender guarding themselves from making contact or putting the ball into the hole. Rotella and Boutcher (1990) state that many professional players have suggested golf performance is as much as 90% mental and only 10% physical. The constant mental strain placed upon a golfer is one that is unique to sport. Many times the difference between being on the Professional Golfers Association (PGA) Tour or being on the Nike Tour comes down to the golfer more mentally prepared.

Morris and Thomas (1995) discuss several techniques included in a psychological skills model that was generated on the basis of work previously done by Vealy (1988) and Boutcher and Rotella (1987). This model breaks down psychological skills training into seven phases. Four of the phases involve the purpose and type of task being performed, the athlete's present skill level, the demands of the task upon the athlete, the implementation of the skills training, and evaluation of the program.

The importance of feedback to golfers was assessed through use of the Golf Performance Survey (GPS) by Thomas (1993). Feedback on the skills assessed in the survey was given to three randomly selected groups of golfers. The groups completed the GPS between one and three times after either a medal or stroke play match. Performance

data was also kept from these events. The participants then attended one of three feedback sessions that were offered. During this time the golfers were given an individual skills profile, after which the GPS was again completed and performances were again monitored. Analysis of the data showed that a short-term gain in mental preparation and improvement of automaticity was attained. However, no other psychological or psychomotor changes were observed.

Kirchenbaum and Bale (1980) researched a cognitive-behavioral skills training program for golf. This program included several components: muscle relaxation, development of a golf skills checklist, mental imagery during preshot routines, analysis of the shots hit during each round played, and a list of positive instructional cues for the golfer to use during a round. Three of the nine participants did showed positive evidence that the program had improved their play. Correlations were also noticed between the golf performance scores and subscales of the Test of Attentional and Interpersonal Style (Nideffer, 1976).

Murphy and Woolfolk (1987) used differing arousal levels in a cognitive-behavioral intervention to observe its effect on putting in golf. Three groups were formed: 1) stress reduction group, 2) arousal inducing group, and 3) control group. Individuals within the stress reduction group did have lower levels of stress and anxiety, however, there were no significant effects found on putting performance.

Various research has been conducted implementing the golf preshot routine as a measuring inventory to analyze the effects of psychological skills training. Crews and

Boutcher (1986) taught and implemented a preshot routine with beginning golfers in a college physical activity class. The routine included imagery, self-talk, and course management techniques. A significant improvement was observed among the more skillful male golfers in the study. Boutcher and Crews (1987) attempted to train more advanced golfers with a putting routine that included cue words, timed routine, and number of looks at the hole. This study offered only a slight improvement among the less advanced female golfers.

Cohn, Rotella, and Lloyd (1990) implemented a cognitive-behavioral intervention with three male collegiate golfers. The study included the golfers being trained to be decisive and believe in the club selected for a shot. From this study, only one of the participants noticed immediate improvement. However, all three of the golfers did show improvement within a four month post-study time period .

McCaffrey and Orlick (1989) found psychological skills differed drastically between elite golfers and the rest of the competition. Touring professionals were found to set more clearly defined goals than club professionals. Touring professionals had a more systematic plan towards practices and tournaments, and touring professionals developed more in-depth post-competition analysis than club professionals. Also evidenced were the touring professionals ability to refocus quicker and easier after being distracted by a spectator or errant shot. McCaffrey and Orlick (1989) observed top touring professionals and Olympic athletes utilized daily goal setting in a similarly clear, comprehensive and consistent manner.

Cohn (1990) conducted similar research with regards to psychological skills and peak performance among touring, club, and college golfers. Greater than 80% of the golfers studied, discussed their peak performances as times when their self-confidence was its highest point. During this time, the golfers stated that they were mentally relaxed without feeling or thinking about negative consequences. These positive, relaxed feelings allowed the golfers the opportunity to achieve their goals.

Thomas and Over (1994) investigated the psychological skills of amateur golfers in an attempt to discover differences between lower and higher handicap golfers. The lower handicap golfers were discovered to exercise greater amounts of mental preparation than the higher handicap golfers. The levels of concentration were higher among the lower handicap golfers. These lower handicap golfers were also found to be less distracted by negative thoughts, missed opportunities, or previous mistakes.

Goal Perspective and Golf

Goal perspective relates to how a golfer defines success and believes in one's level of competence while playing the game (Nichols, 1989). Duda (1992, 1993) established two main goal perspectives that are involved in sports: task and ego involvement. A golfer that is task-involved has goals that believe in success coming from practice and working hard. Here, control of goal attainment is totally within the golfer. Ego-involved golfers believe that success comes from having goals that enable him/herself to be superior or better than others. Competence levels are only attained when the golfer feels that he/she can beat someone else.

According to the goal perspective theory (Nicholls, 1989) it is believed that there is a relationship between a person's goal perspective and their choice of tasks to involve themselves. Task-involved golfers have been shown, regardless of their playing ability, to seek challenging goals that require hard work for reaching (Duda, 1994). This occurs because these types of golfers have been found to concern themselves with performing the task to the best of their ability and not about competing against someone else. Ego-involved golfers, on the otherhand, tend to choose a task that is easy or gain be attained with minimal effort being exerted. This type of goal attainment is inferior because the golfer is never having to work above his/her playing ability. The importance of knowledge of goal perspective lies in the fact that task-involved golfers understand and accept the fact that mistakes will occur and that mistakes are part of the learning process (Duda, 1995).

Statistical Analysis in Golf

The Professional Golfers Association (PGA) keeps statistics for the following categories: fairways hit in regulation (i.e., hitting a golf ball from the tee into the fairway of the same hole), greens hit in regulation (i.e., hitting the golf ball onto the green whereby the next putt is for birdie), putts hit per green in regulation, total number of strokes required to get up and down from around the green and the total number of putts hit per round. The relevance of these categories has been studied by many researchers (Belkin, Gansneder, Pickens, Rotella, & Striegel, 1994; Davidson & Templin, 1986; Engelhardt 1995; Jones, 1990; Nix & Koslow, 1991).

Davidson and Templin (1986) used statistics from the 1983 PGA Tour to observe the relationship between which shot-making skills predicted a player's average score per round over a season. Golfers' lowest average scores were those who reached the green most often in regulation shots (beta of $-.95$), to fewest putts per round (beta of $.78$), and greatest length from the tee (beta of $-.11$).

Nix and Koslow (1991) analyzed the 1987 tour statistics and found that 87% of variance in average score per round over the season was associated with (in order from most to least) a lower number of putts per round, reaching greens in regulation, number of shots, length of drive from tee, and holing within two shots from a greenside bunker.

Thomas and Over (1994) reported that shot making skills associated with prowess in amateur golf is very similar to those associated with success in PGA, Ladies Professional Golf Association (LPGA), and Senior Golf Association (SGA) golf. Results indicated that the drive, number of greens reached in regulation shots, and number of putts per round all made significant and approximately equal contributions.

Jones (1990) analyzed 99 of the top 100 money winners from the 1988 PGA tour season. From this analysis, it was observed that low but significant relationships did exist between measures of success (scoring average, money earned) and putts per round ($r = .36$ and $-.27$) and average driving distance ($r = -.21$ and $.19$) and greens in regulation ($r = .29$ and $.25$).

The correlation between greens in regulation and golfing success has been found in other studies. Belkin, Gansneder, Pickens, Rotella, and Striegel (1994) conducted a

summary and analysis of the PGA statistics from the years 1986-1988. The Pearson and stepwise multiple regression procedure was conducted to identify which skills had the most influence on performance. From the categories analyzed, (driving distance, driving accuracy, percentage of greens hit in regulation, save sand percentage, putts per round, and scoring average), it was found that greens in regulation was the most highly related to low scoring average.

Wiseman, Chatterjee, Wiseman, and Chatterjee (1994) analyzed and compared golfers from the three professional tours (PGA, LPGA, SPGA). The overall scoring average of the golfer was compared with four performance categories: driving distance, driving accuracy, greens in regulation, and putts per green in regulation. The data showed greens in regulation to be the highest correlated to average score. The second highest correlation was between putts per green in regulation and average score.

Englehardt (1995) analyzed the 1993 and 1994 PGA Tour to observe if a relationship exists between the top money winners and distance/accuracy of driving skills and greens in regulation. The results of this study differed from previous studies Davidson and Templin (1986) and Jones (1990) in the fact that greens in regulation was not the most highly associated with winning money on the PGA tour. This study agreed with the Belkin et al., (1994) and the increasing importance of driving distance/accuracy.

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