EXPLORATORY ANALYSES OF OPTIMISM, ANXIETY, AND PERFORMANCE EXPECTANCIES AMONG NOVICE GOLFERS IN A NATURALISTIC SETTING

by

SCOTT T. WELLE

(Under the Direction of A. Barry Joyner)

ABSTRACT

This study explored optimism, anxiety, self-confidence, strategy, and performance expectancies among novice golfers. 40 male undergraduate students from a southeastern university played three holes on a selected golf course. The Life Orientation Test-Revised (Scheier et al., 1994) and the Sport Competition Anxiety Test (Martens, 1977) were administered to participants two prior to state data collection. Participants also completed the Competitive State Anxiety Inventory-2 (Martens et al., 1990) and the Optimism/Pessimism Scale (Dember et al., 1989). A performance expectancy measure, confidence rating, and strategy assessment was also self-reported. A regression analysis showed the best predictor for score on a hole was the score participants expected to receive. Correlational analyses also showed a modest positive correlation for average score on golf performance, but correlations for psychological variables and performance were largely insignificant. The results suggest those expecting better performance do not necessarily display discrepant psychological profiles from those anticipating poor performance.

INDEX WORDS: Optimism, Pessimism, Anxiety, Confidence, Performance, Strategy, Expectations, Positive Illusions, Golf

EXPLORATORY ANALYSES OF OPTIMISM, ANXIETY, AND PERFORMANCE EXPECTANCIES AMONG NOVICE GOLFERS IN A NATURALISTIC SETTING

by

SCOTT THOMAS WELLE

B.A., University of Wisconsin-Madison, 2002

A Thesis Submitted to the Graduate Faculty of Georgia Southern University

in Partial Fulfillment of the Requirements for the Degree

MASTER OF SCIENCE

STATESBORO, GA

2005

Dedication

I would like to dedicate this project to three people who have shaped my life for as long as I can remember. My Dad—striving to make you proud serves as my ongoing motivation. Though you bear a rough exterior, I know deep down you want nothing but the best for me, and you would do anything to make sure I have it. Thank you.

My Mom, a true heroine in my eyes, now and forever. Knowing that, even on my worst days, I can call home to hear a cheerful voice always brings me comfort. Your unfortunate struggles, but subsequent triumphs, have taught me to never waste another precious day here on earth. I love you.

My Brother, Jason (Beef), whose moral guidance and insight throughout the past 24 years have made me the person I am today. Without you, I shutter to think what path my life may have taken. You possess a special gift that cannot begin to be translated into words. I thank God every day for putting you in my life.

Acknowledgments

I would like to thanks several individuals for their assistance in this project. First and foremost, to Dr. Joyner (a.k.a. the birdkilla) for his guidance and comforting attitude, even when I was not hitting my deadlines. This entire process would not have been nearly as fulfilling without you.

Second, to Dr. Zwald, who entrusted me to mentor undergraduate golfers for my two years at Georgia Southern. I valued your helpful feedback and input regarding the study. Third, thanks to Dr. Burke for making my experience at Georgia Southern University extremely painful, but also extremely rewarding. The lessons you have taught me regarding motivation and organization reach far beyond academia. You have helped me mature as a person.

Special thanks also go out to Dr. Czech, who filled in admirably on my committee. I always appreciated the fact that you regard us as people first; graduate students second. Even on difficult days it is comforting to know that you will be wearing a smile and positive attitude.

Lastly, thanks to all other GSU faculty and students (especially the sport psychers) who have supported me throughout this journey. The time here will not soon be forgotten.

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER 1

INTRODUCTION

EXPLORATORY ANALYSES OF OPTIMISM, ANXIETY, AND PERFORMANCE EXPECTANCIES AMONG NOVICE GOLFERS IN A NATURALISTIC SETTING

Performance enhancement in sport has long been a topic of interest. The physical aspects of training are usually emphasized, but the importance of mental preparation cannot be overstated. Goal setting, arousal, and imagery are factors that have garnered attention, but self-confidence appears particularly salient to athletic accomplishment, especially in areas requiring conscious thought processes (Parfitt & Pates, 1999). There has been a wealth of research dedicated to the role of confidence in task-oriented situations (Grove & Heard, 1997; Hall, Kerr, & Matthews, 1998; Vealey, Hayashi, Garner-Holman, & Giacobbi, 1998). However, much of this research has not involved the same risk-reward potential that is presented in the sport of golf. A golfer may seek a result that is not realistically achievable based on his/her current ability level. The player then becomes more cognizant of the potential rewards of the shot (a birdie or eagle putt) than the apparent risks (a penalty stroke).

Extreme confidence is one mechanism that may provoke golfers to expect performances above their current skill level. Confidence is defined as "one's belief in meeting the challenge of the task to be performed" (Woodman & Hardy, 2003, p. 443). There have been mixed results as to the role of confidence in performance. Typically, higher confidence has been related to improved performance in a variety of sport settings (Woodman et al.; Pickens & Rotella, 1996). Craft, Magyar, Becker, and Feltz (2003) found confidence to be the best predictor of athletic performance, though the relationship

was found to be weak. However, Krane and Williams (1992) found state confidence among collegiate golfers not to be indicative of subsequent tournament scores. The strongest predictor for these skilled golfers was previous performance. The equivocal results suggest questions still remain as to the benefits of confidence for golfers.

A fundamental rule in understanding confidence and performance is that thoughts affect feelings, which influence subsequent behaviors. Simply stated, confident athletes think about themselves and the action at hand in a different way than those who lack confidence (Zinsser, Bunker, & Williams, 2001). Athletes in team sports have demonstrated consistently higher levels of confidence, possibly because the pressure of changing an outcome is not solely their responsibility (Covassin & Pero, 2004). Additionally, the results of the meta-analyses of Craft et al. (2003) and Woodman et al. (2003) have shown inconsistent effects of confidence across skill levels.

Confidence has been studied largely for its impact on other psychological variables, such as anxiety. Anxiety is separated into the categories of somatic anxiety and cognitive anxiety, but most people attribute a generalized anxiety to performance decrements, especially in tasks with uncertain outcomes (Marchant, Morris, & Anderson, 1998). However, anxiety itself is not necessarily negative; it is one's *interpretation* of the anxiety that may prove facilitative or debilitative (Landers & Arent, 2001; Scheier & Carver, 1985). Wang, Morris, and Marchant (2004) found cognitive anxiety to be negatively related to performance in a high-pressure situation, especially when using an approach coping style. However, an avoidance coping style resulted in more positive facilitative interpretations of the state anxiety. Thus, a person's level of physiological arousal (somatic anxiety) may increase when he/she is presented with a challenging

circumstance, but anticipating this reaction may better equip one to cope with the task demands.

Kirschenbaum, O'Conner, and Owens (1999) first coined the term "positive illusions" for golfers. Positive illusions are actually cognitive biases concerning the amount of control a person feels he/she has in a given situation. The illusions allow people to maintain positive and optimistic views of themselves and their future while simultaneously learning from and making use of negative feedback in an adaptive manner (Catina & Iso-Ahola, 2004). A component of the positive illusions concept is unrealistic optimism, which is based on the phenomenon of individuals to believe that negative outcomes are less likely to happen to them than to others, and that positive events are more likely to happen to them than to others (McKenna, 1993). Kirschenbaum et al. (1999) found golfers frequently use unrealistic optimism when playing golf, especially in difficult circumstances. Golfers manifest this attitude by attempting shots beyond their normal capability. In other words, golfers take overt risks on the course when conservative strategies might produce better results.

One facet that possibly breeds unrealistic optimism is golfers' performance expectancies. Scanlan and Passer (1981) found that more skilled soccer players demonstrated higher performance expectancies. He also found a similar relationship with those displaying high self-efficacy. However, these performance expectancies were generated in a team atmosphere. Prapavessis and Grove (1998) showed that competitive male golfers displaying low self-esteem perceive more impediments towards peak performance, and subsequently lower their performance expectancy.

Perhaps a bidirectional relationship exists between expectancy and unrealistic optimism, in that a lower expected score (which is good for golfers) might prompt a golfer to attempt shots that he/she does not have the ability to hit. Or the belief that nothing bad will happen may lead golfers to try more risky strategies. It is possible that expecting a *higher* score could lead a golfer to attempt an unrealistic shot out of a simple lack of interest.

This study was an extension of that by Kirschenbaum et al. (1999). The golf hole of interest was thought to be a better assessment of a golfer's ability. A water hazard that covered the entire front portion of the green forced a golfer to strike a more precise shot to the green. The two holes previously studied were both short par 4's with hazards or trees bordering the fairway, but not in a direct line with the green. This feature meant that even poorly struck golf shots may have resulted in reasonable results. Substantial differences in performance were expected in the present study because similarly struck golf shots would result in water balls and additional penalty strokes. Thus, a more stringent test of a golfer's strategy was provided.

Additionally, this study explored the aspects of optimism, anxiety, self-confidence, and expected scores. It was not known whether these factors led golfers to attempt a riskier strategy, and whether these psychological variables, along with performance expectancy, would influence overall scoring.

Statement of Purpose

The study examined the roles of confidence, anxiety, optimism/pessimism, and performance expectancy in individual golfers. Results further clarified how accurate these psychological measures were in predicting subsequent performance, and how much

variability in performance may be attributed to current ability level. Lastly, the research extended previous literature by Kirschenbaum et al. (1999) on golfers' tendencies toward unrealistic optimism and positive illusions of control.

CHAPTER 2

METHODS

Participants

The participants in the study were 40 male undergraduates at a southeastern university. The participants were drawn from a convenience sample and were between the ages of 18 and 30 years (M = 20.45, SD = 2.09). The participant's grade classifications were as follows: 8 were freshman, 16 were sophomores, 10 were juniors, and 6 were seniors. When asked to indicate the strongest areas of their golf game, 4 participants named putting, 11 named chipping, 16 named iron play, 7 named driving, and 2 named a combination of strengths. Participants reported an average 18-hole golf score of 91.50 (SD = 10.40). The participants had all previously played Southern Links Golf Club at least once in the past year (M = 8.05 18-hole rounds, SD = 12.80) and reported average 18-hole golf scores at Southern Links Golf Club of 90.50 (SD = 16.94). Players also reported their current golf handicaps, if applicable. Each participant was given informed consent prior to the study.

Instrumentation

The Competitive State Anxiety Inventory-2 (CSAI-2; Martens, Burton, Vealey, Bump, & Smith, 1990) was completed twice during the experiment. The CSAI-2 is a 27-item multidimensional state measure of cognitive anxiety, somatic anxiety, and self-confidence. Each of these subcomponents is measured with 9 items using a Likert scale that ranges from 1 (not at all) to 4 (very much so). The questionnaire requires approximately five minutes to complete and has shown internal reliability, with alpha coefficients ranging between .79 and .90. Evidence of concurrent validity has been

demonstrated by a correlation coefficient of .60 (Cox, Russell, & Robb, 2000) with other measures of anxiety, such as the Anxiety Rating Scale (ARS). In addition, a "direction scale," developed by Jones and Swain (1992) was added to each item. The scale ranged from +3 (very facilitative) to –3 (very debilitative) in relation to performance. Summed scores were used for each participant. The direction scale has shown high internal consistency, with Cronbach's alpha scores ranging from .80 to .90 for each of the three subcomponents (Hanton, Evans, & Neal, 2003). However, the direction scale has yet to be fully validated in state or trait anxiety studies (Burton, 1988; Hanton et al.)

The Sport Competition Anxiety Test (SCAT; Martens, 1977) is a 15-item scale used to measure a predisposition to anxiety in competitive sport situations. The 10 items are scored from 1 to 3 (hardly ever = 1, sometimes = 2, often = 3), with a total summed score representing the amount of anxiety. There are 5 filler items on the questionanaire. Intraclass reliability was reported at .85 (Martens et al., 1990). Construct validity was also demonstrated with correlation coefficients of .56 and .54, respectively (Corcoran, 1989). The same directional scale as that used for the CSAI-2 was also added to the SCAT, with values ranging from +3 (very facilitative) to –3 (very debilitative) for performance. Summed scores were used for each participant.

The Life Orientation Test-Revised (LOT-R; Scheier, Carver, & Bridges, 1994) is a 10-item measure of optimism and pessimism. There are 4 filler items on the questionnaire, along with 3 descriptions of both positive and negative statements. Participants respond on a 5-point Likert scale, ranging from strongly disagree to strongly agree. This study used the bidimensional and unidimensional methods of scoring. Items in each subscale are summed to obtain single measures in the bidimensional scoring

system. The unidimensional method obtains a single score by adding the summed optimism score and the summed pessimism score (reverse scored). A bidimensional perspective purports that optimism and pessimism are separate constructs, and it is possible to have different magnitudes of each. A unidimensional view states that optimism and pessimism rest on a single continuum, and the assessment of a person is a single composite score based on levels of optimism and pessimism. The LOT-R has shown sufficient internal reliability (Cronbach's alpha = .78). Furthermore, the LOT-R has shown to be a better indicator of "trait" optimism and pessimism (Burke, Joyner, Czech, & Wilson, 2000).

Conversely, Burke et al. (2000) showed the Optimism/Pessimism Scale (OPS; Dember, Martin, Hummer, Howe, & Melton, 1989) to be a better measure of "state" optimism and pessimism. The OPS is a 56-item measure consisting of 18 items each measuring optimism and pessimism, and 20 filler items. The questions are coded on a 4-point Likert scale, ranging from strongly disagree to strongly agree. Items on this subscale are also added to provide a single score for each factor. Test-retest reliability of the OPS was reported to be .75 and .84 for optimism and pessimism, respectively. The OPS also obtained Cronbach's alphas scores of .84 for optimism and .86 for pessimism (Chang, D'Zurilla, & Maydeu-Olivares, 1994).

The measure of performance expectancy was the total score a golfer expected to receive on the 15th hole. Players wrote this score in the blank after the question, "What score do you expect to receive on the 15th hole?" The measure of confidence was ascertained by the question, "Please indicate how confident you are that you will receive your desired score on the 15th hole?" Players circled scores from 0 (not confident) to 10

(extremely confident). Strategy was assessed through the question, "Please indicate how risky or conservative you felt your strategy was on the 15th hole." Players circled scores from 0 (extremely conservative) to 100 (extremely risky).

Performance Measure

The 15th hole at Southern Links Golf Club, a par five, plays to 456 yards from the white tees (see Figure 1). It is ranked the 5th most difficult hole on the course. There is a wide fairway and very few trees, but a large water hazard is located directly in front of the green. It was chosen as the hole for data collection because it presents a risk-reward option for the golfer. A well-placed tee shot may entice a golfer to try to reach the green with the second shot. But even among highly skilled golfers, there is a possibility that the ball will find the water hazard. The golfer will then incur a one-stroke penalty and will still be forced to drop a ball, and play the next shot, from behind the water hazard.

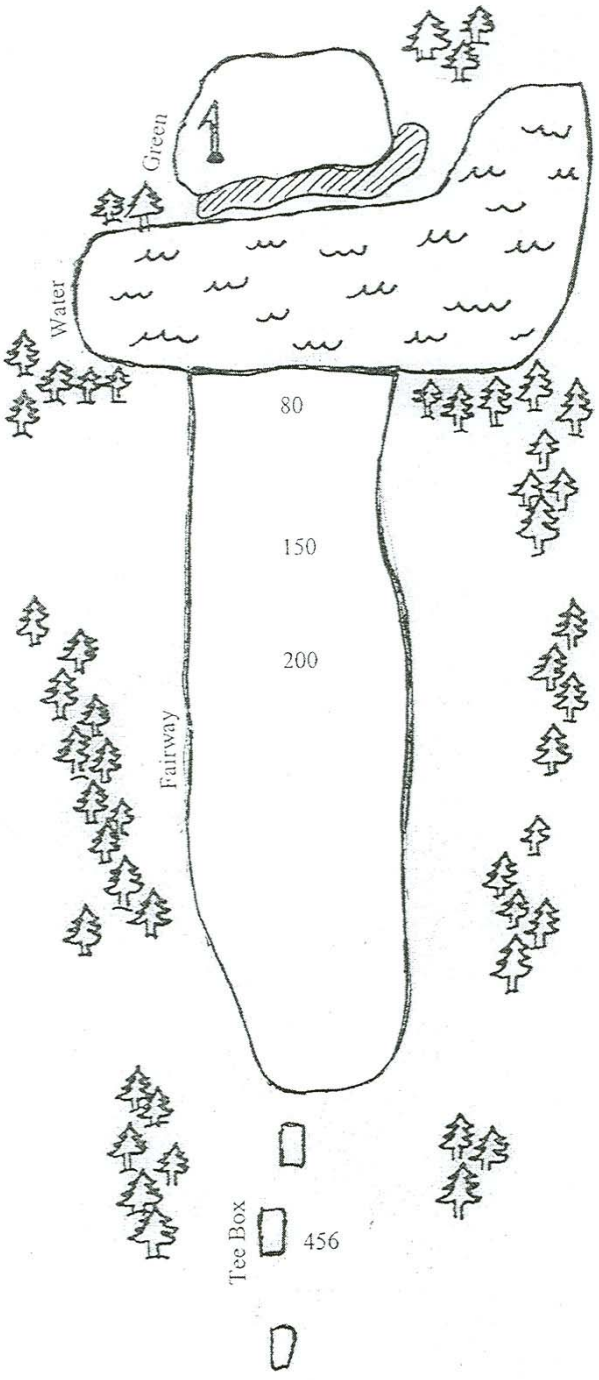

Figure 1. Scaled drawing of the 15th hole at Southern Links Golf Club (Statesboro, GA).

Furthermore, the manner in which a golfer played the 15th hole was analyzed in regards to strategy. After playing the 15th hole, a golfer self-reported, on a 100-point scale, whether the strategy for playing the 15th hole was conservative (0) or risky (100). According to Kirschenbaum et al. (1999) a more conservative strategy will result in better scores, especially when hazards are present. Extremely high values on confidence and optimism may influence a golfer to attempt a shot that is unrealistic given the ability level. Lofty performance expectancies may also provoke golfers into riskier strategies. Thus, even if golfers were highly confident, optimistic, and expect strong performance, it may lead to performance decrements if an improper strategy was utilized.

Procedure

Golfers played three holes (10, 14, and 15, in this order) at Southern Links Golf Club in Statesboro, GA, in groups of either two participants or three participants. Southern Links Golf Club is a public facility with a course rating of 69.0 and slope of 121 from the white tees. The 10th hole is ranked as the 13th most difficult hole on the course and the 14th hole is ranked as the 9th most difficult hole on the course. Every effort was made to ensure consistent conditions between participants, namely that of weather and time of day played. Table 1 displays the weather conditions and time of data collection for all participants. All golfers used their own golf balls, clubs, and tees for the duration of the study. Tee markers for each hole were placed approximately in the middle of the tee box. The hole location for the 15th hole was placed in the front/left side of the green for the duration of the study.

Table 1

Detailed Weather Conditions at Southern Links Golf Club During State Data Collection

Date & Time	Number of Participants	Temperature (°F)	Humidity (%)	Wind (mph)	General Conditions
2/8, 2:00-3:00	3	73	60	WSW 8	Clear
2/15, 11:00-3:00	17	68	50	SW 11	Mostly Cloudy
2/16, 2:00-3:00	4	71	60	W 4	Partly Cloudy
2/21, 1:00-2:15	5	76	65	WSW 15	Mostly Cloudy
2/22, 2:00-3:00	2	81	45	SW 6	Partly Cloudy
2/23, 12:00-2:15	10	78	45	ENE 1	Partly Cloudy

The LOT-R and SCAT were administered to all participants two weeks prior to the start of play at Southern Links Golf Club. Before playing the 10th hole, participants completed the CSAI-2 and OPS. At this time participants were also encouraged to give maximum effort, as two free 18-hole rounds at Southern Links Golf Club were offered for the lowest aggregate score on holes 10, 14, and 15. Each participant then played the 10th and 14th holes. During this time, the primary investigator or a research assistant observed each participant to validate the scores made on these holes. The participants also self-reported scores to the principal investigator upon arrival at the 15th hole. At this point each participant completed the OPS and the CSAI-2 and disclosed the performance expectancy for the 15th hole. Each participant also gave a confidence rating in the ability to achieve the expected score. Participants then played the 15th hole and self-reported the

scores to either the primary investigator or a research assistant located at the green. Participants also rated the strategy used on the 15th hole.

Data Analysis

The performance data for this study were analyzed through SPSS using forward multiple regression. The variables included in the analysis were mid trial optimism/pessimism, mid trial cognitive anxiety, somatic anxiety, and self confidence, performance expectancy, and average score. The main objective was to ascertain which variables were the most significant predictors of performance on hole 15. An alpha of .05 was used.

Correlations were also utilized in data analysis. These correlations consisted of trait optimism/pessimism, pre and mid trial state optimism/pessimism, trait anxiety total and directional, pre and mid trial state and directional cognitive anxiety, somatic anxiety, and self confidence, performance expectancy, average score, score for holes 10, 14, and 15, confidence ratings for expected score on hole 15, and strategy used on hole 15. Descriptives were also utilized on appropriate measures.

CHAPTER 3

RESULTS

Performance measures were as follows: the mean score for the 10th hole was 5.02 (SD = 1.11), the mean score for the 14th hole was 6.44 (SD = 1.94), and the mean score for the 15th hole was 7.45 (SD = 1.92). A forward multiple regression analysis was performed with score on hole 15 acting as the dependent variable. Independent variables in the analysis were mid optimism, mid pessimism, cognitive anxiety, somatic anxiety, self-confidence, and expected score on hole 15 ($p<.05$). Expected score was the only significant predictor, explaining 41% (SE = 1.50) of the variance of score on hole 15 ($p<.05$). Table 2 presents the actual and expected scores on hole 15 based on the number of participants that recorded and expected each score. None of the other variables significantly impacted the variance for score on hole 15.

Table 2

Expected and Actual Scores for Hole 15 by Number of Participants

	Score 15						
Expect 15	4	5	6	7	8	9	10
3	0	1	0	0	0	0	0
4	1	3	2	2	0	0	0
5	1	1	4	2	0	1	1
6	0	0	2	1	2	1	3
7	0	0	0	1	0	0	1
8	0	0	0	0	2	2	2
9	0	0	0	0	0	1	0
10	0	0	0	0	1	0	1

Note: Interpretation of the scores for the 15th hole are as follows:

3 = Eagle
4 = Birdie
5 = Par
6 = Bogey
7 = Double Bogey
8 = Triple Bogey
9 = Quadruple Bogey
10 = Other

Table 3 presents the means (+-SD) for participants on the Sport Competition Anxiety Test and the Life Orientation Test.

Table 3

Means and Standard Deviations for the Sport Competition Anxiety Test and Life Orientation Test

	Anxiety		Optimism/Pessimism		
	Total	Directional	Uni	O	P
M	19.48	2.38	15.18	7.38	10.20
SD	3.49	7.62	4.34	2.58	2.17

Note: Optimism/Pessimism scores utilized the bidimensional and unidimensional (O/P) scoring techniques.

Table 4 presents the means (+-SD) for participants on both completions of the Competitive State Anxiety Inventory and the Optimism/Pessimism Scale. A dependent T-test ($p<.05$) revealed a significant difference for participants on pessimism between the administration of the two measures. Participants were significantly less pessimistic at the mid trial measure than at the pre trial measure. No significant differences occurred between optimism, cognitive anxiety, somatic anxiety, or self-confidence.

Table 4

Means and Standard Deviations for the Competitive State Anxiety Inventory and the Optimism/Pessimism Scale

	Competitive State Anxiety			Optimism/Pessimism	
Time	CA	SA	SC	O	P
Pre					
M	20.18	17.77	24.23	56.46	35.36*
SD	6.02	5.15	4.50	5.59	5.56
Mid					
M	19.38	16.56	24.08	56.03	36.82*
SD	5.89	4.93	5.42	5.57	4.91

*Significant difference for pre and mid competition pessimism ($p<.05$)

Table 5 presents correlations for average score and scores on holes 10, 14, and 15. A significant positive correlation was found for average score and scores on holes 10, 14, and 15. Additionally, there was a significant positive correlation between hole 14 score and hole 15 score. No other significant correlations were found.

Table 5

Correlations for Average Score and Scores on Holes 10, 14, and 15

	Hole		
	Hole 10	Hole 14	Hole 15
Hole 10	-	-	-
Hole 14	-.163	-	-
Hole 15	-.171	.538**	-
Average Score	.489*	.467**	.630**

**Correlation is significant at the 0.01 level (two-tailed)

Table 6 presents correlations for the Sport Competition Anxiety Test and directional scale, Life Orientation Test, and average score with scores on holes 10, 14, and 15. A significant positive correlation was found for anxiety and score on hole 10 ($p<.05$). Additionally, significant positive correlations were found for average score and scores on holes 10, 14, and 15 ($p<.01$). No significant correlations were found for the anxiety directional component or optimism/pessimism.

Table 6

Correlations for the Sport Competition Anxiety Test and Directional Scale, Life Orientation Test, and Average Score with Scores on Holes 10, 14, and 15

	Anxiety		Optimism/Pessimism			
	Total	Directional	Uni	O	P	Avg. Score
Score 10	.383*	-.025	-.033	-.042	.015	.489**
Score 14	.144	-.116	-.007	.132	.171	.467**
Score 15	.109	-.128	.089	.219	.082	.630**

*Correlation is significant at the 0.05 level (two-tailed)
**Correlation is significant at the 0.01 level (two-tailed)

Note: Optimism/Pessimism scores utilized the bipolar dimensional and independent (O/P) scoring techniques.

Table 7 presents correlations for the pre and mid trial Competitive State Anxiety Inventory and scores on holes 10, 14, and 15. A significant negative correlation was found for mid trial somatic anxiety and hole 15 score ($p<.05$). No significant correlations were found for pre trial somatic anxiety, pre or mid trial cognitive anxiety, or pre or mid self-confidence.

Table 7

Correlations for the Competitive State Anxiety Inventory with Scores on Holes 10, 14, and 15

	Cognitive Anxiety		Somatic Anxiety		Self-Confidence	
	Pre	Mid	Pre	Mid	Pre	Mid
Score 10	.250	.238	.209	.103	-.137	-.127
Score 14	-.105	-.026	.102	-.056	.028	-.122
Score 15	-.093	-.163	-.123	-.316*	-.142	-.193

*Correlation is significant at the 0.05 level (two-tailed)

Table 8 presents correlations for the pre and mid trial directional scale of the Competitive State Anxiety Inventory and scores on holes 10, 14, and 15. No significant correlations were found for the directional component of cognitive anxiety, somatic anxiety, and self-confidence for scores on holes 10, 14, and 15.

Table 8

Correlations for the Directional Scale of the Competitive State Anxiety Inventory with Scores on Holes 10, 14, and 15

	Cognitive Anxiety		Somatic Anxiety		Self-Confidence	
	Pre	Mid	Pre	Mid	Pre	Mid
Score 10	-.139	-.164	-.079	.110	-.276	-.239
Score 14	.136	.116	.021	.234	-.016	-.086
Score 15	-.165	-.114	.021	.098	-.187	.023

Table 9 presents correlations for the pre and mid trial Optimism/Pessimism Scale, expected score on hole 15, confidence in attaining the score on hole 15, and the strategy

used on hole 15, with scores on holes 10, 14, and 15. Significant positive correlations were found for expected score on hole 15 and scores on holes 14 and 15 ($p<.01$). No significant correlations were found for pre or mid trial optimism/pessimism, confidence, or strategy for scores on holes 10, 14, and 15.

Table 9

Correlations for the Optimism/Pessimism Scale, Expected Score on Hole 15, Confidence Rating on Attaining Hole 15 Score, and Strategy used on Hole 15, with Scores on Holes 10, 14, and 15

	Optimism		Pessimism				
	Pre	Mid	Pre	Mid	Expect 15	Confidence	Strategy
Score 10	-.043	-.074	-.133	-.053	-.134	-.258	-.279
Score 14	.065	.097	.056	.045	.628**	-.425	.071
Score 15	-.192	-.169	.213	.240	.664**	-.417	.083

**Correlation is significant at the 0.01 level (two-tailed)

CHAPTER 4

DISCUSSION

A reason for a lack of significant findings could be attributed to a lack of consistency in weather conditions across participants. Ideally, a golfer's individual ability or psychological state would be the most salient factors in performance. But subtle changes in wind direction and magnitude, temperature, and humidity may have impacted the scores attained on holes 10, 14, and 15. Air flow studies have shown that it takes at least a 23 mph gust of wind to significantly alter the trajectory and placement of a well-struck soccer kick (Thilmany, 2004). However, the distance of a soccer kick and the peak velocity achieved in a soccer kick are both less than that of a full golf shot, making a comparison problematic. Still, none of the days of data collection included wind conditions approaching this 23 mph figure. Varying numbers of participants also competed on the different days of data collection, ranging from 17 participants on 2/15 to two participants on 2/22. So, if weather conditions did impact the degree of difficulty for playing on certain days, this factor alone may have magnified the variability in scores.

The study also assumed the participants answered questionnaires to the best of their abilities. First, participants may not have been truthful when reporting their golf skill levels. Second, participants may have misinterpreted the question regarding strategy on hole 15, thinking the question was referring to the strategy regarding a particular shot as opposed to the generalized strategy for the entire 15th hole. Third, it is assumed that participants actually utilized the strategy indicated. For example, a participant may have actually played conservatively but stated using a risky strategy. Fourth, there is no way to ascertain whether the participants answered the psychological questionnaires honestly. It

was assumed that participants interpreted the items correctly and gave truthful responses. Misreporting of these statistics may have confounded the results.

Participants in the study may have also felt increased pressure from social evaluation. Though the experimenter made an effort to remain as secluded as possible, participants' performance may have been impacted by this observation. Evaluation from other players in the group could have also contributed to these feelings. The results of social evaluation on anxiety have been equivocal (Christensen, 1982). A negative impact on anxiety would coincide with traditional theories suggesting an increase in anxiety from social evaluation (Scanlan & Lewthwaite, 1984), particularly when competing in individual sports (Norton, Burns, Hope, & Bauer, 2000). Others have shown social evaluation to increase performance and facilitate goal setting (Parker, 2001). It is difficult to know whether participants responded to social evaluative factors, and whether these factors acted to facilitative or debilitative performance.

The results also showed that state pessimism went down from pre trial to mid trial, though the level did not achieve statistical significance. Curiously, the level of pessimism had no effect on scoring for holes 10, 14, and 15. This reinforces findings (Wilson, Raglin, & Pritchard, 2002) that optimism/pessimism may not be strong predictors of performance in an individual athletic setting.

Participants' confidence ratings on their ability to achieve the desired score on the 15th hole showed a moderate negative correlation with expected performance and actual performance on hole 15. Thus, more confident players not only expected to receive lower scores on the 15th hole, these participants actually did score lower on the 15th hole. The confidence/performance relationship demonstrated by participants in the current study is

consistent with previous research regarding confidence as a salient factor in athletic performance (Craft et al., 2003, Covassin et al., 2004, Feltz, 1988; Pickens et al., 1996; Woodman et al., 2003).

Participants' retrospective ratings of using a risky strategy on hole 15 warrant further explanation. On one hand, the incentive for the participants may not have been great enough for the participants to give maximum effort. Thus, they may have attempted a risky strategy out of a lack of concern for the outcome. On the other hand, participants may have used a risky strategy because they honestly felt this strategy would afford them the best opportunity to attain a lower score on hole 15. This explanation would be in accordance with the findings by Kirschenbaum et al. (1999) that participants continued to use a risky strategy even when informed that a more conservative strategy would likely result in a lower scores. The current study did not suggest the use a particular strategy, and the subsequent impact it may have on performance, so it is difficult to know whether the participants honestly believed a risky strategy would afford them the lowest scores.

However, Kirschenbaum proposed that participants may not have known that they were employing a risky strategy. The current study shows that participants did in fact know that their strategy was risky, yet this knowledge did not influence subsequent efforts. Future studies should question golfers as to whether they honestly feel this strategy is the best way to attain the lowest score.

The question remains, did participants employ a risky strategy in an attempt to attain a unrealistically low expected score? If so, the error would lie not in their strategy per se, but in their self-evaluation of ability level. If a player deems his/her ability level to

be higher than it is in reality, what may appear to be a risky strategy for the casual observer will not necessarily be risky in the player's own eyes.

Conversely, did participants' unrealistic optimism drive higher performance expectancies? It has been shown that athletes often expect to perform at a level higher than what is actually displayed (Krane et al., 1992). This may be a likely explanation in that, despite players knowing their strategies were risky, unrealistic optimism may have provoked the participants attempt this strategy. Is unrealistic optimism making golfers worse golfers? Conversely, ten participants expected to receive scores of eight or higher, possibly hinting at defensive pessimistic tendencies whereby golfers set lower expectations (high golf scores) for self-protection of possible failure (Sanna, 1998). Qualitative research targeting these underlying motives would be an intriguing area of future study.

Other studies should seek to study players over a longer period of time (for example, an entire round). Participants could possibly be studied at the mid point of a golf round. Correlations could then be ascertained between front nine scores and back nine scores. Examining players over extended durations may provide more significant results regarding participants' psychological states and the impact on subsequent performance. Previous performance (i.e., front nine scores) may also prove even more indicative of future performance (back nine scores) because additional data will be collected and analyzed.

In conclusion, the results of the study do not show that optimism/pessimism and anxiety significantly impact golf performance on hole 15. One possible reason for the non-differences is a lack of participants in the study. Though the number of participants

was adequate to obtain statistical power, increasing the number of participants—while holding all other variables constant—has been shown to be useful for boosting statistical power (Hopkins & Hopkins, 2001). Additional participants may have provided more clear-cut, distinct relationships between the psychological variables and golf performance on hole 15. Results support previous literature that the best predictor of performance may be an individual's performance expectations (Jones, Smith, & Holmes, 2004). High correlations for average score, hole 10 score, hole 14 score, as well as the actual score on the 15th hole, show that previous performance may also be a reliable predictor of future performance. This finding has been documented by previous research in both individual (Krane & Williams, 1992) and team settings (Alexander & Krane, 1996).

REFERENCES

Alexander, V., & Krane, V. (1996). Relationships among performance expectations, anxiety, and performance in collegiate volleyball players. *Journal of Sport Behavior, 19*, 246-270.

Burke, K. L., Joyner, A. B., Czech, D. R., & Wilson, M. J. (2000). An investigation of concurrent validity between two optimism/pessimism questionnaires: The Life Orientation Test-Revised and the Optimism/Pessimism Scale. *Current Psychology, 19*, 129-137.

Burton, D. (1988). Measuring competitive state anxiety. In J. L. Duda (Ed.), *Advances in Sport and Exercise Psychology Measurement* (pp. 129-148). Fitness Information Technology, Inc., Morgantown, WV.

Catina, P., & Iso-Ahola, S. E. (2004). Positive illusion and athletic success. *International Sports Journal, 8*, 80-94.

Chang, E. C., D'Zurilla, T. J., & Maydeu-Olivares, A. (1994). Assessing the dimensionality of optimism and pessimism using a multimeasure approach. *Cognitive Therapy and Research, 18*, 143-162.

Christensen, L. (1982). Assessment of the existence of the anxiety component in evaluation apprehension. *Social Behavior and Personality, 10*, 117-123.

Corcoran, K. J. (1989). Is competitive anxiety an observable behavior?: A sociometric validity study of the SCAT. *Journal of Personality Assessment, 57*, 677-684.

Covassin, T., & Pero, S. (2004). The relationship between self-confidence, mood state, and anxiety among collegiate tennis players. *Journal of Sport Behavior, 27*, 230-243.

Cox, R. H., Russell, W. D., & Robb, M. (1998). Development of a CSAI-2 short form for assessing competitive state anxiety during and immediately prior to competition. *Journal of Sport Behavior, 21*, 30-41.

Craft, L., Magyar, M. T., Becker, B. J., & Feltz, D. L. (2003). The relationship between the Competitive State Anxiety Inventory-2 and sport performance: A meta-analysis. *Journal of Sport & Exercise Psychology, 25*, 44-66.

Dember, W. N., Martin, S. H., Hummer, M. K., Howe, S. R., and Melton, R. S. (1989). The measurement of optimism and pessimism. *Current Psychology: Research & Reviews, 8*, 102-119.

Feltz, D. L. (1988). Self-confidence and sports performance. *Exercise and Sport Sciences Reviews, 16*, 423-457.

Grove, R. J., & Heard, P. N. (1997). Optimism and sport confidence as correlates of slump-related coping among athletes. *Sport Psychologist,* 11, 400-411.

Hall, H. K., Kerr, A. W., & Matthews, J. (1998). Precompetitive anxiety in sport: The contribution of achievement goals and perfectionism. *Journal of Sport & Exercise Psychology, 20*, 194-218.

Hanton, S., Evans, L., & Neal, R. (2003). Hardiness and the competitive trait anxiety response. *Anxiety, Stress, and Coping, 16*, 167-184.

Hopkins, K. D., & Hopkins, B. R. (2001). The effect of the reliability of the dependent variable on power. *The Journal of Special Education, 13*, 463-466.

Jones, G., & Swain, A. B. J. (1992). Intensity and direction dimensions of competitive state anxiety and relationships with competitiveness. *Perceptual and Motor Skills, 74*, 467-472.

Jones, K. A., Smith, N. C., & Holmes, P. S. (2004). Anxiety symptom interpretation and performance predictions in high-anxious, low-anxious and repressor sport performers. *Anxiety, Stress, & Coping, 17*, 187-199.

Kirschenbaum, D. S., O'Connor, E. A., & Owens, D. (1999). Positive illusions in golf: Empirical and conceptual analyses. *Journal of Applied Sport Psychology, 5*, 1-14.

Krane, V., & Williams, J. M., (1992). Path analysis examining relationships among cognitive anxiety, somatic anxiety, state confidence, performance expectations and golf performance. *Journal of Sport Behavior,* 15, 279-296.

Landers, D. M., & Arent, S. M. (2001). Arousal-performance relationships. In J. M. Williams (Ed.) *Applied sport psychology: Personal growth to peak performance* (p. 219). Mountain View, CA: Mayfield Publishing Company.

Marchant, D. B., Morris, T., & Anderson, M. B. (1998). Perceived importance of outcome as a contributing factor in competitive state anxiety. *Journal of Sport Behavior, 21*, 71-92.

Martens, R. (1977). Sport Competition Anxiety Test. Champaign, IL: Human Kinetics.

Martens, R., Burton, D., Vealey, R., Bump, L., & Smith, D. (1990). The development of the Competitive State Anxiety Inventory-2 (CSAI-2). *Competitive anxiety in sport*, 117-190.

McKenna, F. (1993). It won't happen to me: Unrealistic optimism or positive illusion of control? *British Journal of Psychology, 84*, 39-50.

Norton, P. J., Burns, J. A., Hope, D. A., & Bauer, B. K. (2000). Generalization of social anxiety to sporting and athletic situations: Gender, sports involvement, and parental pressure. *Depression and Anxiety, 12*, 193-202.

Parfitt, G., & Pates, J. (1999). The effects of cognitive and somatic anxiety and self-confidence on components of performance during competition. *Journal of Sports Sciences, 17*, 351-357.

Parker, R. J. (2001). The effects of evaluative context on performance: The roles of self- and social-evaluations. *Social Behavior and Personality, 29*, 807-822.

Pickens, M. M., & Rotella, R. J. (1996). The effect of putting-confidence on putting-performance. *Journal of Sport Behavior, 20*, 148-163.

Prapavessis, H., & Grove, R. J. (1998). Self-handicapping and self-esteem. *Journal of Applied Sport Psychology, 10*, 175-184.

Sanna, L. J. (1998). Defensive pessimism and optimism: The bitter-sweet influence of mood and performance and prefactual and counterfactual thinking. *Cognition and Emotion, 12*, 635-665.

Scanlan, T. K., & Passer, M. W. (1981). Determinants of competitive performance expectancies of young male athletes. *Journal of Personality, 49*, 60-76.

Scanlan, T. K., & Lewthwaite, R. (1984). Social psychological aspects of competition for male youth sport participants: Predictors of competitive stress. *Journal of Sport Psychology, 6*, 208-226.

Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4*, 219-247.

Scheier, M. R., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism: A reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology, 5*, 1063-1078.

Thilmany, J. (2004). How does Beckham bend it? *Mechanical Engineering, 126*, 72-73.

Vealey, R. S., Hayashi, S. W., Garner-Holman, M., & Giacobbi, P. (1998). Sources of sport confidence: Conceptualization and instrument development. *Journal of Sport & Exercise Psychology, 20*, 54-71.

Wang, J., Morris, T., & Marchant, D. (2004). Coping style and the susceptibility to choking. *Journal of Sport Behavior, 27*, 75-93.

Wilson, G. S., & Raglin, J. S., Pritchard, M. E. (2002). Optimism, pessimism, and precompetition anxiety in collegiate athletes. *Personality and Individual Differences, 32*(5), 893-903.

Woodman, T., & Hardy, L. (2003). The relative impact of cognitive anxiety and self-confidence upon sport performance: A meta-analysis. *Journal of Sport Sciences, 21*, 443-457.

Zinsser, N., Bunker, L., & Williams, J. M. (2001). Cognitive techniques for building confidence and enhancing performance. In J. M. Williams (Ed.) *Applied sport psychology: Personal growth to peak performance* (pp. 284-308). Mountain View, CA: Mayfield Publishing Company.

APPENDIX A

Research Questions

Limitations

Delimitations

Assumptions

Definition of Terms

Research Questions

1. How much variance in actual score is explained by performance expectancy, optimism/pessimism, cognitive anxiety, somatic anxiety, self-confidence, and handicap?
2. Of these variables, which one is most predictive of actual score?
3. What are the individual relationships between the predictor variables?
4. Is there a correlation between performance expectancy and handicap?
5. Is there are correlation between scores on holes 10 and 14, and score on hole 15?
6. Is there a correlation between scores on holes 10 and 14, and the psychological variables?
7. Is anxiety facilitative or debilitative of performance?

Limitations

1. Participants may have felt evaluation apprehension when they play the 15th hole.
2. Participants were not randomly selected for the study.
3. Participants self-reported handicaps and average scores.
4. Weather conditions were not consistent for all participants.

Delimitations

1. Golfers studied were all males.
2. The study was conducted on a southern Georgia golf course.
3. The study recorded data on only three holes.

Assumptions

1. Players did not cheat.
2. Participants answered the questionnaires honestly.
3. Golfers gave maximum effort.

Definitions

Cognitive Anxiety—A person's fear about the consequences of failure. Measured as a subcomponent of the CSAI-2 with a summed 9-item Likert scale.

Confidence Rating—One's belief in achieving the desired score on the 15th hole at Southern Links Golf Club. Assessed by the question, "Indicate how confident you are that you will achieve your desired score on the 15th hole."

Dispositional Optimism—An individual's expectations of positive outcomes across situations and over time (Brenes, Rapp, Rejeski, & Miller, 2002). Measured with a 3-item summed score of the LOT-R.

Dispositional Pessimism—An individual's expectations of negative outcomes across situations and over time (Brenes et al., 2002). Measured with a 3-item summed score in the LOT-R.

Performance Expectancy—How well you expect to perform in a given situation. Assessed by the question, "What score do you *expect* to receive on the 15th hole?"

Positive Illusions—A cognitive coping strategy that allows an individual to maintain positive and optimistic views of himself/herself and the future while simultaneously learning from and making use of negative feedback in an adaptive manner (Catina & Iso-Ahola, 2004). Subcomponents include self-aggrandizement, illusion of control, and unrealistic optimism.

Self-Confidence—One's belief in meeting the challenge of the task to be performed (Woodman & Hardy, 2003). Measured as a subcomponent of the CSAI-2 with a summed 9-item Likert scale.

Somatic Anxiety—Perception of physiological response to psychological stress (Landers & Arent, 2001). Measured as a subcomponent of the CSAI-2 with a summed 9-item Likert scale.

State Anxiety—Arousal felt at a given time or during a specific situation. Measured with a 27-item summed score of the CSAI-2.

State Optimism—A bias in perceptions and expectancies of positive outcomes in a specific context (Chang et al., 1994). Measured with an 18-item summed score in the OPS.

State Pessimism—A bias in perceptions and expectancies of negative outcomes in a specific context (Chang et al., 1994). Measured with an 18-item summed score in the OPS.

Strategy—The plan or method of achieving a goal. Assessed by the question, "Please indicate how risky or conservative you felt your strategy was on the 15th hole."

Trait Anxiety—The tendency to perceive competitive sport situations as threatening to self-esteem (Martens, 1977). Measured with a 15-item summed score of the SCAT.

APPENDIX B

Extended Review of Literature

Confidence and Performance Expectancy

Confidence has been widely studied in team and individual athletic settings. Magyar, Feltz, and Simpson (2004) showed confidence to be an important performance variable among competitive rowers. Highly confident rowers demonstrated more confidence in the ability to perform well and this confidence was also transferred onto teammates. Confident rowers not only believed more in their abilities, but in their teammates abilities as well. This is an important finding for a team sport in which a collective effort is needed, such as rowing.

House (1974) was one of the first authors to study the effects of performance expectancies on confidence and goal setting in a work setting. Gender was also a key variable in the research. The author found men demonstrated significantly higher confidence, goals, and performance expectancies than women. But the most interesting findings provided by House came from the manipulation of work setting. Men demonstrated equally high confidence and expectancies whether working alone or working with others. Stake (1983) produced similar findings to House in regards to higher goal setting and expectancies by men in the work place. However, Stake also found that men tended to overestimate their performance more than women. So, even though these results were produced several years ago, they may provide insight into the competitive nature of men in an individual or team atmosphere.

Performance expectancy has been shown to be related to increased cognitive anxiety (Alexander & Krane, 1996). Bandura and Wood (1989) claimed that setting unrealistic performance expectations induces anxiety because "any negative discrepancy between performance and the standard individuals seek to attain creates self-

dissatisfaction (p. 806).” In other words, anxiety may adversely affect a golfer if he/she makes a bogey when the expectation was to make a par. More realistic goals should be set based on previous performance.

Athletes in individual sports seem to benefit more from being confident than athletes competing in team sports (Craft et al., 2003). However, confidence has not always shown a predictable pattern across skill levels. Furthermore, this research showed confidence to have the strongest relationship with performance at 31-59 minutes prior to competition. Why confidence was not most predictive immediately prior to competition remains uncertain. Additional research assessing confidence immediately prior to a performance task may provide answers to this question.

Pickens et al. (1996) studied the effect of confidence immediately prior to a putting performance task. Golfers were assigned to either a match play or medal play competition. The formats differ in that the winner in match play is the golfer who has won the most holes. The winner in medal play is the golfer who has taken the least number of strokes. All golfers played 18 holes with each hole consisting of a different 7-foot putt. Golfers indicated immediately before putting whether they were “very confident”, “somewhat confident”, or “not confident” of making the specific putt. The study produced two major findings: the likelihood of making a putt was directly related to the degree of confidence for that putt. Golfers who reported being very confident were most likely to make a given putt, followed by somewhat confident, and not confident. The second finding was that the relation between putting confidence and outcome seemed to follow a continuum from strong (not confident) to weak (very confident). Simply stated, golfers who were not confident had little chance of making the putt, while golfers

that were confident had a better chance. These findings were consistent with most confidence-performance relationships (Feltz, 1988).

Pickens et al. (1996) also found confidence to be more important during match play than medal play. However, confidence in match play may be more about the perception of the opponent's performance than the putt to be attempted. If a golfer has already missed a putt, it makes the next putt seem considerably easier. Also, a restriction on the range of confidence for a 7-foot putt may have influenced the medal play results. The choice of task essentially provided two outcomes—makes or misses. It is unlikely that any golfer took more than two strokes to complete a hole. A more challenging golf hole may better describe the confidence-performance relationship when more strokes are involved.

In another study of confidence in an individual setting, Covassin et al. (2004) studied confidence, mood state, and anxiety among collegiate tennis players. The players completed questionnaires 30 minutes prior to playing a match in a regional tennis tournament. The results showed, conclusively, that winning tennis players displayed significantly higher self-confidence, lower cognitive and somatic anxiety levels, and lower overall mood disturbance. The authors hypothesized that successful tennis players were able to remain calm and relaxed under pressure and were not as disturbed by negative events. These aspects parallel those necessary for success on the golf course.

Optimism/Pessimism and Performance Expectancies

Optimism has long been viewed as beneficial to well being. Much of the research has occurred outside the domain of sport. Brenes et al. (2002) found dispositional optimism and pessimism to be significantly related to daily physical functions, such as

walking, climbing stairs, and lifting objects. Fry (1995) conducted a series of studies on optimism and found it to be a significant moderator of stress levels, and an important factor in coping with aversive life experiences. Gragnaloti and Stupak (2002) found a correlation between optimism and performance in judicial and health care organizations. Clearly, seeing the glass as "half-full," instead of "half-empty," is thought to improve one's self-esteem, confidence, and overall outlook on life.

Day and Maltby (2003) examined the role of optimism and belief in good luck on psychological well-being in college undergraduates. Specifically, the study targeted the areas of depression, anxiety, neuroticism, and irrational beliefs. Correlational analyses associated optimism with lower levels of depression and anxiety, and the rejection of maladaptive irrational beliefs. These findings coincide with Scheier and Carver's (1985) claim that optimism has a beneficial effect on psychological well-being.

Irrespective of these findings, some suggest that "every silver lining has a cloud," and that there are costs associated with dispositional optimism (Tennen & Affleck, 1987). Believing things will always go right may leave an optimist vulnerable when things do go wrong. Furthermore, Tennen et al. asserted that even optimists know that we live in an imperfect world, where bad events often happen to good people. This mentality of invincibility can prove maladaptive and detrimental for the trait optimist.

Others have claimed extreme optimism may be detrimental to athletic performance. Kirschenbaum et al. (1999) conducted two separate studies based on positive illusions used by golfers. Both studies observed golfers' tee shots and club selections on short par 4's (under 300 yards). These aspects were then compared to the conservative strategy suggested by golf professionals. This strategy advised hitting the

ball with shorter clubs off the tee into certain areas that would provide the easiest second shots. Both studies found golfers used faulty strategies when playing tee shots, but neither found significant results for strategy on scoring.

Kirschenbaum, Owens, & O'Conner (1998) developed an effective approach to scoring the mental game called Smart Golf. It is comprised of five components—preparation, positive focusing, plan, apply, and react (PAR). The easily remembered acronym PAR summarizes the last three components. Prior to the formation of smart golf, many mental strategies were criticized for being too complex and difficult to remember. The preliminary test of smart golf showed its promise in five golfers of varying ability. Participants reported consistent use of the mental approach and each golfer improved their scores and handicap, to varying degrees. However, it is not known which aspects of smart golf produced the greatest gains.

An additional confound of Kirschenbaum et al. (1998) may have been the use of handicap as an indicator of improved score. Although the handicap system uses many scores to derive a figure, golfers were not regulated on which courses to play. One golfer may have played the same course repeatedly, while another could have played many courses with which he/she was not accustomed.

Specifically, handicap and strategy refer to the planning component, which is divided into four principles: personal par, conservation, wide first, and safety first. Personal par relates to the score a player should realistically expect to receive on each hole. A player with a higher handicap should not expect to make par on more difficult holes. For example, if a golfer has a 9 handicap, he/she should expect to bogey the nine most difficult holes on the course. The conservation principle refers to trying more

conservative shots whenever possible, especially when faced with water hazards and out of bounds. Wide first advocates that golfers aim for the widest part of the fairways and greens, and safety first encourages golfers to use the safest means of escaping trouble (i.e., trees). Of these principles, personal par and conservation are the two that could have been affected the most by golfers playing different courses. Although a hole may be rated more difficult on the scorecard, it may not be difficult for a particular player, depending on their strengths and weaknesses. Conservation is rendered less important because hazards and out of bounds are not always clearly marked. A golfer may have attempted to play conservatively, but still hit into a hazard because of unawareness of exact yardages.

Other studies on optimism and pessimism have produced less conclusive results. Wilson, Raglin, and Pritchard, (2002) studied the effects of optimistic and pessimistic cognitive styles on performance and precompetition anxiety among collegiate athletes. Results showed that optimists demonstrated significantly lower anxiety levels compared to pessimists, but these anxiety levels did not translate into performance discrepancies.

Anxiety and Confidence

The role anxiety plays in subsequent performance has received much interest in sport psychology. Specifically, cognitive anxiety is often thought of as the determining variable in performance (Landers et al., 2001). Specifically, Bandura et al. (1989) hypothesized that high performance expectations would influence thought patterns including worry and distraction (i.e. cognitive anxiety). He also suggested that those who do not trust their expectancy judgments may not be able to strategize properly. Cognitive anxiety interferes with strategic thinking, which may then interfere with performance.

Excessive cognitive anxiety may also impede performance by not allowing a player to focus on appropriate task-relevant cues. Mullen and Hardy (2000) showed that high cognitive anxiety impaired golf putting performance. Mullen et al. hypothesized that the anxiety interfered with attention and the automaticity of task execution. Unexpectedly, these performance decrements were found among skilled and non-skilled players. The results show that cognitive anxiety, if similar to the anxiety of real competitive settings, could prove extremely detrimental to performance.

Krane et al. (1992) found that, among elite collegiate golfers, cognitive anxiety and somatic anxiety both significantly affected pre-tournament self-confidence. A reciprocal relationship was also found between self-confidence and cognitive anxiety and somatic anxiety. Furthermore, higher goal scores (indicating lower performance expectations) were related to high levels of cognitive anxiety for all tournament rounds. Low performance goals, then, impacted subsequent goals in a negative manner. Ultimately, Krane et al. found the best predictor of performance to be previous performance.

In another study of state and trait anxiety among elite golfers, Hassmen, Raglin, and Lundquist (2004) found considerable variability in somatic anxiety and golf performance, such that low to moderate amounts of somatic anxiety positively impacted golf performance and higher somatic anxiety negatively impacted golf performance. Hassmen et al. hypothesized that this relationship reflected the fine motor skills involved in golf. If a golfer is not able to control the level of physiological arousal, performance (especially in chipping and putting) will suffer. The results also showed trait anxiety scores to be an inaccurate predictor of state anxiety scores. It was thought that some

golfers may develop higher levels of anxiety in a social context, as is presented in golf with spectators and other golfers in close proximity.

Giacobbi and Weinberg (2000) studied trait anxiety among Division I, II, and III collegiate athletes participating in a wide variety of sports (golf, basketball, gymnastics, etc.). The authors consistently found that high trait anxious athletes responded to stressful situations using different coping behaviors; namely denial, wishful thinking, and self-blame. Low trait anxious athletes manifested significantly more beneficial coping behaviors in response to adverse situations. These behaviors facilitated performance, usually through the perception of self-control and proper behavioral strategies (Giacobbi et al.).

Marchant et al. (1998) studied golfers' competitive state and trait anxiety during a golf chipping task. The experiment separated participants into a low importance group (LI) or high importance group (HI) based on a potential reward given for success. The results showed that perceived importance and trait anxiety were significant predictors of competitive state anxiety. The HI group demonstrated higher cognitive anxiety and somatic anxiety than their LI counterparts. Furthermore, somatic anxiety remained elevated throughout the competition, which contradicted the model proposed by Martens et al. (1990) that somatic anxiety should subside once competition has started. These results shed light on the perceived importance of an outcome and the effect this perception may have on performance anxiety. If an athlete perceives an outcome as especially important, somatic anxiety levels may remain high for the duration of a performance.

Some have suggested (Jones, 1995) that experiencing anxiety is not necessarily harmful to performance; it is the *interpretation* of anxiety that makes it debilitative or facilitative. Hanton, O'Brien, and Mellalieu (2003) examined this concept (anxiety direction) among elite and non-elite athletes in open skilled sports. The participants indicated their levels of competitive trait anxiety and described whether these anxieties were seen as helpful or hurtful to performance. The results showed confidence to be a key variable in protecting against the debilitating effects of anxiety. It was also suggested that performance expectations might be a more important indicator of anxiety direction than skill level. It should be noted that these expectations were influenced by perceived control of the outcome, such that a high perception of control leads to a more facilitative interpretation of anxiety.

In another study of anxiety direction, confidence, and performance, Thomas, Maynard, and Hanton (2004) selected competitive athletes from regional and national standards in various open skilled sports. Prior to competition, those participants who viewed their anxieties as facilitative demonstrated significantly higher self-confidence than those with a debilitative outlook. The relationship extended for the aspects of both cognitive anxiety and somatic anxiety. Not only did those low in self-confidence report higher debilitating intensities of anxiety; these participants also experienced the anxiety more frequently. These findings have important implications for the role of self-confidence in anxiety intensity, direction, and frequency.

Jones, Swain, and Hardy (1993) conducted a similar study regarding the intensity and direction of anxiety among competitive gymnasts. No differences were found in the intensity of cognitive and somatic anxiety, but when anxiety was reported—regardless of

the magnitude—it was viewed by the elite gymnasts to be more facilitative of performance than the anxiety experienced by the lesser-skilled gymnasts. This finding reinforces Jones' (1995) assertion that the interpretation of somatic anxiety may be a crucial determinant of athletic success.

In a meta-analysis of cognitive anxiety and self-confidence on sport performance, Woodman et al. (2003) found confidence to be more strongly related to performance than cognitive anxiety. Still, low effect sizes made this performance relationship somewhat unclear, especially among "lower-standard" (non-skilled) athletes, who showed inconsistent levels of confidence and cognitive anxiety across performance situations. "Higher-standard" (skilled) athletes showed a more predictable pattern, demonstrating less cognitive anxiety and greater self-confidence than lower-standard athletes.

REFERENCES

Alexander, V., & Krane, V. (1996). Relationships among performance expectations, anxiety, and performance in collegiate volleyball players. *Journal of Sport Behavior, 19*, 246-270.

Bandura, A., & Wood, R. E. (1989). The effect of perceived controllability and performance standards on self-regulation on complex decision making. *Journal of Personality and Social Psychology, 56*, 805-814.

Brenes, G. A., Rapp, S. R., Rejeski, W. J., & Miller, M. E. (2002). Do optimism and pessimism predict physical functioning? *Journal of Behavioral Medicine, 25*, 219-233.

Catina, P., & Iso-Ahola, S. E. (2004). Positive illusion and athletic success. *International Sports Journal, 8*, 80-94.

Chang, E. C., D'Zurilla, T. J., & Maydeu-Olivares, A. (1994). Assessing the dimensionality of optimism and pessimism using a multimeasure approach. *Cognitive Therapy and Research, 18*, 143-162.

Covassin, T., & Pero, S. (2004). The relationship between self-confidence, mood state, and anxiety among collegiate tennis players. *Journal of Sport Behavior, 27*, 230-243.

Craft, L., Magyar, M. T., Becker, B. J., & Feltz, D. L. (2003). The relationship between the competitive state anxiety inventory-2 and sport performance: A meta-analysis. *Journal of Sport & Exercise Psychology, 25*, 44-66.

Day, L., & Maltby, J. (2003). Belief in good luck and psychological well-being: The mediating role of optimism and irrational beliefs. *Journal of Psychology, 137*, 99-113.

Feltz, D. L. (1988). Self-confidence and sports performance. *Exercise and Sport Sciences Reviews, 16*, 423-457.

Fry, P. S. (1995). Perfectionism, humor, and optimism as moderators of health outcomes and determinants of coping styles of women executives. *Genetic, Social, and General Psychology, 121*, 213-246.

Giacobbi Jr., P. R., & Weinberg, R. S. (2000). An examination of coping in sport: Individual trait anxiety differences and situational consistency. *The Sport Psychologist, 14*, 42-62.

Gragnolati, B. A., & Stupak, R. J. (2002). Life and liberty: The power of positive purpose. *Journal of Health and Human Services Administration, 25*, 75-89.

Hanton, S., O'Brien, M., & Mellalieu, S. D. (2003). Individual differences, perceived control and competitive trait anxiety. *Journal of Sport Behavior, 26*, 39-56.

Hassmen, P., Raglin, J. S., & Lundquist, C. (2004). Intra-individual variability in state anxiety and self-confidence in elite golfers. *Journal of Sport Behavior, 27*, 277-291.

House, W. C. (1974). Actual and perceived differences in male and female expectancies and minimal goal levels as a function of competition. *Journal of Personality, 42*(3), 493-510.

Jones, G. (1995). More than just a game: Research developments and issues in competitive anxiety in sport. *British Journal of Psychology, 86*, 449-479.

Jones, G., Swain, A., & Hardy, L. (1993). Intensity and direction of competitive state anxiety and relationships with performance. *Journal of Sport Sciences, 11*, 485-494.

Kirschenbaum, D. S., O'Connor, E. A., & Owens, D. (1999). Positive illusions in golf: Empirical and conceptual analyses. *Journal of Applied Sport Psychology, 5*, 1-14.

Kirschenbaum, D. S., Owens, D., & O'Connor E. A. (1998). Smart golf: Preliminary evaluation of a simple, yet comprehensive, approach to improving and scoring the mental game. *The Sport Psychologist, 12*, 271-282.

Krane, V., & Williams, J. M. (1992). Path analysis examining relationships among cognitive anxiety, somatic anxiety, state confidence, performance expectations and golf performance. *Journal of Sport Behavior,* 15, 279-296.

Landers, D. M., & Arent, S. M. (2001). Arousal-performance relationships. In J. M. Williams (Ed.) *Applied sport psychology: Personal growth to peak performance* (p. 219). Mountain View, CA: Mayfield Publishing Company.

Marchant, D. B., Morris, T., & Anderson, M. B. (1998). Perceived importance of outcome as a contributing factor in competitive state anxiety. *Journal of Sport Behavior, 21*, 71-92.

Magyar, T. M., Feltz, D. L., & Simpson, I. P. (2004). Individual and crew level determinants of collective efficacy in rowing. *Journal of Sport & Exercise Psychology, 26*, 136-154.

Martens, R. (1977). Sport Competition Anxiety Test. Champaign, IL: Human Kinetics.

Martens, R., Burton, D., Vealey, R., Bump, L., & Smith, D. (1990). The development of the Competitive State Anxiety Inventory-2 (CSAI-2). *Competitive anxiety in sport*, 117-190.

Mullen, R., & Hardy, L. (2000). State anxiety and motor performance: Testing the conscious processing hypothesis. *Journal of Sport Sciences, 18*, 785-800.

Pickens, M. M., & Rotella, R. J. (1996). The effect of putting-confidence on putting-performance. *Journal of Sport Behavior, 20*, 148-163.

Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology, 4*, 219-247.

Stake, J. E. (1983). Ability level, evaluative feedback, and sex differences in performance expectancy. *Psychology of Women Quarterly, 8*, 48-59.

Tennen, H., & Affleck, G. (1987). The costs and benefits of optimistic explanations and dispositional optimism. *Journal of Personality, 55*, 377-394.

Thomas, O., Maynard, I., Hanton, S. (2004). Temporal aspects of competitive anxiety and self-confidence as a function of anxiety perceptions. *The Sport Psychologist, 18*(2), 172-188.

Wilson, G. S., Raglin, J. S., Pritchard, M. E. (2002). Optimism, pessimism, and precompetition anxiety in collegiate athletes. *Personality and Individual Differences, 32*(5), 893-903.

Woodman, T., & Hardy, L. (2003). The relative impact of cognitive anxiety and self-confidence upon sport performance: a meta-analysis. *Journal of Sport Sciences, 21*, 443-457.

APPENDIX C

Instrumentation

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 (S.A.). 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

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

	SA	A	D	SD
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
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

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

	SA	A	D	SD
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 accomplishes 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
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

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

	SA	A	D	SD
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

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

	SA	A	D	SD
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
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 a silver lining.	1	2	3	4

Competitive State Anxiety Inventory-2

DIRECTIONS: A number of statements which athletes have used to describe their feelings before performing are given below. Read each statement and then circle the appropriate number to the right of the statement that indicates how you feel right now—at this moment. There are no right or wrong answers. Do not spend too much time on any one statement, but choose the answer which describes your feelings right now.
After answering each question please rate the degree to which you perceive the statement to be helpful in your performance (facilitative) or hurtful to your performance (debilitative). To rate the question, blacken in the square corresponding with your perception. For example, a +3 is very helpful and a –3 is very hurtful.

		Not at all	**Some-what**	**Moderately so**		**Very much so**
1.	I am concerned about my performance.	1	2	3		4
		-3□	-2□	-1□	+1□	+2□	+3□
2.	I feel nervous.	1	2	3		4
		-3□	-2□	-1□	+1□	+2□	+3□
3.	I feel at ease.	1	2	3		4
		-3□	-2□	-1□	+1□	+2□	+3□
4.	I have self doubts.	1	2	3		4
		-3□	-2□	-1□	+1□	+2□	+3□
5.	I feel jittery.	1	2	3		4
		-3□	-2□	-1□	+1□	+2□	+3□
6.	I feel comfortable.	1	2	3		4
		-3□	-2□	-1□	+1□	+2□	+3□

		Not at all	Some-what		Moderately so		Very much so
7.	I am concerned that I may not do as well as I could.	-3□	1 -2□	2 -1□	3	+1□ +2□	4 +3□
8.	My body feels tense.	-3□	1 -2□	2 -1□	3	+1□ +2□	4 +3□
9.	I feel self-confident.	-3□	1 -2□	2 -1□	3	+1□ +2□	4 +3□
10.	I am concerned about losing.	-3□	1 -2□	2 -1□	3	+1□ +2□	4 +3□
11.	I feel tense in my stomach.	-3□	1 -2□	2 -1□	3	+1□ +2□	4 +3□
12.	I feel secure.	-3□	1 -2□	2 -1□	3	+1□ +2□	4 +3□
13.	I am concerned about choking under pressure.	-3□	1 -2□	2 -1□	3	+1□ +2□	4 +3□
14.	My body feels relaxed.	-3□	1 -2□	2 -1□	3	+1□ +2□	4 +3□
15.	I'm confident I can meet the challenge.	-3□	1 -2□	2 -1□	3	+1□ +2□	4 +3□
16.	I'm concerned about performing poorly.	-3□	1 -2□	2 -1□	3	+1□ +2□	4 +3□

		Not at all	Some-what	Moderately so		Very much so
17.	My heart is racing.	1	2	3		4
		-3□	-2□	-1□	+1□	+2□	+3□
18.	I'm confident about performing well.	1	2	3		4
		-3□	-2□	-1□	+1□	+2□	+3□
19.	I'm worried about reaching my goal.	1	2	3		4
		-3□	-2□	-1□	+1□	+2□	+3□
20.	I feel my stomach sinking.	1	2	3		4
		-3□	-2□	-1□	+1□	+2□	+3□
21.	I feel mentally relaxed.	1	2	3		4
		-3□	-2□	-1□	+1□	+2□	+3□
22.	I'm concerned that others will be disappointed with my performance.	1	2	3		4
		-3□	-2□	-1□	+1□	+2□	+3□
23.	My hands are clammy.	1	2	3		4
		-3□	-2□	-1□	+1□	+2□	+3□
24.	I'm confident because I mentally picture myself reaching my goal.	1	2	3		4
		-3□	-2□	-1□	+1□	+2□	+3□
25.	I'm concerned I won't be able to concentrate.	1	2	3		4
		-3□	-2□	-1□	+1□	+2□	+3□

		Not at all	Some-what	Moderately so		Very much so
26.	My body feels tight.	1	2	3		4
		-3□ -2□	-1□	+1□	+2□	+3□
27.	I'm confident of coming through under pressure.	1	2	3		4
		-3□ -2□	-1□	+1□	+2□	+3□

Life Orientation Test-Revised

DIRECTIONS: Please be as honest and accurate as you can throughout this questionnaire. Try not to let your response to one statement influence your response to other statements. There are no right or wrong answers. Answer according to your own feelings, rather than how you think "most people would answer."

SA = Strongly Agree
A = Agree
Neither = Neither Agree or Disagree
D = Disagree
SD = Strongly Disagree

		SA	A	Neither	D	SD
1.	In uncertain times, I usually expect the best.	A	B	C	D	E
2.	It's easy for me to relax.	A	B	C	D	E
3.	If something can go wrong for me, it will.	A	B	C	D	E
4.	I'm always optimistic about my future.	A	B	C	D	E
5.	I enjoy my friends a lot.	A	B	C	D	E
6.	It's important for me to keep busy.	A	B	C	D	E
7.	I hardly ever expect things to go my way.	A	B	C	D	E
8.	I don't get upset too easily.	A	B	C	D	E
9.	I rarely count on good things happening to me.	A	B	C	D	E
10.	Overall, I expect more good things to happen to me than bad.	A	B	C	D	E

Sport Competition Anxiety Test

Directions: Below are some statements about how persons feel when they compete in sports and games. Read each statement and decide if you HARDLY-EVER, SOMETIMES, or OFTEN feel this way when you compete in sports and games. If you choice is HARDLY-EVER, circle the letter labeled A, if you choice is SOMETIMES, circle the letter B, and if your choice is OFTEN, circle the letter labeled C. There are no right or wrong answers. Do not spend too much time on any one statement. Remember to choose the word that describes how you *usually* feel when competing in *sport and games*. After answering each question please rate the degree to which you perceive the statement to be helpful in your performance (facilitative) or hurtful to your performance (debilitative). To rate the question, blacken in the square corresponding with your perception. For example, a +3 is very helpful and a –3 is very hurtful.

		Hardly-Ever		**Sometimes**		**Often**	
1.	Competing against others is socially enjoyable.		A		B		C
		-3□	-2□	-1□	+1□	+2□	+3□
2.	Before I compete I feel uneasy.		A		B		C
		-3□	-2□	-1□	+1□	+2□	+3□
3.	Before I compete I worry about not performing well.		A		B		C
		-3□	-2□	-1□	+1□	+2□	+3□
4.	I am a good sportsman when I compete.		A		B		C
		-3□	-2□	-1□	+1□	+2□	+3□
5.	When I compete I worry about making mistakes.		A		B		C
		-3□	-2□	-1□	+1□	+2□	+3□
6.	Before I compete I am calm.		A		B		C
		-3□	-2□	-1□	+1□	+2□	+3□

		Hardly-Ever		Sometimes		Often	
7.	Setting a goal is important when competing.		A		B		C
		-3□	-2□	-1□	+1□	+2□	+3□
8.	Before I compete I get a queasy feeling		A		B		C
	in my stomach.	-3□	-2□	-1□	+1□	+2□	+3□
9.	Just before competing I notice my heart		A		B		C
	beats faster than usual.	-3□	-2□	-1□	+1□	+2□	+3□
10.	I like to compete in games that demand		A		B		C
	considerable physical energy.	-3□	-2□	-1□	+1□	+2□	+3□
11.	Before I compete I feel relaxed.		A		B		C
		-3□	-2□	-1□	+1□	+2□	+3□
12.	Before I compete I am nervous.		A		B		C
		-3□	-2□	-1□	+1□	+2□	+3□
13.	Team sports are more exciting than		A		B		C
	individual sports.	-3□	-2□	-1□	+1□	+2□	+3□
14.	I get nervous wanting to start the game.		A		B		C
		-3□	-2□	-1□	+1□	+2□	+3□
15.	Before I compete I usually get up-tight.		A		B		C
		-3□	-2□	-1□	+1□	+2□	+3□

Additional Questions Completed Prior to Hole 15

What score did you receive on: Hole 10_____

Hole 14_____

What score do you ***expect*** to receive on the 15th hole?_____

Using the rating scale below, please indicate how ***confident*** you are that you will receive your desired score on the 15th hole.

Rating Scale

0	1	2	3	4	5	6	7	8	9	10
Not Confident					**Moderately Confident**					**Extremely Confident**

Additional Questions Completed After Hole 15

What score did you receive on the 15th hole?_____

Using the rating scale below, please indicate how ***risky*** or ***conservative*** you felt your strategy was on the 15th hole.

Rating Scale

0	10	20	30	40	50	60	70	80	90	100
Extremely Conservative					**Neither Risky or Conservative**					**Extremely Risky**