

**THE ULTIMATE GOAL: ACHIEVING OPTIMAL PERFORMANCE
THROUGH INCREASED SPORT ENJOYMENT
IN COLLEGIATE WOMEN'S SOCCER**

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ABSTRACT

This dissertation describes two studies based on data collected during a 3-month, season-long enjoyment-focused mental skills training (MST) intervention with a team of Division I female soccer players. Study 1 evaluates the effectiveness of the season-long intervention utilizing quantitative data to compare treatment and control groups. Study 2 describes how and why the intervention was implemented, utilizing quantitative and qualitative data from the treatment group to identify effect “process” variables. Repeated measures multivariate analysis of variance results from Study 1 revealed that the MST intervention significantly increased sport enjoyment, key mental training skills, and athletic performance both, in practice and competition, compared to the control group. Results from Study 2 demonstrated through case study, cross-case analyses and individual engagement scores how a MST program can enhance the quantity and quality of sport sources of enjoyment (SOE), the primary SOE present in collegiate soccer, autonomy-supportive SOE, the role of athletic engagement and how different components become more prominent at different points of the intervention, and sport enjoyment’s impact on athletic performance. The discussion focuses on the role of the working implementation model in intervention effectiveness.

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Study 1

The Ultimate Goal: Achieving Optimal Collegiate Women's Soccer Performance through Promotion of Sport Enjoyment

No matter the sport or activity, all participants should strive to enjoy whatever it is they choose to do (Stodel, 2004). The idea of sport enjoyment seems easy to conceptualize, yet it has been difficult to define and operationalize. Enjoyment in sport plays a pivotal role in many aspects of athletes' sport experience, such as performance expectations (Scanlan & Lewthwaite, 1986), social development (Wankel, 1993), attrition (Gould, Horn, & Weiss, 1984), and development and participation (Scanlan, Stein, & Ravizza, 1989), yet a review of literature did not find studies investigating enjoyment's impact on performance. Optimal performance can be conceptualized as performing to one's personal best when it matters most, and is different for each person depending on their skills and abilities. Sport enjoyment is often overlooked by parents and coaches as a significant predictor or facilitator of performance, compared to other mental training tools and skills (Burton & Raedeke, 2008). A better understanding of sport enjoyment's effect on performance is needed in the world of sport psychology in order to better examine its performance enhancement potential and how it compares to traditional mental training techniques and strategies.

Scanlan's Sport Enjoyment Definition and Model

Research in the area of sport enjoyment is relatively sparse compared to other sport and exercise psychology constructs (e.g, goal setting, self-talk, imagery, motivation), yet significant contributions to the field have been made by several researchers (Kimiecik & Harris, 1996; Scanlan, 1992; Wankel, 1993). The definition of sport enjoyment may vary among researchers, but getting participants to enjoy sport is a general consensus (Scanlan, 1992; Wankel, 1993).

Research regarding the construct of sport enjoyment is relatively limited in the social sciences and has been guided by the work of Scanlan and her colleagues (Carpenter, Lobel, & Simmons, 1993; Scanlan, 1992). Working within the arena of sport commitment (Scanlan, 1992; Scanlan & Lewthwaite, 1986; Scanlan et al., 1989), a working definition of sport enjoyment was developed as “a positive affective response to the sport experience that reflects generalized feelings such as pleasure, liking, and fun” (Scanlan, Carpenter, Schmidt, Simons, & Keeler, 1993). Primary psychological components of Scanlan’s previous working definition included intrinsic motivation (Scanlan & Lewthwaite, 1984), aspects of flow (Csikszentmihali, 1975) such as personal perceptions and competence, and the idea of enjoying both achievement and nonachievement activities equally (Scanlan & Lewthwaite, 1986). Scanlan’s early work (Scanlan, 1984; Scanlan & Lewthwaite, 1984, 1986) focused primarily on competitive stress in youth athletes, which subsequently served as the basis for her future research in sport commitment and enjoyment (Scanlan, 1989, 1992, 1993, 2003)

From this early research, Scanlan & Lewthwaite (1986) developed a four-quadrant model of sport enjoyment which combines intrinsic and extrinsic motivation with achievement and nonachievement activities to predict sport enjoyment in a given activity. While this model of sport enjoyment was preliminary, it was intended to serve as a roadmap for future research. This model was seen as the basis of applying sport enjoyment to different sports and activities, with the goal of including other constructs such as sport involvement and attrition.

Using this model, Scanlan and colleagues (1989) conducted interviews with elite figure skaters in an attempt to identify the fundamental components of sport enjoyment. From this study, four major sources of enjoyment emerged: (a) social and life opportunities,

(b) perceived competence, (c) social recognition of competence and (d) the physical act of performance. Furthermore, this research suggested that enjoyment sources for elite and youth sport athletes were similar and contained many common dimensions. Both elite and youth sport athletes enjoy achievement recognition, competitive achievement, family/coach relationships, friendships, and mastery of the activity, which together helped define sport enjoyment (Scanlan et al., 1989). From their research and implementation of the sport commitment model (Scanlan et al., 1993), an instrument was developed to assess sport enjoyment (i.e., Sport Enjoyment Scale).

Scanlan's (1992) work on sport enjoyment is noteworthy because it is hypothesized to be a component of the larger sport commitment model, which is influenced by four additional factors (e.g., personal investments, social constraints, involvement opportunities, and involvement alternatives) besides enjoyment. However, Scanlan's working definition of sport enjoyment evolved over time to include more skill and motivation components (Scanlan, Russell, Beals, & Scanlan, 2003).

Correlates of Sport Enjoyment

This intervention study explored the impact of a Mental Skills Training (MST) program (Burton & Raedeke, 2008) on athletes' sport enjoyment and its consequences on psychosocial outcomes and athletic performance. To optimize the delivery of a MST program, a working model was developed that hypothesizes four key components and/or correlates of sport enjoyment that may mediate intervention effectiveness (Boyd & Yin, 1996; Scanlan, 1992; Wankel, 1993).

Social and Life Opportunities

Researchers (Boyd & Yin, 1996; Scanlan, 1992) believe that social aspects of sport, especially in youth sport, are paramount to enjoyment and sometimes are the primary reasons for sport participation. This enjoyment dimension ranges anywhere from spending time with friends to building important interpersonal relationships, because in sport, the team/group environment serve as an important venue for social development (Scanlan et al., 1993). Several researchers (Brustad, 1988; Wankel, 1993) emphasize that sport can be seen as a place to make new friends, enhance existing friendships, learn valuable life lessons, develop new social skills, and generally become a more well-rounded person. According to Scanlan et al. (1993), psychosocial factors have been established as vital to one's enjoyment in sport or physical activity, and the model predicts that maximizing enjoyment based on the social nature of sport motivates continued participation.

Perceived Competence

Based on Scanlan's (1992) model, perceived competence is the degree to which a person believes they have the ability to succeed at the current task. Similar to self-efficacy, perceived competence has been shown to play a pivotal role in self-confidence (Yoo & Kim, 2002), competitive anxiety (Martens, Vealey, & Burton, 1990), and intrinsic motivation (Ryan & Deci, 2000), as well as being another pillar of sport enjoyment (Scanlan, 1992). Using traditional MST distinctions, Burton and Weiss (2008) confirm the mental training tool of goal setting is valuable for developing the mental skills of self-confidence and intrinsic motivation by enhancing perceived competence, creating realistic expectations about performance, and promoting positive self-perceptions, all process variables that should promote sport enjoyment.

Physical Act of Playing Sports

Scanlan and Lewthwaite (1986) found that athletes who continuously participate in sports tend to enjoy physical activity and the physical act of training, competing, or moving their bodies in skilled and/or artistic ways. Taking a page from both operant and classical conditioning, people generally avoid activities which bring them harm, pain and/or failure (Freedman, 2012). Conversely, if performers enjoy the physical demands and feelings of movement of an activity (e.g., skiing) and receive pleasure from moving quickly over the snow or the act of carving a turn or going off a jump, they, in turn, should have an increased perceived enjoyment of skiing.

Intrinsic Motivation

Ryan and Deci (2000) have shown that athletes' desire to succeed for intrinsic reasons positively impact performance and play a major role in sport enjoyment and sport commitment (Scanlan et al., 2003). Intrinsic motivation is the trait of being driven by one's own inner desires and motives (e.g., improve the skill of free throw shooting) and is a sought-after characteristic in MST (Burton & Raedeke, 2008). Intrinsic motivation has been shown to be positively correlated with perceived competence (Ryan & Deci, 2009; Freiberger, Steinmayr, & Spinath, 2012), supporting the hypothesis that performers' goals and mindset can affect their performance expectations and perceived success. Conceptually, if athletes are intrinsically motivated to perform an activity, their enjoyment should increase because participants are electing to do the activity, have the self-determination to control the effort given to the activity, and have the autonomy to participate or withdraw from the activity at any time (Wankel, 1993).

Sport Enjoyment Research in Soccer

Numerous studies (Burton, 1989a; Gould, Guinan, Greenleaf, Medbery, & Peterson, 1999; Jones, Mace, Bray, MacRae, & Stockbridge, 2002; Seifriz, Duda, & Chi, 1992; Vernacchia, McGuire, Reardon, & Templin, 2000) have focused on specific sports where enjoyment has been one factor examined within the scope of larger research projects, but one study in particular examined sport-specific factors of sport enjoyment in soccer.

Because this intervention utilized a collegiate women's soccer team as the sample population, the research of Garcia-Mas et al.'s (2010) provides insight into soccer enjoyment. Garcia-Mas and colleagues (2010) examined the constructs of sport enjoyment and sport commitment within a large sample of elite youth Spanish soccer players, and they found enjoyment and sport commitment were significantly influenced by intrinsic motivation as compared to extrinsic motivation and amotivation. This finding is congruent with other sport enjoyment research within youth soccer (Ommundsen & Vaglum, 1991a), as well as past research suggesting intrinsic motivation is a strong correlate of youth sport enjoyment (Boyd & Yin, 1996; Scanlan & Lewthwaite, 1986; Wankel & Kreisel, 1985). These studies reinforce the crucial role motivational climate and individual motivational styles serve as correlates of sport enjoyment, specifically in soccer. Although their research lacked an exploration of the impact of psychosocial factors on sport enjoyment and commitment, the large sample size and quantitative-nature of research provides solid support for the impact intrinsic motivation has on soccer enjoyment.

Working Model of Sport Enjoyment as an Intervention Strategy

Three major influences aided in the development of this working model of sport enjoyment as a MST intervention focus (see Figure 1). First, professional consulting

experiences, both in applied sport psychology and counseling psychology environments, have reinforced the importance of healthy psychosocial development on general well-being and self-image (Raskin & Rogers, 1989). This relationship seems consistent across life domains (e.g., social, academic, athletic, etc.), and healthy psychosocial development seems to be enhanced by positive social environments and successful personal accomplishments (Wankel, 1993).

Second, the wealth of knowledge and research (Burton & Raedeke, 2008) around the beneficial impact traditional MST has on performance is undoubtedly another contributing influence. MST is aimed at enhancing performer's competitive cognitions during practice and competition, leading to enhanced performance when it matters most (Burton & Raedeke, 2008). Perceived competence and social/life opportunities were key components of Scanlan's (1984) original sport enjoyment model, and both can seemingly be significantly improved via the use of MST interventions. Through effective MST programs, Burton and Raedeke (2008) believe that athletes' self-confidence, stress management and general sense of self can be improved, contributing to improved sport enjoyment.

Finally, the work of previous researchers (Aumand, 2005; Boyd & Yin, 1996; Garcia-Mas, et al., 2010; Kimiecik & Harris, 1996; McCarthy & Jones, 2007; Scanlan, 1992; Wankel & Kreisel, 1985) helped to pare down the breath of sport enjoyment correlates. Although many researchers define enjoyment differently, this working intervention model focuses on the dimensions of sport enjoyment which demonstrate how enjoyment can be used as an intervention strategy in collegiate soccer.

Antecedents of Enjoyment

Athletes' use of mental training tools and skills can shed light on their propensity to enjoy sport, as well as their capability to adopt new techniques which may increase their enjoyment, and consequently their athletic performance. This model conceptualizes that traditional mental training tools (i.e., goal setting, self talk, imagery, relaxation) and skills (i.e., intrinsic motivation) are antecedents/predictors of athletes' sport enjoyment, whereas other mental skills and performance are consequences/products of healthy sport enjoyment. A detailed understanding of the model's antecedents of sport enjoyment should provide rationale for the targeted areas of the intervention as well as the influence the specific components have on the consequences of sport enjoyment.

Goal setting. Established as a pillar of mental training (Burton & Weiss, 2008; Ulmer, 2010), effective and realistic goal setting can impact one's perceived competence in sport, which has been shown to significantly affect sport enjoyment (Scanlan et al., 2003). The use of goal setting has been shown to improve performance and decrease competitive anxiety (Burton, 1989a), and the model hypothesizes a positive relationship between goal setting and sport enjoyment. Burton and Weiss (2008) emphasize the importance of process (e.g., focus on skill building and technique) and performance (e.g., achieving certain performance standards) as opposed to outcome goals (i.e., winning) to enhance overall success of goal setting interventions. This model emphasizes that the personal control athletes can exert over process and performance goals is drastically higher than that of outcome goals where opponents, luck, and officiating as well as many other uncontrollable variables can have a significant effect on success (Burton & Weiss, 2008). Using specific, realistic but challenging practice and competition, as well as individual and team goals, can

be beneficial to performance if implemented and monitored in an appropriate fashion (Weinberg, 2008).

Relaxation. Similar to effective goal setting, utilizing relaxation techniques can help manage performance stress and expectations as well as improve competitive performance by managing levels of arousal (Burton & Raedeke, 2008). This mental training tool is a vital component of the model, because relaxation is a key moderating factor in areas such as arousal control and energy regulation (Burton & Raedeke, 2008). Athletes have their own ideal performance state or optimal level of arousal/energy that facilitates peak performance (Burton & Raedeke, 2008), and the ability to enter a competitive environment in a calm and relaxed state can be essential to peak performance (Cohn, Rotella, & Lloyd, 1990). Conversely, unhealthy stress levels can lower athletes' self-confidence, perceived competence, social enjoyment and overall desire to perform, each of which are key correlates of sport enjoyment (Scanlan, 1992), prompting this working model to hypothesize a positive relationship between relaxation and sport enjoyment.

Self-talk. The concept of self-talk relates to the constant, inescapable flow of thoughts through our minds (Burton & Raedeke, 2008; Hardy, 2006). Self-talk patterns have been shown to have an effect on anxiety, concentration, self-confidence, self-efficacy, and performance (Burton & Raedeke, 2008; Hardy, 2006). Burton and Raedeke (2008) have formulated several guiding principles to increase positive thought patterns including becoming more optimistic, realistic, and appraising problems as challenges. The working model hypothesizes that by increasing self-talk skills and effectively using them prior to and during performance, athletes' will experience increased perceived competence and decreased

social pressure and stress (Burton & Raedeke, 2008; Hardy, 2006), thus prompting enhanced sport enjoyment.

Motivational style. According to Gillham, Gillham and Burton (2012), motivational styles are based on involvement states determined by the combination of motivational orientation and perceived competence, but intrinsically driven mastery-oriented athletes typically report higher levels of sport and social enjoyment (Deci & Ryan, 1985; Scanlan et al., 1993; Wankel, 1993). Gillham and colleagues (2012) established four primary motivational styles (i.e., development-focused, win-fixated, doubt-oriented, and failure-evader). Development-focused individuals are mastery oriented and exhibit high effort and persistence in the face of adversity (Gillham et al., 2012). Win-fixated individuals typically view success or talent as fixed and measure success as a result of social comparison or winning (Burton & Weiss, 2008). Doubt-oriented athletes tend to compare themselves with others, with success stemming from upholding positive perceptions from others and developing a strong public image (Gillham et al., 2012). However, they doubt their ability and develop low perceived ability because they lose fairly frequently. Finally, failure-evaders view competence as simply avoiding failure (Gillham et al., 2012), because they often lose and compare poorly to others, prompting them to refocus motivation on avoiding failure. Masters (2012) has demonstrated the impact athletes' motivational style can have on the effectiveness of MST interventions, and it will be important to understand the participants' motivational style to individualize the enjoyment intervention to each athlete.

Consequences of Sport Enjoyment

This study focused on three potential outcomes of sport enjoyment, including a decrease in trait anxiety, an increase in self-confidence, and improved athletic performance.

Stress and anxiety. Research (Burton & Weiss, 1998; Martens, Vealey, & Burton, 1990; Ulmer, 2010) has shown the negative impact of stress and anxiety on performance due to reduced mental acuity, more negative and less positive emotions, greater tension and excessive arousal. The working model hypothesized that heightened trait anxiety levels negatively affect sport enjoyment (Scanlan & Lewthwaite, 1984), but reduced enjoyment may increase anxiety as well.

Self-confidence. The impact of self-confidence on athletic performance has been established as a vital mental training skill (Burton & Raedeke, 2008). Within this working model, athletes' self-confidence levels could be seen as an antecedent to sport enjoyment, however, self-confidence has been shown to develop through a healthy athletic atmosphere, positive personal interactions with peers, and athletic success (Vealey & Chase, 2008; Ulmer, 2010), all psychosocial components that may be fostered by sport enjoyment. Therefore, self-confidence may be considered a product of sport enjoyment and a correlate of effective athletic performance

Athletic Performance. Although there is no previous research examining the impact sport enjoyment may have on athletic performance, the working model hypothesized a positive correlation between enjoyment and performance. This relationship may be bolstered by an increase in mental training tools and skills, a change to a more facilitative motivational style, or simply healthier psychosocial interaction with coaches and teammates leading to greater enjoyment and better athletic performance.

Method

Design and Participants

Due to the individualistic and relatively small sample employed in this intervention, a repeated-measures, quasi-experimental design was utilized to determine the effectiveness of a season-long applied sport psychology intervention aimed at enhancing sport enjoyment on improving competitive cognitions and athletic performance. Eight members of a Division 1 women's soccer team served as treatment group participants for this intervention, while the remaining eleven team members comprised the control group.

Of the primary positions in soccer (i.e., goalkeeper, defender, midfielder, and forward), all were represented in the intervention group with the exception of goalkeeper, which was excluded due to the position's individualistic nature and skill set. Therefore, the goal was to include two defenders, two midfielders, and two forwards in the sample population, with the other two participants being from any of these three positions. The treatment group consisted equally of coach-defined starters and non-starters, limiting any skill/ability or playing time bias in the final results. Selection also included at least one athlete from each academic class to ensure minimal age and experience bias in the sample. This research design allowed for a pre and post-test assessment of enjoyment and a number of correlate variables, both within and between participants.

Instruments

As the nature of the study utilized mixed-methods, five psychometrically sound instruments were utilized for the data collection, along with several more qualitative measures.

Sources of Enjoyment in Youth Sport Questionnaire (SEYSQ). This 28-item instrument was developed by Wiersma (2001) to examine the sources of enjoyment in youth sport identified by Scanlan (1986). The original 40-items were peer-reviewed by sport psychology experts, with the results used to pare the SEYSQ down to its current form of 28-items. Each item is rated on a 5-point Likert-type scale, with endpoints ranging from 1 (not at all) to 5 (very much). Validity and reliability were confirmed through a 3-stage peer-review process by experts in the field (Wiersma, 2001). For the purposes of this study, two items were not used due to their wording and aim of comparing athletes to others of their “own age,” thus resulting in the questionnaire consisting of 26-items.

Competitive Motivational Style Questionnaire (CMSQ). The Competitive Motivational Style Questionnaire (Gillham, Gillham, & Burton, 2012) is a 20-item instrument that measures four athlete motivational styles. The four subscales measuring conceptually-derived motivational styles or states of involvement based on a combination of motivational orientations and perceived competence include: development-focused (5 items), win-fixated (4 items), failure-evader (5 items), and doubt-oriented (6 items) styles. CMSQ items are rated on a six-point Likert-type scale anchored by 1 (strongly disagree) and 6 (strongly agree). Internal consistency of subscales for the four motivational styles ranged from 0.74 to 0.88, and the factorial validity of the instrument suggests a good fitting model (Gillham et al., 2012). Convergent and discriminant validity were also highly consistent with hypothesized relationships for related constructs.

Sport Anxiety Scale-2 (SAS-2). The Sport Anxiety Scale-2 (Smith, Smoll, Cumming, & Grossbard, 2006) is a 15-item instrument that measures cognitive and somatic trait anxiety in sport. The SAS-2 is comprised of three, 5-item trait anxiety subscales,

measuring somatic anxiety, worry, and concentration disruption dimensions. SAS-2 items are rated on a four-point Likert scale anchored by 1 (not at all) and 4 (very much so). The SAS-2 yields subscale totals ranging from 5 to 20 and total scores between 15 and 60. Alpha reliability for the SAS-2 total score is .91, with subscale reliability coefficients of .84 (somatic anxiety), .89 (worry), and .84 (concentration disruption). Test-retest reliability was .87 for the total score. Factorial validity suggests a good fitting model, and convergent validity is highly consistent with hypothesized relationships for a range of psychosocial correlate variables and trait anxiety (Smith et al., 2006).

Sport Confidence Inventory (SCI). The Sport Confidence Inventory (Vealey, 2002) is a 14-item questionnaire that measures trait self-confidence in a number of sport situations. Three trait self-confidence subscales are assessed, including: 5-item physical, 5-item mental, and 4-item resilience confidence subscales. The 14-items of the SCI are measured on a seven-point Likert-type scale ranging from 1 (can't do at all) to 7 (totally certain). Solid preliminary alpha reliability and construct validity has been found for the SCI (Vealey, 2002)

Test of Performance Strategies-2 Practice (TOPS-2P). The Test of Performance Strategies-2 (Hardy, Roberts, Thomas, & Murphy, 2010; Thomas, Murphy, & Hardy, 2009) is a 64-item self-report measure of psychological skills and strategy usage by athletes during competition and practice, although only part of the practice portion of the instrument was utilized in this investigation. The 32 items on the TOPS-2P are measured on a five-point Likert-type scale that asks how frequently each item is used by the participant, with descriptors ranging from 1 (never) and 5 (always). Eight 4-item subscales measure goal setting, relaxation, activation, imagery, self-talk, attentional control, emotional control and automaticity. Internal consistency of subscales ranged from 0.71 to 0.85, and the factorial

validity of the instrument suggests a good fitting model (Thomas, Murphy, & Hardy, 2009). For the purpose of this study, the subscales of goal setting, relaxation, and self-talk were assessed, totaling 12 items.

Performance Data. Publically available game statistics were used to evaluate soccer performance. These indicators consisted of goals and assists during competitive matches and were evaluated for all games during the regular season. Total scoring was calculated by summing performance data for matches in the first half of the season, then comparing the calculated sums to those matches in the second half of the season across the treatment and control groups.

Moderators of sport enjoyment. At the outset of the study during the first road trip with the team, all the athletes were interviewed and asked to respond to questions designed to determine the primary moderators of and contributors to sport enjoyment. This process was done again at the midpoint of the intervention with the treatment group, then again at the post-intervention interview for both groups. The goal was to assess any reported difference between individual and team enjoyment, as well as any change in the moderators of enjoyment within the treatment group due to the effectiveness of the intervention.

Procedure

The intervention to enhance sport enjoyment and, in turn, improve competitive cognitions and sport performance followed a MST model (Burton & Raedeke, 2008) aimed at improving selected mental training tools (i.e., goal setting, self-talk, relaxation) and skills (i.e., motivation, self-confidence, stress management). Following approval of the Institutional Review Board, all coaches and athletes completed informed consent statements before participating in the study. The head coach and players in the treatment group received a

verbal explanation of the intervention, with the players having the option to opt-out at any time. Those in the control group did not receive a description of the intervention until after the season. Participants were assured that inclusion or exclusion from the study had absolutely no impact on their status within the team and in no way would impact their playing-time because details of intervention sessions were kept strictly confidential.

Structured MST intervention. The applied sport psychology intervention was focused on promoting the construct of sport enjoyment (Boyd & Yin, 1996; Scanlan, 1992; Scanlan & Lewthwaite, 1986; Wankel, 1993), and followed proven MST theory and best practices (Burton & Raedeke, 2008; Martin & Swartz, 2000; Ulmer, 2010). Upon completion of the intake assessment, the participants were introduced to the traditional mental training tools and skills, followed by an introduction to this study's working model, including an explanation of the targeted antecedents and consequences of the sport enjoyment intervention. This orientation to achieve a cursory knowledge of mental training tools and skills served to educate the athletes on traditional MST, as well as the goals and purposes of the intervention because the researcher assumed more knowledgeable participants would be more open to the intervention's purposes (e.g., enhance sport enjoyment and increase psychosocial and performance outcomes). During the preliminary weeks of the intervention, the consultant strived to gain buy-in from all participants through a demonstration of knowledge and professionalism.

The intervention consisted of twelve individual sessions, each lasting approximately forty-five minutes and focusing on the individual needs of the athlete. With the aid of the quantitative assessments, the researcher tailored individual interventions to each athlete in order to improve sport enjoyment and ultimately enhance athletic performance. Guided by

Burton and Raedeke's (2008) tools and skills model of MST, participants were given the opportunity to develop mental tools and skills such as relaxation, goal-setting, self-talk, stress management, self-confidence, and motivation.

Assessment of intervention effectiveness. Participants in the treatment group also completed post-intervention interviews to provide qualitative assessment of the intervention. These interviews provided insight as to the positives and negatives of intervention design, with the goal of improving future intervention effectiveness.

Data analysis. Analysis of this MST sport enjoyment intervention was conducted utilizing both quantitative and qualitative procedures. Correlational analyses were conducted for enjoyment, performance, and other measured psychosocial dependent variables. A series of three multivariate analyses of variance (MANOVA) were conducted to assess significant differences between the treatment and control group across the two assessments. All analyses assessed significance at an $\alpha < .05$.

Results

The following results compare the treatment versus control group data over time from pre to post intervention. MANOVA results, coupled with a follow-up ANOVA comparison of means was used to examine MST intervention effectiveness through increased sport enjoyment. All analyses assessed significance at an $\alpha < .05$.

Correlational Results

A series of correlations were calculated to examine the relationships between sport enjoyment and other correlate variables (i.e. subscales of CMSQ, SCI, TOPS-2, and SAS-2) at the post-season assessment (see Table 1). As predicted, sport enjoyment demonstrated significant positive correlations with (a) development-focused motivational style ($r = .51$),

and (b) physical confidence ($r = .51$). Similarly as hypothesized, sport enjoyment demonstrated significant negative correlation with failure-evasion motivational style ($r = -.49$), and SAS-2 concentration disruption ($r = -.48$). These findings support the hypothesis that sport enjoyment is related to psychosocial correlate variables in conceptually hypothesized ways. Surprisingly, enjoyment failed to demonstrate hypothesized relationships with two trait anxiety, two sport confidence, and all three TOPS-2 subscales at post-intervention.

Correlations were calculated separately for treatment and control groups to examine relationships between sport enjoyment and other correlate variables (i.e., subscales of the CMSQ, SCI, SAS-2 and TOPS-2) for the post-season assessment (see Table 1). With only eight and eleven players respectively in the treatment and control groups, it is not surprising that only 31 of the possible 182 (i.e. 17%) correlations revealed significant relationships, with the treatment group demonstrating 14 and the control group 17 significant correlations. However, the magnitude of the relationships between enjoyment and the 13 correlate variables at post-treatment suggested that the control group had stronger relationships on five variables, the treatment group on six variables and two relationships yielded correlations under .10 for both groups. Interestingly, the control group demonstrated stronger relationships with the four motivational styles (i.e., enjoyment antecedents) and SAS-worry, even though the relationship for CMSQ-DO and SAS-worry were in a debilitating direction, whereas the treatment group revealed stronger relationships with five of six consequent variables (i.e., SCI-mental, SCI-physical, SCI-resilience, SAS-somatic and SAS-concentration disruption) and TOPS-relaxation, with all correlations in a facilitative direction. These results suggest that the enjoyment intervention supported the link between

enjoyment and most key consequent variables, but the relationships with antecedent variables were not strongly supported.

Repeated Measures MANOVA Results Comparing Treatment and Control Groups

Enjoyment and TOPS-2 results. Multivariate analysis of variance (MANOVA) results for sport enjoyment revealed a significant difference between the treatment and control groups across the intervention, Wilks' $\lambda = .53$, $F(4, 14) = 3.19$, $p < .05$, partial $\eta^2 = .47$. Follow-up univariate analysis of variance (ANOVA) results revealed significant group by time interaction effects for two of four variables, sport enjoyment, $F(1,19) = 4.12$, $p < .05$, partial $\eta^2 = .19$; and the use of self talk, $F(1,19) = 11.24$, $p < .004$, partial $\eta^2 = .39$. Additionally, followup ANOVA results showed goal setting increased over time, $F(1,19) = 16.79$, $p < .01$, partial $\eta^2 = .49$, for both groups (see Table 3 and Figure 2c). As displayed in Table 3, Figure 2a and 2b, the treatment group increased enjoyment and self-talk scores from pre to post treatment while control group participants declined on both dependent variables over the same time period.

CMSQ results. MANOVA results comparing treatment and control groups on the four CMSQ subscales across pre- and post-season assessments demonstrated a significant group by time interaction, Wilks' $\lambda = .36$, $F(4, 14) = 6.27$, $p < .004$, as well as significant affects across time Wilks' $\lambda = .24$, $F(4, 14) = 10.94$, $p < .001$, but failed to show significance between groups Wilks' $\lambda = .77$, $F(4, 14) = 1.04$, $p < .42$. Follow-up univariate ANOVA results demonstrated significant group by time interaction effects for three of the four CMSQ subscales, including: doubt-oriented, $F(1, 19) = 3.05$, $p < .05$, partial $\eta^2 = .24$; failure-evader, $F(1, 19) = 5.93$, $p < .01$, partial $\eta^2 = .38$; and win-fixated styles, $F(1, 19) = 5.33$, $p < .05$, partial $\eta^2 = .25$; with development-focused style approaching significance, $F(1,19) =$

1.24, $p < .16$, partial $\eta^2 = .11$. Consistent with expectations and despite a difficult season, the treatment group decreased slightly across the season on failure-evader and win-fixated motivational styles (see Table 3, Figure 2c and 2f), whereas the control group increased scores substantially in both areas. Contrary to hypotheses, the control group decreased significantly more on doubt-orientated motivational style from pre to post intervention than did treatment group participants (see Table 3 and Figure 2d).

SAS-2, SCI, and soccer performance results. MANOVA results comparing treatment and control groups across pre- and post-season assessments demonstrated a significant group by time interaction effect, Wilks' $\lambda = .23$, $F(7, 11) = 5.33$, $p < .01$, partial $\eta^2 = .77$. Follow up univariate ANOVA analyses revealed significant group by time interaction effects for physical self confidence $F(1, 19) = 4.67$, $p < .01$, partial $\eta^2 = .33$; as well as concentration disruption trait anxiety, $F(1, 19) = 4.49$, $p < .01$, partial $\eta^2 = .38$, and worry trait anxiety, $F(1, 19) = 2.25$, $p < .05$, partial $\eta^2 = .22$. Soccer performance closely approached significance, $F(1, 19) = 2.68$, $p < .12$, partial $\eta^2 = .14$. Additionally, significant time effects were demonstrated for resilience, $F(1, 19) = 7.28$, $p < .01$, partial $\eta^2 = .33$; and soccer performance, $F(1, 19) = 3.32$, $p < .01$, partial $\eta^2 = .32$. Consistent with hypotheses, soccer performance increased more in the treatment than control group participants. Additionally, trait anxiety concentration disruption decreased significantly, and mental and physical trait confidence subscales increased significantly for the treatment group compared to the control group across the season.

Soccer performance output. Defined as goals and assist during competition, the treatment group's scoring output increased 128.6% in the second half of the season, which corresponded with a 5.7% increase in reported sport enjoyment (see Table 3). In comparison,

the control group's scoring output increased 42.9% across the season, with reported sport enjoyment decreasing 4.9%.

Discussion

The results of this investigation support the use of enjoyment as a performance enhancement strategy, suggesting that an increased use of mental tools and skills may have led to increased enjoyment within soccer, and/or helped the athletes to enhance targeted mental skills and performance. Whichever the case, these results do support the hypothesis that a MST intervention can significantly increase sport enjoyment, even though results suggest that enjoyment enhancement may have accounted for a number of other reasons that weren't quantitatively assessed in this study.

Targeted Antecedent Variables and Sport Enjoyment

Use of mental training tools and skills. Individualization of a traditional intervention method of using applied mental tools and skills training (Burton & Raedeke, 2008) seemed to allow for participants' consistent adaptation and goal attainment, systematically meeting their needs on a daily and weekly basis. Because the intervention was focused on Burton & Raedeke's (2008) mental tools and skills model, the significant improvement in goal setting and self-talk in the treatment group was positive but not surprising. The researcher consistently highlighted the importance of goal setting during sessions, having participants set daily, weekly, practice, and performance goals. Through healthy and realistic skill assessment, participants were able to set challenging yet achievable goals which would set them up for success and prompt enjoyment from goal attainment, while avoiding setting unrealistic goals which would negatively impact their sport enjoyment and diminish their likelihood of setting goals in the future. These positive changes in goal

setting, coupled with effective use of self-talk and relaxation skills, allowed treatment group participants to enhance their on-field performance, appropriately interpret correctional feedback from the coaching staff, and manage interpersonal relationships on and off their field, helping to enhance sport enjoyment and overall well-being.

Motivation. Every athlete is motivated by different factors, although during a difficult season, maintaining effective motivation is often a difficult task. The difference in development-focused motivational style between the two groups though nonsignificant, supports the effectiveness of the intervention to sustain the desired development-focused motivational style (Gillham et al., 2012). Similarly, the significant differences between groups over time for less-desired motivational styles (i.e., failure-evader, win-fixated), support a more facilitative motivational styles profile for treatment compared to control group participants. Defeat and poor competitive performance can negatively impact athletes' motivational style, as was demonstrated by the increase in failure-evader motivational style scores within the control group. This response may prompt increased attention on trying to avoid failure, instead of a desire to improve skill level and task-mastery both in practice and performance. The intervention's focus on process and performance goals, combined with positive self-talk may well have supported this trend among development-focused athletes in the treatment group, whereas these skills were not purposefully developed in the control group. These results suggest the impact that applied sport psychology can have on athlete's motivational style, both sustaining desired motivational style through adversity as well as aiding athletes in evolving their motivational style to a more desired profile to increase enjoyment.

Sport Enjoyment

The significant increase in sport enjoyment in the treatment group supports intervention effectiveness; however there were many factors which may have contributed to this increase. The combination of a facilitative motivational style profile (i.e., development-focused), an effective use of mental training tools (i.e., goal-setting, relaxation, and self-talk), and the reinforcement and reframing of positive psychosocial behaviors is consistent with the enhancement of sport enjoyment demonstrated in the treatment group participants. These factors should help athletes to reframe any negative thoughts about the time commitments present in Division 1 athletics and better appreciate the aspects of collegiate sports which they enjoy, particularly positive interpersonal relationships with teammates.

The team's season was inconsistent, both in quality of competitive performance and results. The weekly intervention component of individual sessions coupled with social support from the researcher at home practices and games as well as travelling with the team to away competitions on multiple occasions throughout the season was reported as a significant contributor to the increase of sport enjoyment in the treatment group. The researcher's immersion into the team's culture also provided consistent and effective feedback and reinforcement for the participants on targeted intervention strategies. Many participants reported the physical act of playing soccer as the primary contributor to sport enjoyment, which may have been bolstered by the researcher's consistent presence during performance serving as a trigger to focus on positive enjoyment sources.

Moderators of enjoyment. Aside from the primary components of sport enjoyment, qualitative data was collected from the weekly sessions on the primary moderators of enjoyment. Without question, the relationship with the coaching staff was reported as the

most significant moderator of sport enjoyment, both positively and negatively. Participants reported the feedback and communication from the coaching staff played a pivotal role on how they performed, in-sport affect, as well as their mood and personality in their academic and personal lives. When positive, participants were generally happy with their life and sport situations, including positively viewing their athletic ability and position/role within the team, even as a non-starter. When the participants reported negative interactions and receiving criticism from the coaching staff, they also reported lower levels of self-confidence and perceived competence, as well as heightened levels of anxiety and dislike for their coaches. This finding suggests the crucial role coaches have on athletes' well-being, emotional state, and self-confidence, both on and off the field.

Targeted Consequences and Enjoyment

Self-confidence. Perceived competence has been shown as one moderator of sport enjoyment (Scanlan & Lewthwaite, 1986) and was predicted to be a key component in this study's working model. The increase in treatment group's sport confidence support the positive link between sport enjoyment and sport confidence. More specifically, participants' confidence in their physical and mental ability were shown to have significantly increased, both in comparison to the control group and across time. Confidence in their physical ability may be a product of actual performance and feedback from the coaching staff, but the significant findings in the mental aspects of self confidence support the positive impact of an applied enjoyment intervention. This relationship between enjoyment and confidence suggests athletes who are more confident in their psychological abilities may enjoy their sport experience more than do less confident athletes, and it also demonstrates the changeable nature of perceived confidence in sport settings.

Trait anxiety. The significant decrease in trait anxiety concentration disruption within the treatment group in comparison to the control group was another targeted outcome hypothesized for the intervention, with the control group experiencing an increase in trait anxiety concentration disruption, perhaps due to the effects of a difficult season. This finding could also be attributed to participants' use of stress management and relaxation techniques which were taught to the treatment group over the course of the season in an effort to counterbalance the effects of an inconsistent season. Treatment group participants' also were able to confide in one another during difficult stretches of the season, lessening any trait anxiety through group support, cohesion and shared mental skills usage.

Soccer performance. Due to the limited research measuring the effects of a MST intervention on performance, the borderline significant differences in performance output between the treatment and control groups across the season serves as a major strength of the study. The treatment group's scoring output increased 128.6% in the second half of the season, which corresponded with a 5.7% increase in reported sport enjoyment (see Table 3). In comparison, the control group's scoring output increased 42.9% across the season, with reported sport enjoyment decreasing 4.9%. Two of the eight members of the treatment group began the season on the bench, yet by the end of the season were consistent starters and consistently contributed to the team success. Coupled with statistical differences (see Table 3), the coaching staff consistently commented on improvements in consistency and effort with members of the treatment group, suggesting the impact an increase in self-confidence can have on consistent practice and competitive performance. The team won more games in the second half of the season than the first; however the significant difference in second half performance output, coupled with an increase in sport enjoyment among the treatment group,

supports intervention effectiveness and the link between sport enjoyment and athletic performance.

Overall Model Trends

Overall, the relationship between antecedent variables (i.e., CMSQ subscales and mental training tools of self-talk, goal setting, and relaxation) and enjoyment are weaker than the relationship between enjoyment and targeted consequent variables (i.e., self-confidence, trait anxiety, and performance). These increased levels of self-confidence and decreased levels of anxiety may be due to a more effective use of mental training tools, increased and/or healthier motivation, or an overall increase of enjoyment, yet the support for hypotheses of the intervention's impact on the targeted consequent variables serves as strengths of the study. However, the weaker antecedent-enjoyment relationship may be due to several measurement issues.

First, the TOPS-2 measures the frequency of mental training tool usage and not its effectiveness. Thus, players may have used goal setting, self-talk, and relaxation frequently, but not necessarily effectively, or more effectively but not frequently. Typically in MST interventions, frequency of usage occurs in Stage 1, and effectiveness increases in Stage 2 as skills are mastered through systematic practice. Results improve further in Stage 3 when tools can be used more automatically. This 12-week intervention may not have been long enough to get to Stage 3, and for players who did not "buy-in" to the intervention initially, they may have struggled to get to Stage 2. Regardless, a frequency based measure is only effective at assessing Stage 1 progress and provides no evidence about progress in Stages 2 and 3.

Implications for Practitioners

This study can provide applied sport psychology practitioners with rationale for including components of sport enjoyment in their consulting with athletes and future research. Sport enjoyment was shown to significantly influence performance, and furthermore enjoyment was correlated with an increase in other mental skills (i.e., goal setting, self-talk, confidence). These aspects (i.e., goal; setting, self-talk, confidence) are foundations of mental skills training programs, yet traditional MST may have lacked an appreciation of the impact on sport enjoyment. Additionally, enjoyment's impact on increasing athletes' self confidence while simultaneously decreasing their trait anxiety may positively benefit their athletic career, as well as their personal, professional, and academic lives.

Study Limitations

The relatively small sample size of eight treatment and eleven control players is the primary limitation on the significance of these findings. Due to the constraints of the researcher's academic and teaching schedule, eight was the number which was realistically feasible to devote proper time to each participant. The twelve week intervention schedule was ideal to be completed within the timeframe of the season, although mental skills training programs in the future may be more effective if longer, because the participant group's reported sport enjoyment and use of mental skills were trending upwards through the second half and into the end of the season.

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Table 1. Bivariate Correlations among the Enjoyment, Motivational Styles, Trait Sport Anxiety, Trait Sport Confidence, and Three Selected Test of Performance Strategies-2 Subscales for Overall Sample at Post-Intervention

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Enjoyment	-													
2. CMSQ – Doubt-Orientated	-.05	-												
3. CMSQ – Failure-Evading	-.49*	-.08	-											
4. CMSQ – Development-Focused	.51*	.28	-.53*	-										
5. CMSQ – Win-Fixated	.04	-.32	.31	-.08	-									
6. SAS – Somatic	-.27	.26	.59**	-.19	.04	-								
7. SAS – Worry	.19	.83**	-.38	.38	-.36	.10	-							
8. SAS – Concentration Disruption	-.48*	.04	.69**	-.54*	.01	.69**	-.11	-						
9. SCI – Mental	.34	-.48*	-.21	.17	.18	-.66*	-.40	-.53*	-					
10. SCI – Physical	.51*	-.04	-.79**	.51*	-.19	-.75**	.19	-.82**	.63**	-				
11. SCI – Resilience	.16	-.58*	.11	-.16	.07	-.35	-.66**	-.40	-.53*	.59**	-			
12. TOPS – Goal Setting	-.01	-.22	.04	-.18	-.09	-.18	-.29	.23	.23	.08	.23	-		
13. TOPS – Relaxation	-.29	.23	.27	-.22	-.27	.48*	.04	.59**	-.27	-.33	-.08	.36	-	
14. TOPS- Self-Talk	.16	-.09	-.62**	.21	-.39	-.53*	.16	-.28	.34	.61**	.12	.45	.21	
15. Soccer Performance	.13	.28	-.06	.12	-.17	-.17	.17	-.05	-.17	.14	-.38	.27	.16	.05

Note: * = $p < .05$; ** = $p < .01$

Table 2. Bivariate Correlations among the Enjoyment, Motivational Styles, Trait Sport Anxiety, Trait Sport Confidence, and Subscales of the Test of Performance Strategies-2 for the Treatment and Control groups. Treatment Group values are in bold

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Enjoyment		.40	.61*	.63*	.51	.08	.39	-.35	-.01	.38	-.12	-.12	.01	.08
2. CMSQ – Doubt- Orientated	-.32		-.35	.56	.19	.34	.71*	.02	-.34	-.22	-.09	-.07	.24	-.05
3. CMSQ – Failure-Evading	-.32	.42		-.30	-.10	.34	-.24	.43	-.05	-.45	.23	.13	.15	-.09
4. CMSQ – Development-Focused	.32	.03	-.43		.81**	-.03	.17	-.62*	.20	.38	.10	-.43	-.22	-.21
5. CMSQ – Win-Fixated	-.04	-.38	.17	-.33		-.04	.06	-.64*	.29	.42	-.07	-.62*	-.34	-.31
6. SAS – Somatic	-.49	.79*	.38	.26	-.46		.60*	.48	-.69*	-.70*	-.37	-.02	.43	-.09
7. SAS – Worry	-.04	.86**	-.04	.25	-.29	.52		.42	-.65*	-.55	-.62*	-.16	.38	.11
8. SAS – Concentration/Disruption	-.60	.48	.76*	-.03	-.01	.78*	.04		-.49	-.71*	-.17	.43	.64	.45
9. SCI – Mental	.79*	-.79*	-.53	.09	.22	-.88**	-.47	-.80*		.84**	.59	.23	-.02	.38
10. SCI – Physical	.60	-.42	-.88**	.25	-.07	-.47	.02	-.82*	.69		.39	.09	-.28	.18
11. SCI – Resilience	.42	-.69	-.24	-.23	.02	-.82*	-.58	-.65	.73*	.27		.50	.19	.24
12. TOPS – Goal Setting	-.01	-.52	.42	-.14	.48	-.18	-.78*	.39	.19	-.34	.09/		.57	.65*
13. TOPS – Relaxation	-.56	.31	.47	-.19	-.37	.68	-.09	.71*	-.34	-.68	-.47	.13		.81**
14. TOPS- Self-Talk	-.06	-.69	-.66	-.05	-.08	-.50	-.53	-.51	.47	.48	.46	.08*	-.25	

Note: * = $p < .05$; ** = $p < .01$

Table 3. Means and Standard Deviations for Treatment and Control Groups for Pre- and Post-Season Assessments Enjoyment, Motivational Styles, Trait Sport Anxiety, Trait Sport Confidence, and Subscales of the Test of Performance Strategies-2

	Treatment n=8				Control n=11				Overall n=19				Group X Time	
	Preseason		Postseason		Preseason		Postseason		Preseason		Postseason		F	P
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD		
Enjoyment	4.2	.2	4.4	.4	4.5	.4	4.3	.3	4.4	.4	4.3	.4	4.12	.05
CMSQ – Doubt Orientated	4.1	1.5	3.9	1.3	4.7	.5	3.5	.4	4.5	1.1	3.7	.9	3.05	.05
CMSQ – Failure Evader	2.5	.8	2.9	.9	2.3	.7	4.3	.9	2.4	.8	3.7	1.1	5.93	.01
CMSQ – Development Focused	4.7	.6	4.6	.8	4.7	.7	3.9	.8	4.7	.6	4.2	.9	1.24	.16
CMSQ – Win Fixated	3.8	.9	3.2	1.1	2.9	1.1	3.9	.6	3.3	1.1	3.6	.9	5.38	.05
SAS – Somatic	2.1	.8	1.7	.5	2.2	.7	2.4	.6	2.1	.7	2.1	.6	2.08	.17
SAS – Worry	2.8	.8	2.8	1.0	3.0	.9	2.0	.5	2.9	.8	2.3	.8	4.82	.04
SAS – Concentration Disruption	2.0	.8	1.6	.6	1.4	.6	2.4	.8	1.7	.7	2.1	.8	4.49	.01
SCI – Mental	4.9	1.4	5.7	.9	5.5	.7	5.6	1.1	5.3	1.1	5.6	.9	1.11	.06
SCI – Physical	5.5	.6	5.9	.9	5.4	.9	4.4	.9	5.4	.8	5.0	1.2	4.67	.01
SCI – Resilience	4.5	1.2	5.3	1.2	4.6	.9	5.7	.7	4.6	1.1	5.5	.9	.20	.66
TOPS – Goal Setting	2.9	.6	3.9	.6	3.0	.7	3.7	.6	2.9	.6	3.8	.6	.71	.41
TOPS – Relaxation	2.7	.7	2.7	.8	2.3	.8	2.8	.8	2.5	.7	2.8	.8	1.15	.29
TOPS- Self-Talk	2.9	.7	3.8	.6	3.4	.8	2.8	.6	3.2	.8	3.3	.8	4.24	.004
Performance	.9	1.4	2.1	3.1	.6	.8	.9	1.0	.7	1.1	1.4	2.2	2.68	.12

Figure 1. Working Model of Sport Enjoyment as an Intervention Strategy

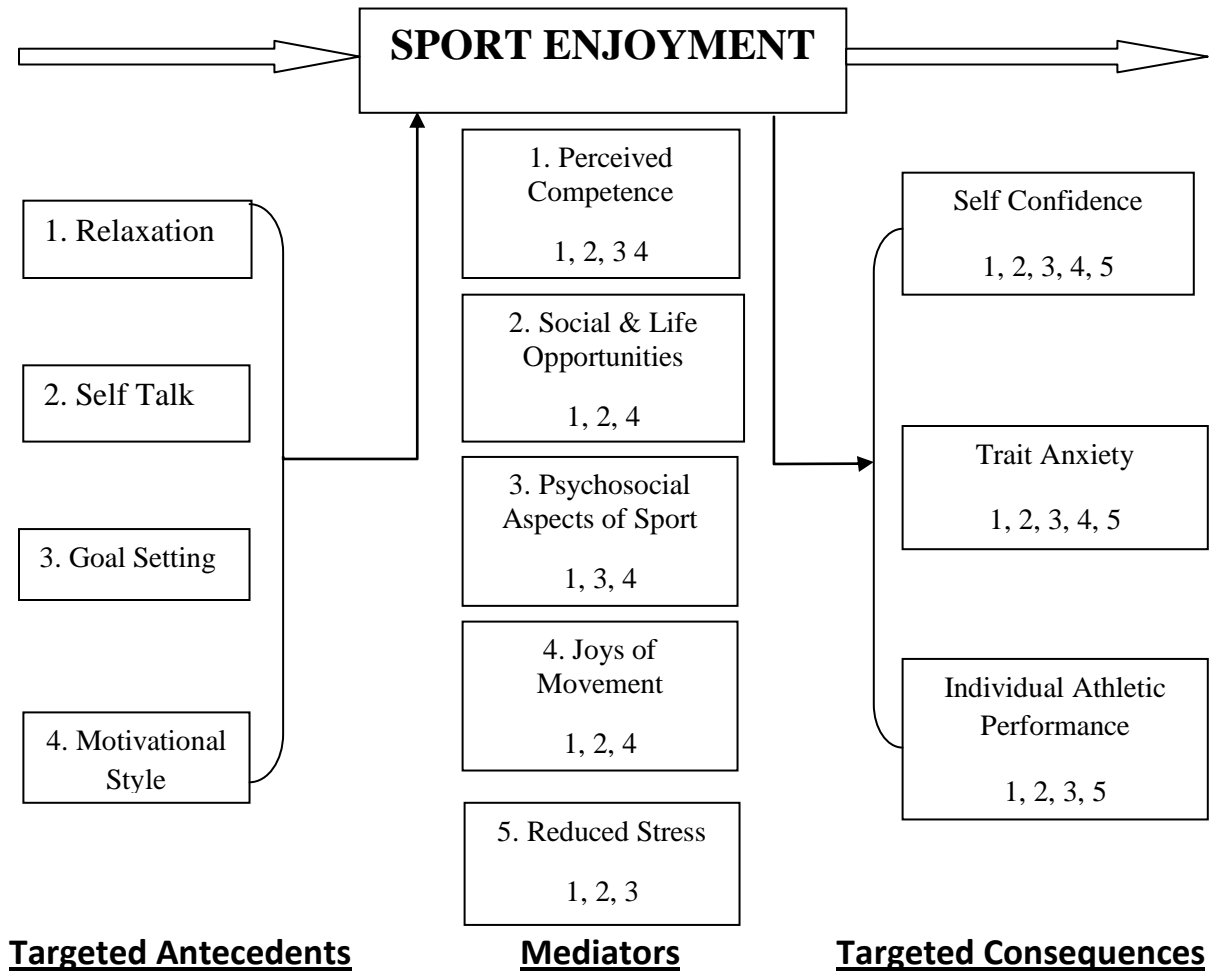


Figure 2. Treatment Versus Control Group Comparisons between Pre- and Post- Intervention for Nine Dependent Variables that Demonstrated Significant Group by Time Interactions

Figure 2a. Sources of Enjoyment in Youth Sport

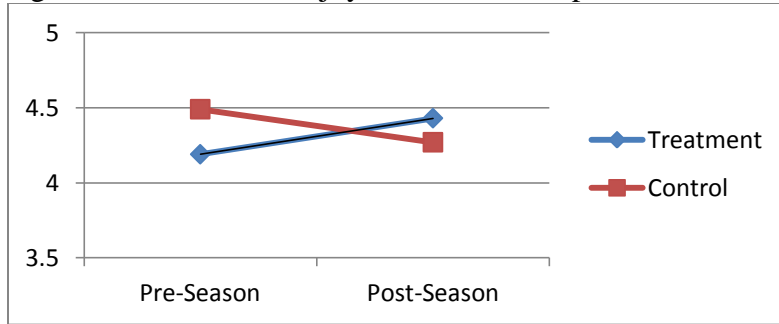


Figure 2b. Test of Performance Strategies -2 - Self Talk

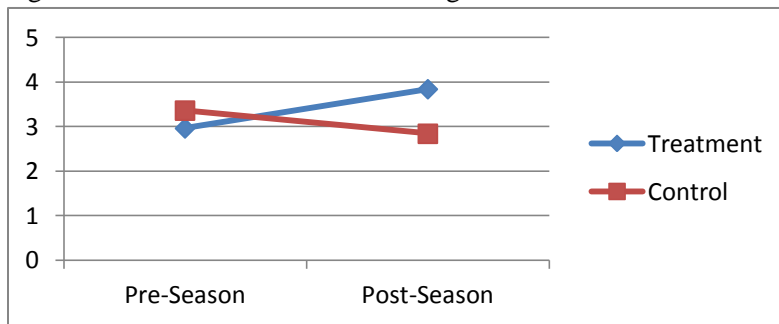


Figure 2c. Test of Performance Strategies -2 – Goal Setting

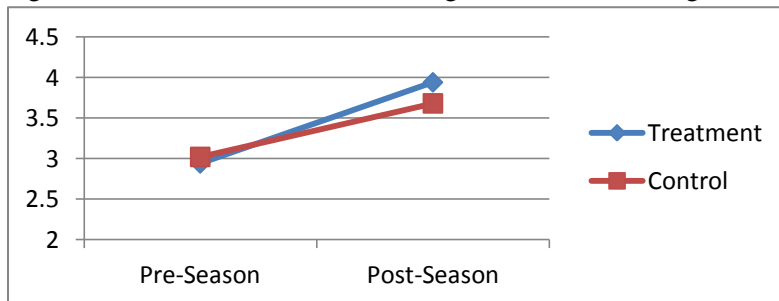


Figure 2d. CMSQ – Doubt-Oriented

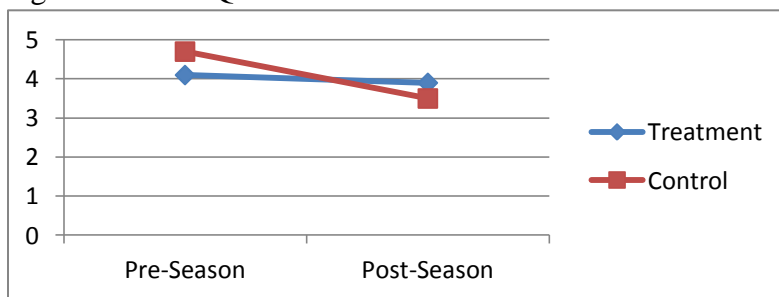


Figure 2e. CMSQ – Failure-Evading

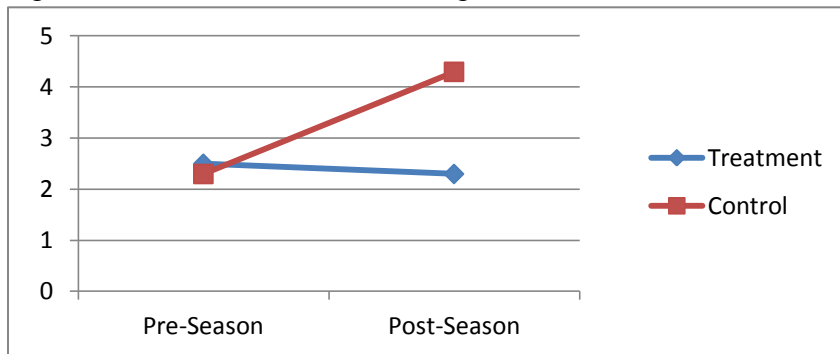


Figure 2f. CMSQ – Win-Fixated

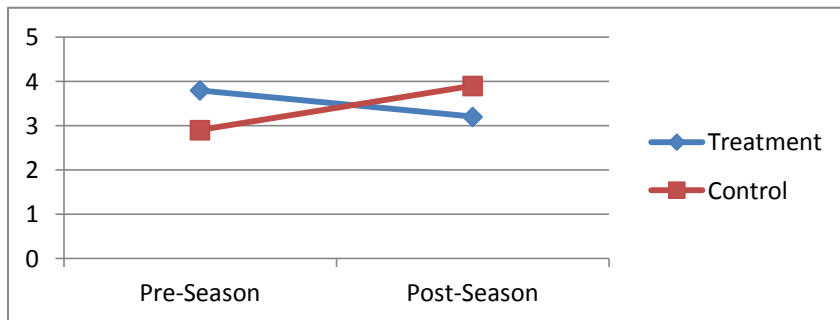


Figure 2g. Sport Anxiety Scale -2 - Concentration-Disruption

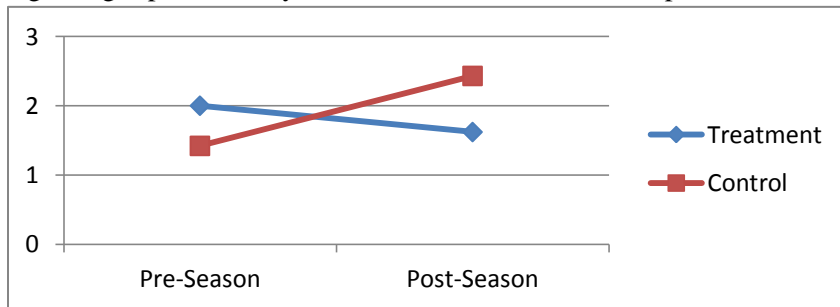


Figure 2h. Sport Confidence Inventory- Mental

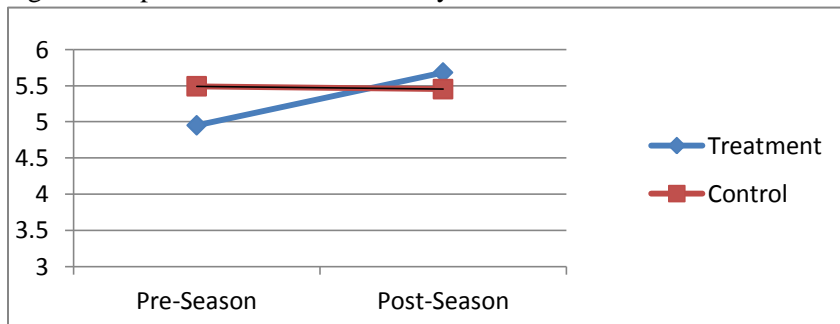


Figure 2i. Sport Confidence Inventory – Physical

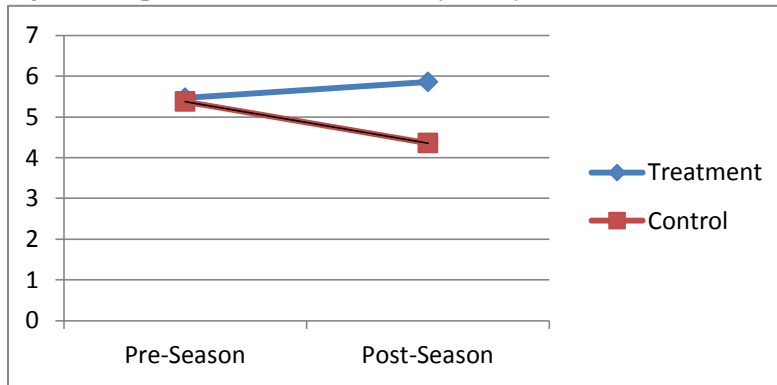
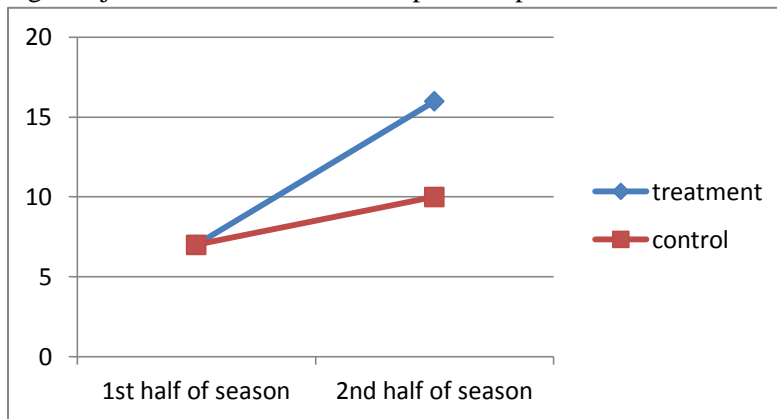


Figure 2j. Soccer Performance Output Comparison



Study 2:

Understanding “How” an Enjoyment-Focused Intervention Impacts

Division 1 Women’s Soccer Players’ Cognitions and Performance

Sport enjoyment is often overlooked by parents and coaches as a significant mediator or facilitator of performance compared to other mental training tools and skills (Burton & Raedeke, 2008). Often seen as a corollary or subcomponent of a larger idea, sport enjoyment has been shown to play a significant role in many aspects of athletes’ sport experience, such as sport commitment (Scanlan, 1993), performance expectations (Scanlan & Lewthwaite, 1986), social development (Wankel, 1993), attrition (Gould, Horn, & Weiss, 1984), sport engagement (Fraser-Thomas, Cote, & Deakin, 2008) and development and participation (Scanlan, Stein, & Ravizza, 1989). However, research is lacking regarding enjoyment’s impact as a performance enhancement strategy, both in terms of effectiveness and process mechanisms for “how” it might enhance performance. A previous manuscript (Barnicle & Burton, 2013) has supported the efficacy of an enjoyment-focused applied sport psychology intervention, but a better understanding of “how” sport enjoyment may help promote athletes competitive cognitions and athletic performance, as well as how enhanced intervention engagement and buy-in strategies can provided evidence for the inclusion and appreciation of enjoyment’s place as an enhancement strategy in the field of applied sport psychology.

Scanlan’s Model of Sport Enjoyment

The construct of sport enjoyment has traditionally been examined as a smaller component of larger constructs, such as competitive stress (Scanlan, 1984; Scanlan & Lewthwaite, 1984, 1986), sport commitment (Scanlan, 1989, 1992, 1993, 2003), and the psychosocial aspects of sport (Kimiecik & Harris, 1996; Wankel, 1993). From this early

research, Scanlan and Lewthwaite (1986) developed a four-quadrant model of youth sport enjoyment which combines intrinsic and extrinsic motivation with achievement and nonachievement activities to predict sport enjoyment in a given activity. Specific sources of enjoyment for each of the four-quadrants include: (a) *achievement-intrinsic*: sources related to personal perceptions of competence and control such as the attainment of mastery goals and perceived ability, (b) *achievement-extrinsic*: sources related to personal perceptions of competence and control that are derived from other people such as positive social evaluation and social recognition of sport achievement, (c) *nonachievement-intrinsic*: sources related to physical activity and movement (e.g., sensations, tension release, action, and exhilaration), and competition (e.g., excitement), and (d) *nonachievement-extrinsic*: predictors related to nonperformance aspects of sport such as affiliating with peers and having positive interactions with adults that revolve around the mutually shared sport experience.

While this model of sport enjoyment was preliminary (Scanlan & Lewthwaite, 1986), it was intended to serve as a roadmap for future research. This model was seen as the basis of implementing greater sport enjoyment to different sports and activities by including a full range of enjoyment sources, with the goal of extrapolating the role of enjoyment to other constructs such as sport involvement and attrition. Utilizing this model, Scanlan and colleagues (1989) attempted to identify the fundamental components of sport enjoyment through interviews with elite figure skaters. The results of these interviews demonstrated four major sources of enjoyment: (a) social and life opportunities, (b) perceived competence, (c) social recognition of competence and (d) the physical act of performance. Other common sources of enjoyment were shown to include, but are not limited to, achievement recognition, competitive achievement, family/coach relationships, friendships, and mastery of the activity,

which together helped define personal sport enjoyment (Scanlan et al., 1989). Although researchers have varying definitions of sport enjoyment (Kimiecik & Harris, 1996; Scanlan, 1992; Wankel, 1993), the primary goal of getting participants to enjoy sport seems to be a general consensus. However, there is a paucity of research examining sport enjoyment as a mental skill, as a mediator of MST effectiveness, and for the purposes of this study, as an MST intervention focus to enhance sport enjoyment through targeted mental training tools (i.e. goal setting, self-talk, and relaxation) in order to promote greater mental skill development (i.e., self-confidence, arousal control, and motivation) and overall athletic performance.

MST Research in Soccer

The world of soccer has become increasingly receptive to mental training, with many of the biggest professional clubs in the world employing some sort of sport psychology consultant (Burt, 2008). This acceptance of sport psychology has led to a growing area of research on the effectiveness of mental training on soccer-specific performance (Maynard & Hemmings, 1995; Thelwell, Greenlees, & Weston, 2006; Van-Yperen & Duda, 1999) and position-specific performance (Thelwell et al., 2010). Similar to previous research (Birrer & Morgan, 2010; Burton & Raedeke, 2008; Thelwell et al., 2010; Thomas & Fogarty, 1997) on MST programs in sport, Thelwell et al.'s (2010) soccer-specific mental skills training program was aimed at increasing the use of self-talk, imagery, and relaxation techniques. Using a single-case study design with three professional male soccer players, Thelwell and colleagues (2010) found their mental skills training program significantly improved position-specific decision making skills, second half performance, enjoyment, self-efficacy, social validation, and use of mental skills during play.

Although the empirical literature on female-specific sport psychology in soccer is limited, research shows female soccer players vary from their male counterparts regarding the impact of self-talk (Johnson, Hrycaiko, Johnson, & Halas, 2004) and goal setting (Chalabaev, Sarrazin, Stone, & Cury, 2008) on performance, as well as the benefits of imagery on team cohesion (Munroe-Chandler & Hall, 2004). Johnson and colleagues (2004) taught self-talk skills to an elite female youth soccer team, with the goal of examining the effectiveness of the self-talk intervention and gaining insight into athletes' perception about mental training, particularly if the participants felt self-talk increased their performance. An improvement of self-talk skills was shown to significantly increase performance on a soccer shooting task, and the program was well received and strongly supported by coaches and participants (Johnson et al., 2004).

Correlates of Sport Enjoyment

Based on youth sport research, several constructs have been demonstrated to significantly correlate with sport enjoyment, including; perceived competence (Boyd & Yin, 1996; Brustad, 1988; Ommundsen & Vaglum, 1991), intrinsic motivation (Martens et al., 1990), goal setting and goal orientation (Burton & Weiss, 2008), social enjoyment (Wankel & Kreisel, 1985), years of sport participation (Boyd & Yin, 1996), influence of significant others (e.g., parents, friends, and coaches; Brustad, 1988; Ommundsen & Vaglum, 1991; Scanlan, 1984), and motivational climate (Pensgaard & Roberts, 2000), primarily reflecting the attitude and culture established by the coaching staff. Many of these factors are pillars of traditional MST/sport psychology training (Birrer & Morgan, 2010; Burton & Raedeke, 2008), and it is assumed that each of these factors may have significant impacts on athletes'

sport enjoyment, prompting their measurement as antecedents and consequents of enjoyment and use as central concepts in designing the intervention for this study.

How MST Interventions Enhance Enjoyment

Previous research (Barnicle & Burton, 2013) demonstrated that an enjoyment based MST intervention can enhance enjoyment, competitive cognitions and athletic performance; however this study focused on how and why enjoyment can improve competitive outcomes. Following a systematic approach to identify, refine, individualize, and assess participants' sources of enjoyment, this MST intervention aimed to increase autonomy-supportive sources of enjoyment and use them to enhance performance.

Working Model of Enjoyment Implementation

A working model was developed to guide implementation of this enjoyment-focused MST intervention and help identify how enjoyment can contribute to performance enhancement (see Figure 1). Five steps in the working implementation model focus on (a) identifying athletes' sources of enjoyment (SOE), (b) refining enjoyment sources to be more autonomy supportive, (c) individualizing MST strategies to match SOEs, (d) utilizing engagement promoting strategies to increase motivation and enjoyment, and (e) assessing intervention progress regularly. This section describes how enjoyment was systematically maximized within the intervention implementation process.

Step 1: Identifying athletes' personal SOE. During the initial individual meeting, participants were asked to rank-order their sources of enjoyment (i.e., perceived competence, social & life opportunities, psychosocial aspects of soccer, joys of playing soccer, and soccer as a stress reliever; Scanlan & Lewthwaite, 1986) within soccer. Participants were able to rank their sources of enjoyment in whatever way they deemed appropriate, with no rules

restricting ties or equal ranking. For the purposes of this study, participants were not asked to stay within the five SOE (i.e., perceived competence, social and life opportunities, psychological aspects of soccer, the joys of playing soccer, and soccer as a stress reliever) outlined by the consultant. This process took place in approximately Week 3 of the intervention and developed a personal sport enjoyment model (Scanlan, Stein, & Ravizza, 1989) which aided in the individualization of the treatment. This model's first hypothesis predicts that when players have a greater understanding of their own sources of enjoyment, they should engage more fully with the intervention, ultimately enhancing its effectiveness.

Step 2: Refining athletes' SOE. The previously discussed four-quadrant model of sport enjoyment (Scanlan & Lewthwaite, 1986) provided the criteria to differentiate between intrinsic and extrinsic enjoyment sources. Wiersma (2001) used this model to develop the Sources of Enjoyment in Youth Sport Questionnaire (SEYSQ; Wiersma, 2001), which is the primary tool for measuring sport enjoyment in this study. In developing the SEYSQ, Wiersma (2001) furthered the distinction about intrinsic/extrinsic sources of enjoyment and created six subscales, with three exploring dimensions of intrinsic (e.g., self-referenced competency, competitive excitement, and effort expenditure) and three extrinsic (e.g., affiliation with peers, positive parental involvement, and other-referenced competency and recognition) enjoyment sources. Athletes who experience intrinsic enjoyment sources pursue sport for the competence and mastery of the activity, as well as the physical movement and excitement that comes from sport (Scanlan and Lewthwaite, 1986). In contrast, athletes who enjoy more extrinsic factors focus on sources related to the social recognition of achievement from others (Bakker, De Koning, Schenau & De Groot, 1993; Dweck, 1999), and the interpersonal/social side of sports (Scanlan and Lewthwaite, 1986). An understanding of

these enjoyment types was important in implementing and individualizing the intervention for each athlete based on her primary sources of enjoyment, strongest type of enjoyment, and ability to shift towards more autonomy-supportive SOE if possible. More intrinsic and autonomy-supportive sources of enjoyment were hypothesized to enhance effectiveness of the intervention as compared to those sources that were more extrinsic/less autonomy-supportive.

Previous research (Harter, 1981; Ryan & Deci, 2000; Scanlan and Lewthwaite, 1986), supported by Wiersma (2001), has demonstrated that athletes who view success as intrinsic and autonomy-supportive have more positive and healthier reactions to a sport environment and greater enjoyment. If participants are displaying primarily less autonomy-supportive extrinsic sources of enjoyment, part of the intervention individualization process was to use self talk to reframe thoughts and refocus on more intrinsic SOE. This refining of athletes' sources of enjoyment was coupled with focused training on specific mental tools or skills which may benefit this shift from extrinsic to intrinsic enjoyment. Hypothesis 2 predicts that enjoyment sources have the ability to be refined and shift focus over time to more desirable/effective intrinsic and autonomy-supportive SOE.

Step 3: Individualize MST intervention strategies to match SOE. The individualization of the MST treatment for each participant was not fixed and inflexible, but instead it was constantly evolving and refocusing across the three assessment periods of the season. From analysis of the intake session, athletes' initial personal model of sport enjoyment (Scanlan, 1993), and initial scores on instruments, a baseline intervention plan was established for each athlete. A framework of traditional applied sport psychology tools and skills (i.e., goal setting, self-talk, relaxation, motivation; Burton & Raedeke, 2008) was

taught to each athlete to achieve a cursory understanding of the field (Martens, 1987), yet from this point forward individualization of implementation strategies was emphasized. Because each athlete had different strengths, weaknesses, stressors, and coping skills, the consultant tailored the direction of the intervention to improve those skills which were weak, and to enhance even further those which were already strong. For example, an athlete who enjoyed social recognition from soccer set primarily outcome goals and lacked motivation in practice was shifted to use practice and performance goals with the aim of improving intrinsic enjoyment sources (Wiersma, 2001) and intrinsic motivation (Ryan & Deci, 2000). Increased performance in practice led to increase performance in competition, thus allowing her to enjoy greater social recognition of her accomplishments. Intervention individualization which matched mental training tools and skills to athletes' sources of enjoyment was hypothesized to enhance intervention enjoyment, engagement and effectiveness.

This enjoyment-focused MST intervention was comprised of four primary applied sport psychology components (i.e., goal setting, self-talk, relaxation, and motivation; Burton & Raedeke, 2008), giving participants a basic understanding of traditional applied sport psychology (Martens, 1987), which was followed by an individualized MST implementation plan to meet athlete-specific areas of need. The significant findings of an enjoyment-focused MST intervention on the knowledge and use of these mental tools and skills were discussed in a previous manuscript (Barnicle & Burton, 2013), but the model's third hypothesis predicts that the tools of goal setting, self-talk, and relaxation should increase and enhance psychosocial and performance outcomes as part of this intervention.

Step 4. Promoting treatment engagement. The most effective intervention strategy in the world would be seemingly useless unless participants are fully engaged and buy-in to

the process (Bowles, Cunningham, De Le Rosa, & Picano, 2007; Reichert, Barros, Domingues, & Hallal, 2007). Research (Krane & Baird, 2005; Voight & Carroll, 2006) has explored many different ways that MST interventions can gain strong and early engagement from athletes, yet no clear strategies have emerged as being one-hundred percent effective in assuring high athlete engagement. This study developed a composite indicator of athlete engagement, termed the Individual Engagement Score (IES), which reflected five key components including buy-in, quality of consulting relationship, intervention individualization, personalized sources of enjoyment, and amount of deliberate MST practice.

Participant buy-in has been shown to increase intervention effectiveness in coaching (Alvarez, Balaguer, Castillo, & Duda, 2009) and coach-training settings (Bowles et al., 2007), and this study hypothesized that increased athlete engagement would lead to enhanced intervention effectiveness. Rapport (Raskin & Rogers, 1989), trust (Cohn et al., 1990), confidence in consultants' abilities and sport IQ (Burton & Raedeke, 2008), and effective lines of communication (Martin & Schwartz, 2000) are some of the components which create a good working relationship and are keys to a successful MST intervention (Burton & Raedeke, 2008). The strong working relationships between the consultant and treatment participants allowed for generally rapid buy-in to the intervention, dedication to the recommended deliberate practice of individualized tools and skills, and a trust in the consultant's sport-specific intelligence to relate the enjoyment-focused MST program to the individual athlete's specific position and role on the team. From this strong working relationship and the consultant's focus on helping players adopt more intrinsic and autonomy-supportive sources of enjoyment. Hypothesis 5 states that athlete engagement

should be enhanced, boosting enjoyment of the process and leading to a more successful intervention

Step 5. Progress assessment and individual adjustments. Based on formal and informal treatment assessments, this individualized treatment approach came from the weekly feedback of each athlete, any reported or demonstrated change in performance, and a comparison of targeted variables between the pre and mid-intervention assessment points. The evolution of each athlete's intervention focus continued after the mid-intervention assessment point, with the goal of improving all targeted areas of need, as well as performance, during the second half of the season. This process finished with a post-intervention interview where participants shared their thoughts about the process, what, if any, best practices they identified, and how the individualization process impacted them throughout the season. Finally, the fifth hypothesis predicts that a properly individualized assessment and refinement strategy should help to maintain positive growth from the intervention during difficult times in the season, as well as help participants evolve into well rounded applied sport psychology practitioners.

Method

Design and Participants

Nineteen members of a Division 1 women's soccer team served as participants for this study designed to determine "how" the effectiveness of a season-long, enjoyment-focused applied sport psychology intervention was able to enhance competitive cognitions and athletic performance. This manuscript will focus on the eight members of the treatment group. The three-month time-span, coupled with a relatively small sample size, lent itself to a

repeated-measures, quasi-experimental, mixed-methods design which would allow for intervention individualization based upon applied sport psychology best practices.

Participants represented the three primary out-field positions in soccer (i.e., defender, midfielder, and forward). The goalkeeper position was excluded due to the position's individualistic nature and skill-set. During planning of the study, it was deemed too difficult to compare a goalkeeper to an outfield player in terms of skill development due to the differing nature of the positions. The goal of the treatment group formulation was to include two defenders, two midfielders, and two forwards, with the other two participants being from any of these three positions. In an effort to limit and skill/ability/playing time bias within the data, the treatment group consisted equally of coach-defined starters and non-starters, and the treatment group also included at least one athlete from each academic class to ensure minimal age and experience bias in the sample.

Instruments

As the nature of the study utilized a mixed-methods design, three psychometrically-validated instruments were utilized for the data collection, supplemented by a researcher-designed weekly enjoyment log, and composite engagement scale, and one skill assessment tool designed cooperatively by the consultant and head soccer coach.

Sources of Enjoyment in Youth Sport Questionnaire (SEYSQ). Designed to examine the two dimensions (i.e., intrinsic and extrinsic) and six subscales (i.e., self-referenced competency, competitive excitement, effort expenditure, affiliation with peers, positive parental involvement, and other-referenced competency and recognition) of enjoyment, this 28-item instrument was developed by Wiersma (2001) to examine Scanlan and Lewthwaite's (1986) sources of enjoyment model in youth sport. Items are rated on a 5-

point Likert-type scale, with responses ranging from 1 (not at all) to 5 (very much). The three intrinsic subscales were summed to calculate that dimension score, the three extrinsic subscales totaled to compute that dimension score, and all items summed for an overall total score. Validity and reliability were confirmed through a 3-stage peer-review process by experts in the field (Wiersma, 2001). For the purposes of this study, two items were not used due to their wording and aim of comparing athletes to others of their “own age,” thus resulting in the questionnaire consisting of 26-items.

Competitive Motivational Style Questionnaire (CMSQ). The Competitive Motivational Style Questionnaire (Gillham, Gillham, & Burton, 2012) is a 20-item instrument which uses four subscales to measure athletes’ motivational styles. These conceptually-derived motivational styles or states of involvement include: development-focused (5 items), win-fixated (4 items), failure-evader (5 items), and doubt-oriented (6 items) styles. CMSQ items are rated on a six-point Likert-type scale, with responses ranging from 1 (strongly disagree) to 6 (strongly agree). Factorial validity of the instrument suggests a good fitting model (Gillham et al., 2012), with internal consistency of subscales for the four motivational styles ranging from 0.74 to 0.88.

Test of Performance Strategies-2 Practice (TOPS-2P). Developed to examine athletes’ use of psychological skills and strategies during practice and competition (Hardy, Roberts, Thomas, & Murphy, 2010; Thomas, Murphy, & Hardy, 2009), this 64-item self-report measure consists of eight 4-item practice and competition subscales. For the purpose of this study, three (i.e., goal setting, relaxation, and self-talk) of the eight practice subscales were assessed, totaling 12 items. The TOPS-2 utilizes a five-point Likert-type scale examining frequency of use by the participant, with descriptors ranging from 1 (never) and 5

(always). Internal consistency of subscales ranged from 0.71 to 0.85, and the factorial validity of the instrument suggests a good fitting model (Thomas, Murphy, & Hardy, 2009).

Individual Engagement Score (IES). Instruments have been developed which analyze participant-reported levels of engagement (Lonsdale, Hodge, & Jackson, 2007), but the IES was designed as a method to examine consultant-assessed athlete engagement that should influence enjoyment in this intervention study. The IES uses five criteria to estimate an athlete's engagement in the intervention: athlete buy-in (BI), quality of the consulting relationship (CR), personalized sources of enjoyment (SE), amount of deliberate skill practice (DP), and individualization of intervention (II). Each item was scored by the consultant on a scale from 1 to 5, with 5 being the highest BI, strongest CR, most intrinsic SE, greatest DP, and most II, with a maximum score of 25. For the purposes of this study, the IES was assessed and analyzed at the post-intervention stage with the hypothesis that those athletes who scored highest in the IES would show the most increase in sport enjoyment and use of other targeted mental tools and skills.

Weekly Sport Enjoyment Logs (WSEL). Participants were asked to complete a brief 5-item survey at the beginning of each weekly session aimed at measuring their weekly levels of the five factors of sport enjoyment targeted through this intervention (e.g., perceived competence, social and life opportunities, psychosocial aspects of sport, joy of movement, and reduced stress). These items are scored on a 4-point Likert-type scale, with descriptors ranging from 1 (strongly disagree) to 4 (strongly agree). The goal of these logs was to quantitatively measure participants' weekly changes in the components of enjoyment.

Soccer Skill Assessment Tool (SSAT). In an effort to measure performance as a primary intervention outcome, a quantitative skill assessment tool was designed to measure

the effectiveness of the enjoyment intervention on performance. The soccer-specific assessment tool measures specific areas of in-competition soccer performance, including: physical, tactical, and technical performance. Similar measurement tools have been used at the highest level of professional soccer in Europe (Burt, 2008), but they are rarely used in collegiate soccer in America. The assessment category will be scored on a 4-point Likert-type scale, from 1 (very low) to 4 (very high). These assessments were completed by the head coach the day after each of the data collection games. If the athlete did not gain consistent playing time, the head coach used the SSAT to identify performance levels during competitive team scrimmages.

Game performance data. Publicly available post-game and post-season statistics were used to evaluate competitive in-game soccer performance output. These performance indicators consisted of goals and assists during competitive matches, each valued at one point, and were evaluated for all games during the regular season. These statistics were calculated by summing performance data for matches in the first half of the season and then comparing that total to those matches in the second half of the season.

Consultant case notes. Consultant case notes were recorded following each individual session held with participants, as well as any group sessions held with the entire team and/or coaching staff. These case notes were a subjective evaluation of the various factors assessed and evaluated during the course of this research and will serve as additional data for the qualitative data analysis.

Post-intervention interview. Each participant was asked to participate in a forty-five minute post-intervention interview designed to gain her thoughts and feelings about the

intervention process. The topics discussed and formulation of interview questions were individualized to the athlete's personal model and sources of enjoyment.

Procedure

Following a MST model (Burton & Raedeke, 2008) aimed at improving targeted mental training tools (i.e., goal setting, self-talk, relaxation) and skills (i.e., motivation, self-confidence, stress management), this enjoyment-focused intervention aimed to enhance sport enjoyment, and consequently improve competitive cognitions and sport performance.

Structured MST intervention. This enjoyment-focused applied sport psychology intervention was focused on promoting and enhancing sport enjoyment (Boyd & Yin, 1996; Scanlan, 1992; Scanlan & Lewthwaite, 1986; Wankel, 1993), and followed MST theory and best practices (Burton & Raedeke, 2008; Martin & Swartz, 2000). During initial sessions, the participants were introduced to the traditional mental training tools and skills (Burton & Raedeke, 2008), from which further individualization of treatment could occur in the weeks that followed, focusing on the areas of need presented by each individual. This orientation was designed to achieve a basic knowledge of mental training tools and skills, as well as the goals and purposes of the intervention because more knowledgeable participants would be more open to the intervention's purposes (e.g., enhanced sport enjoyment and increased psychosocial and performance outcomes).

Athletes formally met with the researcher twelve times during the course of the intervention, with sessions lasting approximately forty-five minutes and focusing on the individual needs of the athlete. Through analysis of the initial instruments scores, coupled with qualitative and quantitative data from the initial WSEL, the researcher tailored individual interventions to each athlete in order to improve sport enjoyment and ultimately

enhance athletic performance. Participants were given the opportunity to develop mental training tools such as relaxation, goal-setting and self-talk, and skills such as stress management, self-confidence, and motivation, all of which are pillars of the Burton and Raedeke (2008) mental skills training model.

Assessment of intervention effectiveness. Following approval of the Institutional Review Board, all coaches and athletes received a verbal explanation of the project, followed by the completion of informed consent statements before participating in the study. Participants were assured that inclusion or exclusion from the study had absolutely no impact on their status within the team, and in no way would impact their playing-time because details of intervention sessions were kept strictly confidential.

All participants completed the battery of instruments that included the SEYSQ, CMSQ, and TOPS-2 at three time periods: (a) prior to intervention initiation, (b) intervention midpoint, and (c) again at intervention completion following the conference tournament. Following the season, participants completed post-intervention interviews to provide qualitative assessment of the intervention. These interviews provided insight about the positives and negatives of intervention design, with the goal of improving future intervention effectiveness.

Data analysis. Analysis of this MST sport enjoyment intervention was conducted utilizing both quantitative and qualitative procedures. A sample case study and a cross-case analysis was utilized to assess the changes of targeted variables across the season.

Results

Case Study - Sarah

Though multiple participants showed significant improvement and seemed to enjoy the intervention process, one athlete, in particular, best demonstrated the primary intent and effectiveness of the intervention. Sarah, a senior forward co-captain, had enjoyed significant success during her first three-years, achieving many academic and athletic honors at the university, including setting most records in the program's history. During this time, the program was trending upwards, building upon each season's performance to grow into a consistent conference contender.

Baseline assessment. Sarah reported the joys of playing soccer as her initial primary source of enjoyment (30%), with social & life opportunities, the psychosocial aspects of soccer, and perceived competence each 20% , and soccer as a stress reliever 10%. Compared to the treatment group as a whole, Sarah reported slightly lower levels of sport enjoyment (4.12 vs. $M = 4.19$), development focused (4.6 vs. $M = 4.7$) and win-fixated motivational styles (MS; 3.0 vs. $M = 3.8$), and the use of self-talk (2.8 vs. $M = 2.9$). Sarah reported higher levels of doubt-oriented MS (6.0 vs. 4.1) and the use of goal setting (3.5 vs. $M = 2.9$) and relaxation skills (4.0 vs. $M = 2.7$) compared to the treatment group. Sarah was assessed to have an initial engagement score of 14, which was the significantly lower than the treatment group average of 18.4, which she attributed to her lack of buy-in and belief in the consultant, prompting a lack of motivation to practice mental training tools and skills.

Beginning of intervention. During the beginning weeks of her senior season, Sarah struggled to find her form during practice and games, leading to a lack of motivation in practice, inconsistent results during competitions, and minor injuries, equating to amotivation

and a lack of soccer enjoyment. She reported enjoying soccer less due to her nagging injuries, and disliking the extensive travel and the effect it had on her school work. During these initial weeks, her performance and scoring on the field was worse than previous seasons, and her weekly enjoyment log levels were below many of her teammates.

Originally hesitant about the possible effectiveness of the project, Sarah was slow to fully trust the consultant and develop solid rapport needed for an effective working relationship, leading to a lack of buy-in initially. Positive rapport began to build as the participant began to learn more about the consultant, whose elite level playing and coaching background, and officiating experiences in soccer helped developed a sense of trust in the consultant's soccer intelligence. Previous applied consulting experience with athletes' in other sports around the university also helped bolster the consultant's credibility in the eyes of this athlete. As hypothesized, identifying Sarah's SOE improved engagement as she felt more connected with the intervention once the consultant fully understood and appreciated how and why she enjoyed soccer. Finally the consistent positive attitude and commitment to the athlete by the consultant prompted her to more fully trust the intervention and gain belief in the process.

Buy-in solidified. Upon this buy-in breakthrough, which occurred roughly in Weeks 4 and 5 of the intervention, the results of Sarah's hard work with the MST program began to show in her play. Sarah had been setting practice goals which were incongruent with her competitive goals and SOE, leading her to focus on aspects of her practice which were not preparing her to succeed during competition. For example, one of her performance goals was to improve her mental focus and goal scoring in the last 15 minutes of 90-minute soccer matches, yet during practice she did not like to run hard to build her endurance, nor did she

generally enjoy the conditioning aspects of training. Her performance goal required her to build her endurance so she was an effective performer at the end of the game, yet she was unaware of her lack of goal compatibility between practice and competition. Emphasis was placed on refining her SOE and developing a proper goal setting plan, consisting of goal setting sheets and athlete-defined rewards/punishments, which were effective in improving her goal setting skills. Once consistency between practice and competitive goals was attained, her form in practice improved, as did her performance during the end of matches.

Midseason progress. After buy-in was solidified Sarah's targeted areas of need demonstrated significant progress. Compared to the pre-season assessment, Sarah's sport enjoyment increased 3.6% (4.12 [T1] vs. 4.27 [T2]). As hypothesized, Sarah's increased engagement opened her to the idea of utilizing her individualized targeted mental tools and skills, prompting her use of self-talk 54.5% more (2.75 vs. 4.25), goal setting 14.3% more (3.5 vs. 4.0), and increase her IES to 20, which was higher than the treatment group average of 17.8. One of Sarah's most significant changes was her refinement of her motivational style, with her doubt-oriented style decreasing 38.8% (6.0 vs. 3.67), demonstrating the intervention's effectiveness in assisting Sarah become more development and performance focused. Sarah also reported lowering her failure-evader style 42% (4.0 vs. 2.8) and win-fixated style 33% (3.0 vs. 2.0), while maintaining similar levels of development-focused MS (4.6 vs. 4.8) and use of relaxation skills (4.0 vs. 4.0).

Post season reflection and assessment. During the post-intervention interview, Sarah admitted to initially being skeptical and hesitant about buying-in to the applied sport psychology intervention. She cited the consultant's relatability, trustworthiness, and

competence as important factors to her eventual buy-in, yet the factor she found most influential was the consultant's knowledge of the sport and playing experience,

“I was very pessimistic at first but meeting with you really helped a lot, I was not expecting it to at the start. Once I realized your knowledge of high level soccer I opened up more”.

Without the consultant's solid knowledge of the terminology, strategy, and general soccer culture, she felt the intervention would not have been as successful. Sarah recommended every future team member be exposed to applied mental training, and in stark contrast to her affect at the outset of the season, she was thankful to be included in the project.

“This training is very nice, especially during tough seasons. Everyone could benefit from better goal setting skills, but most for me was getting a better understanding of why I enjoy soccer”.

The primary skills she found beneficial in the intervention were goal setting, positive self-talk, and increasing intrinsic motivation in practice. She attributed improvement in these areas to her refined and increased sport enjoyment, which also helped her relationships with teammates on and off the field.

Sport enjoyment and performance. Consistent with hypotheses, the enjoyment-focused MST intervention increased Sarah's reported sport enjoyment and helped refine her SOE to reflect autonomy-supportive intrinsic sources. Sarah's sport enjoyment was most directly influenced by her performance on the field and the act of playing soccer, followed by her social connections with her friends on the team, and finally with coaching staff interaction bringing up the rear. Upon her change of practice mentality, she was able to better

appreciate her teammates and coaching staff during practices, which, in turn, led to better performance on the field, further enhancing her enjoyment in soccer and with her peers,

“I more enjoyed trying hard in practices and spending time with friends on the team this season than past years. This helped me feel better about myself when I left practice”.

This trend is supported by the data, which show she scored 66% of her points during the second half of the season, her reported sport enjoyment in the second half of the season increased by 19.3% compared to the first half of the season, and the SSAT demonstrated a 13.3% increase in her playing performance during the final two games of the season compared to the season’s first two contests. Her engagement improved throughout the intervention, with an IES of 23 during the final assessment, which was the highest score in the treatment group (i.e., $M = 17.8$).

Aside from an increase in sport enjoyment and athletic performance, Sarah also showed increases in other mental skills and tools as a result of the intervention. As setting effective practice goals was a primary aspect of her individualized intervention plan, it was a positive to see a 187.5% increase in her reported use of goal setting, which was the largest increase of the eight participants. This was coupled with a 37.5% increase in the use of relaxation skills and 55.5% increase in the use of self talk. Compared to the group average, Sarah displayed higher levels of development focused style (4.8 vs. $M = 4.6$), higher use of goal setting (4.25 vs. $M = 3.9$), relaxation techniques (3.0 vs. $M = 2.7$), and self-talk (4.5 vs. $M = 3.8$). She reported lower levels enjoyment (4.3 vs. $M = 4.4$) and lower doubt-oriented (3.7 vs. $M = 3.9$), failure-evader (2.4 vs. $M = 2.9$), and win-fixated styles (2.5 vs. $M = 3.2$). Sarah’s process-based performance was also higher than the group mean (34 vs. 27.2), and

was 13.3% higher than the first evaluation period. These results confirm the hypothesis that increased engagement and individualization would lead to enhanced intervention effectiveness, as Sarah's intervention was both highly individualized and highly effective.

Cross-Case Analyses

Cross-case analyses for treatment participants focused on examination of the viability of the working implementation model to explain why and how the intervention affected positive change. A one-way analysis of variance (ANOVA) followed by a comparison of means was utilized to assess intervention effectiveness over time based on pre-, mid-, and post-season assessments (see Table 1). Results for enjoyment, engagement, and performance measures are also reported. All analyses assessed significance at an $\alpha < .05$.

Identifying SOE. A primary hypothesis of this enjoyment-focused MST intervention was that refining the treatment groups' individual SOE to more autonomy-supportive (i.e., joys of playing soccer, perceived competence, and psychosocial aspects of soccer) versus extrinsic (social & life opportunities) sources would enhance enjoyment. The qualitative personal models of sport enjoyment were coupled with the quantitative intrinsic and extrinsic subscales of the SEYSQ to illustrate athletes' evolution of SOE across the season.

Initial enjoyment sources. The initial evaluation of participants' primary sources of enjoyment revealed the joys of playing soccer as the most prevalent SOE, with one-half (50%; see Figure 2a) of the participants reporting it as their highest ranked source of enjoyment. This was followed by the psychosocial aspects of soccer (22%) and soccer as a stress reliever (14%), with enjoyment from perceived confidence (7%) and social and life opportunities (7%) sharing the least reported primary SOE. Some participants reported more than one component sharing primary importance, which was allowed due to the open nature

of this aspect of data collection. Based on SEYSQ dimensions, participants reported the same levels of intrinsic ($M = 4.17$) as extrinsic ($M = 4.17$) enjoyment sources. The initial consultant-directed personal models of enjoyment process was at times difficult for athletes to concretely complete as the group on a whole rarely took the time to examine their SOE.

“I have never really thought about why I enjoy soccer, I just play”

“I don’t know how to answer, they all seem the same to me”

Post-intervention. As hypothesized, the treatment increased autonomy-supportive sources of enjoyment within participants, with the post-season assessment demonstrating that athletes enjoyed the physical act of playing soccer (54%) and the psychosocial aspects of soccer (31%) more than compared to the pre-intervention assessment (see Table 1, Figure 2b). These increases were coupled with a decrease in athletes viewing soccer as a stress reliever from 14% to 0%, which may be due to the athletes increased and more effective use of stress management and relaxation skills. Thus, athletes were more able to focus on performance and competition instead of using soccer as a stress relieving activity. The primary extrinsic SOE (e.g., social and life opportunities) decreased slightly from 8% to 7%, with perceived competence remaining consistent at 7%.

Results at the mid- and post-intervention assessment from the SEYSQ were consistent with the equal balance of intrinsic and extrinsic SOE from the pre-intervention assessment. At mid-intervention, the group reported slightly higher levels of intrinsic versus extrinsic SOE (4.2 vs. 4.0), although the final assessment revealed only slightly higher levels of intrinsic SOE (4.42 vs. 4.41) as compared to extrinsic SOE. Both qualitative and quantitative results provide moderate support for the hypothesis that an enjoyment-focused MST intervention can enhance athletes’ autonomy-supportive intrinsic sources of enjoyment.

Intrinsic/extrinsic balance. With the personal models of enjoyment displaying more intrinsic than extrinsic SOE at pre-intervention, and the SEYSQ results displaying equal sources of intrinsic and extrinsic SOE, it is clear that the athletes' experienced enjoyment from many sources. Conceptually, it may be healthy that athletes have a variety of SOE to avoid "putting all their eggs in one basket", so to speak, and avoiding a major collapse if their primary SOE is not attained. Although the intervention primarily focused on enhancing intrinsic/autonomy-supportive SOE, it is important that athletes' continue to garner enjoyment from multiple sources to remain well-rounded student-athletes. Upon completion of this process, some athletes were pleased to see their models were generally constructive and represented intrinsic SOE, where some athletes seemed disappointed in their models

"I never liked the girls who only played because they wanted gear but it looks like I am one of them".

By the end of the season, she had changed her mentality regarding wearing team apparel simply for social approval

"I am so happy the season is over so I can get back to wearing normal clothes again".

Refining SOE to maximize autonomy. Although the treatment group reported the desired intrinsic/autonomy-supportive SOE at the pre-intervention assessment, the intervention's goal was to refine (if necessary) and enhance athletes' intrinsic SOE. Therefore, steps were taken throughout the initial weeks to develop those desired SOE within all treatment athletes. This process maintained levels of intrinsic SOE reported at the mid-intervention assessment ($M = 4.2$) and decreased extrinsic SOE ($M = 4.0$) compared to the initial assessment, which can be viewed as a positive because the team was in the midst of a six-game losing streak, which could have diminished all sources of enjoyment during that

time. This refinement process primarily focused on altering or advancing targeted mental tools and skills which were highlighted during individual sessions, with the goal of matching the current needs of the athlete with the mental training tool or skill which would be most likely to enhance autonomy-supportive/intrinsic SOE in the upcoming weeks. This refinement process was initially met with mixed emotions by certain athletes

“But I love walking around campus in my soccer sweatshirt and getting all the attention, it makes me feel good even when I’m having a rough day”.

Individual tools to match SOE. With the enjoyment-focused MST intervention being based around traditional MST (Burton & Raedeke, 2008) and improving athletes’ motivational styles, the consultant focused on specific mental tools (i.e., goal setting, self-talk, relaxation) depending upon the SOE refinement needs of the individual player.

Targeted tools and skills. An analysis of baseline results for the intervention’s targeted variables (see Table 1) demonstrated the relatively low reported use of goal setting ($M = 2.9$ out of 5), relaxation ($M = 2.7$), and self talk ($M = 2.9$), and the high levels of a doubt-oriented style ($M = 4.1$ out of 5), clearly one of the least desirable motivational styles (Gillham et al., 2012). Reported sport enjoyment was relatively high ($M = 4.2$ out of 5) and consistent across all athletes ($SD = .1$), which may be due to the lack of competitive games and stress because the assessment was completed pre-season, and/or athletes may have provided socially desirable responses to look favorable to the consultant. Other targeted variables included failure evader ($M = 4.1$), development focused ($M = 4.7$), and win fixated ($M = 3.8$) motivational styles, and the group’s average soccer performance ($M = 25.3$).

Treatment individualization allowed for the most effective use of the consulting relationship's efforts to enhance autonomy-supportive SOE, overall enjoyment, and maximize performance

“Once we started to focus on my practice mentality and setting goals for practice, I started enjoying meeting more, I felt like we were working towards something”.

Another example of treatment individualization focused around one player's competitive nature, which she admitted was not her strongest quality, yet she felt the need to be more hard-nosed and aggressive during games

“I need to be more aggressive during games to play my position, but I don't like going in hard on my teammates during practice”.

This athlete felt that if she went in for a challenge aggressively with a teammate they would risk suffering an injury, which led to a lack of desire and motivation in practices. She knew she needed to work on her aggressiveness and strong tackling, yet she was unable to get over her fear of injuring a teammate, which would lead to immense guilt. Through reframing her negative self-talk patterns and addressing her low practice-orientated self-confidence, she was able to determine the correct opportunities to improve her aggressiveness in practice, which led to an increase in her tackling self-confidence, ultimately improving her competitive performance.

Treatment engagement to enhance enjoyment. Two sub-groups emerged from an analysis of the treatment groups' overall average IES, a high-IES ($n = 3, M = 20.4$) and a low-IES ($n = 5, M = 16.5$). These low and high groups were easily formed due to a natural gap in scores. The IES group by time comparison shown in Figure 3a approached significance, $F(2,5) = 2.89, p < .15, \text{partial } \eta^2 = .54$, which yielded a practically significant

difference given group sizes of 3 and 5. The IES group analysis was significant despite small group sizes, $F(1,6) = 19.1$, $p < .005$, $\text{partial } \eta^2 = .71$. These sub-groups also allowed for an analysis of how athletes' engagement may impact intervention effectiveness.

IES improvement across intervention. The high-IES group had an initial IES average of 18.7 compared to the low-IES group's 18.2 during the initial assessment point. The relatively close scores at the initial assessment period suggest overall moderate openness to the intervention. At mid-intervention assessment, the high-IES group averaged 20.3 compared to 16.2 for the low-IES group, suggesting an increasing difference in athlete engagement during the initial weeks of the intervention. This trend continued during the second half of the intervention, with the high-IES group averaging 22.3 at post-intervention assessment compared to 15.0 in the low-IES group. These consistent diverging trends (see Figure 3) suggest the importance of early buy-in and engagement during an MST intervention, especially if the athletes' on-field form is poor or inconsistent, which was often the case with the low-IES group.

IES impact on other variables. Results of a repeated measures one-way ANOVA revealed significant differences between the low- and high-IES groups, with the high-IES group demonstrating more use of self-talk $F(1,7) = 14.33$, $p < .05$, $\text{partial } \eta^2 = .98$, and goal setting $F(1,7) = 5.52$, $p = .05$, $\text{partial } \eta^2 = .66$ suggesting the high engagement group's increased use of targeted mental tools. Regarding performance, the high-IES group demonstrated significantly greater performance output, $F(1,7) = 7.62$, $p < .05$, $\text{partial } \eta^2 = .64$, suggesting the high-IES group may have practiced and utilized targeted mental tools and skills more frequently and more effectively than the low-IES group. A win-fixated motivational style demonstrated significant group differences $F(1,7) = 16.67$, $p < .05$, $\text{partial } \eta^2 = .98$.

$\eta^2 = .74$, with the other three styles (i.e. development focused, doubt-oriented, and failure evader) closely approaching significance. Although not demonstrating significance, enjoyment approached significance and may have demonstrated significance with a larger sample size. Surprisingly, relaxation did not approach significance, which may be due to the small sample size, the disproportionate sample sizes, or the high use of targeted mental tools and skills within the treatment group as a whole.

A comparison of percentage gains was also used to illustrate the impact engagement has on this study's targeted variables. The largest percentage disparities between the two-groups were evident for enjoyment, the use of self-talk and athletic performance. Supporting the hypothesis that high athlete engagement can positively impact an enjoyment-focused MST, the high-IES group showed an 11% increase in enjoyment across the intervention (3.98[T1] vs. 4.45[T3]) compared to only a 2% increase in the low-IES group (4.3 vs. 4.4). Finally, the high-IES group demonstrated a 15.9% increase in evaluated soccer performance (26.2 vs. 31.1) compared to the low-IES group's 1.6% (25.2 vs. 24.8) decrease across the intervention.

IES component correlational results. A series of correlations were calculated to examine the relationship and impact the five components of the IES (i.e., athlete buy-in (BI), quality of the consulting relationship (CR), personalized sources of enjoyment (SE), amount of deliberate skill practice (DP), and individualization of intervention (II)) on the overall IES across the three assessment points. As predicted, buy-in demonstrated the only significant positive relationship with the initial assessment of IES ($r = .78$), and a strong consulting relationship was the only significant positive correlation with mid-assessment of IES ($r = .73$), suggesting the impact initial buy-in may have on the development of a strong consulting

relationships, setting the stage for a productive intervention. Additionally, supporting the hypothesis that an individualized MST intervention will enhance engagement, individualization of intervention demonstrated a significant positive correlation ($r = .78$) with the IES at post-intervention assessment, with deliberate practice approaching significance ($r = .61$). Surprisingly, intrinsic SOE displayed a nonsignificant negative correlation with overall IES ($r = -.30$), although the trend was moving towards a positive correlation during the second half of the intervention.

Overall, these correlational results suggest that difference components of engagement may be more critical at specific phases of the intervention implementation process. During the Education Phase (Holliday, Burton, Hammermeister, Sun, Naylor, & Freigang, 2008) buy-in seems particularly important, but the development of strong consulting relationships seems to be more prominent during the intervention's Acquisition Phase. Finally, during the Practice/Implementation Phase, individualization and deliberate practice seem to be the critical engagement tools that are most beneficial.

Although buy-in varied among participants, multiple athletes noted the vital role the relationship between consultant and participant played in intervention effectiveness

“I was hesitant at first, but once I understood your soccer IQ, and heard from other athletes that you helped them, it was much easier for me to trust you and the process”.

Another contributing factor to rapport was the consultant's ability to be at most every home practice and game, as well as travel with the team on two road trips

“Seeing you at practices and on the bench at home games really showed me you care and want to be around us”

“Traveling with us (team) was awesome. It allowed you (consultant) to see our daily reality and bond with us. I wish you could have been to every game!”

This ability to be ever-present during practices and games allowed the consultant to provide short-term in-promptu consulting when needed/requested by the player. These discussions served less to increase sport enjoyment, yet they allowed participants to remain calm and focused after being substituted for a poor performance, ultimately leading to less decrease in sport enjoyment and satisfaction, and in some instances increased resilience and performance

“Talking with you on the sidelines after I came off for missing that shot helped me refocus on what I needed to for when I went back in. Normally I would just sit at the end of the bench and be mad. It definitely helped me play better in the second half”.

This intervention may not have been as successful if such rapport was absent.

Assessed progress. A post-intervention assessment allowed for the analysis of the MST intervention’s impact on enjoyment, targeted competitive cognition variables and athletic performance across the season.

Enjoyment. Supporting the hypothesis that this MST intervention can enhance athletes’ sport enjoyment, the weekly enjoyment logs results demonstrated a steady increase in reported sport enjoyment across the intervention, with the treatment group as a whole reporting a 27.7% increase in sport enjoyment from pre- ($M = 19.9$ out of 30) to post-intervention ($M = 25.4$; see Table 1 and Figure 3b). During the middle weeks of the WSEL reporting, there seemed to be a plateau in enjoyment which may be due to the six-game losing streak which the team experienced (see Figure 3b). Due to the timing, it was beneficial

to see a plateau effect instead of a drop in reported enjoyment, suggesting intervention effectiveness at sustaining enjoyment during difficult points of the season.

Athletic performance. Goals and assist performance during competition increased 67% across the season (see Table 1), with one player increasing her scoring output 166.7% in the second half of the season. From the SSAT, the treatment group showed a 10.4% increase in evaluated soccer performance (see Table 1), with the largest player change a 54.9% increase across the season. These results support the hypothesis that an enjoyment-focused MST intervention can enhance sport enjoyment and the use of mental tools, contributing to improved athletic performance.

Discussion

This mixed-method study supports the effectiveness of an enjoyment-focused MST intervention on enhancing enjoyment, engagement and performance through refining and maximizing autonomy-supportive sources of enjoyment (Wiersma, 2001). This discussion details support provided for the viability of each of the study's hypotheses derived from the working implementation model.

Identifying SOE Enhances Intervention Effectiveness

The consultant was able to gain insight to the athletes' sources of enjoyment from both qualitative (i.e., personal models of enjoyment, WSEL) and quantitative (i.e., SEYSQ) sources, providing a well-rounded sense of what each athlete enjoyed about soccer, why she enjoyed it, and how it impacted her overall enjoyment, engagement and athletic performance. Personal models of enjoyment were gained during the intake interview, whose structure was based on the Scanlan Collaborative Interview Method (SCIM, Scanlan, Russell, Magyar, &

Scanlan, 2009) which emphasizes a joint-data discovery process between the consultant and participant.

The realization and visual representation (Scanlan et al., 2009) of personal models of enjoyment increased players engagement in the intervention because they were motivated to change their reasons for playing soccer through refining individual sources of enjoyment to be more autonomy-supportive in nature and gaining enjoyment intrinsically instead of from praise from others (Ommundsen & Vaglum, 1991). This trend of enhanced engagement through a joint (i.e., consultant-participant; Scanlan et al., 2009) understanding of individual's SOE was consistent in most participants, with positive rapport and consulting relationships primarily beginning after Session(s) 1 or 2 upon completion of the identification of personal models of enjoyment. The case study and cross cases analyses demonstrating the consistent increase in enjoyment and use of targeted mental tools (Burton & Raedeke, 2008) across the season (see Table 1, Figure 3b), strongly supported the hypothesis that identifying athletes SOE early in an MST intervention enhances intervention effectiveness. This finding bolstered by the qualitative data strongly supported the need for rapport and a strong working relationship in order to set the stage for a productive intervention, providing good overall support for Hypothesis 1.

Refining SOE to Maximize Autonomy

Although one of the primary focuses of this intervention was to enhance overall sport enjoyment (Scanlan & Lewthwaite, 1986), athletes who displayed primarily extrinsic SOE were encouraged to develop more autonomy-supportive/intrinsic ones (Wiersma, 2001) as the intervention progressed. As the athletes enjoyed soccer by incorporating more autonomy-supportive sources, they became more intrinsically motivated to improve their skills and

succeed both on and off the field, ultimately leading to enhanced enjoyment, engagement and performance.

Shift from an extrinsic SOE (e.g., social & life opportunities) to a more autonomy-supportive intrinsic SOE (e.g., perceived competence) seemed to help athletes in this study increase their playing time, coach-evaluated performance, and overall enjoyment within soccer (Garcia-Mas et al., 2010). Most participants reported enjoying this refinement process as it enabled them to appreciate enjoying soccer for reasons (i.e., autonomy-supportive and intrinsic) that may have been lost due to the intense collegiate recruitment process or the highly competitive nature of Division 1 athletics (Voight & Carroll, 2006). Cross-case results demonstrating the slight increase in intrinsic SOE across the season (see Table 1), providing some support for the hypothesis that refining athletes SOE maximizes autonomy (Wiersma, 2001), and may have been stronger with a larger sample size and/or longer intervention. Further support came from the increase in intrinsic SOE in the personal models of enjoyment at the post-season assessment as compared to pre-season (see Figure 2). Case study and qualitative results moderately support the hypothesis that autonomy-supportive/intrinsic SOE enhance athletes overall enjoyment, and that this type of model-driven intervention can help athletes refine their SOE as needed.

Individualize Tools to Match SOE

Aside from enhancing sport enjoyment, targeted mental training tools (Birrer & Morgan, 2010) and athletic performance, a primary focus of intervention individualization was to refine athletes' SOE towards more autonomy-supportive sources (Wiersma, 2001). All participants received similar applied MST (Burton & Raedeke, 2008) during the preliminary weeks of the intervention in order to build a foundation of mental skills, as well

as maintain intervention uniformity and reliability. During Sessions 3 or 4, intervention individualization began to take place as the areas of needed improvement began to formulate for each participant.

Too often athletes with stress problems may lack motivation during practices (Ryan & Deci, 2000; Scanlan & Lewthwaite, 1984), thus prompting her to frame her goals for practices around simply getting them over with, which fails to set her up for competitive success. Upon this assessment, consultants may need to work towards more effective goal setting for practice, which ultimately leads to better competitive performances as her practice goals became more compatible with her competitive goals (Burton & Weiss, 2008). Without the steps of identifying athletes' SOE (Scanlan et al., 2009; Scanlan & Lewthwaite, 1986) to enhance engagement and the SOE refinement process, athletes may not be as open to improving and using their targeted mental tools, suggesting the importance of the primary steps in the working model (see Figure 1).

Because the intervention was based on traditional MST (Burton & Raedeke, 2008), it was beneficial to see athletes utilizing their targeted mental tools more often as the intervention progresses (see Table 1), strongly supporting the hypothesis that individualizing MST treatment can enhance treatment participants' understanding and use of targeted mental tools and skills to enhance enjoyment. This increase in the use of targeted mental tools and skills was also shown in cross case analyses through the high-IES group's significant increase in performance across the season as compared to the low-IES group, strongly support the role engagement has on athlete's implementation and effective use of the intervention's material during competitive performance. Qualitative results demonstrated the importance athletes placed on a strong working relationship from which they were more

engaged in the individualization process of specific mental tools and skills (Burton & Raedeke, 2008), ultimately increasing their enjoyment, and providing strong overall support for the hypothesis that intervention individualization can enhance effectiveness.

Promote Engagement to Enhance Enjoyment

Established in the counseling psychology and applied sport psychology literature (Burton & Raedeke, 2008; Raskin & Rogers, 1989), rapport is the primary key to any successful consulting relationship. Coupled with knowledge from successful consulting experiences in the past, developing rapport was at the forefront of the consultant's approach at the outset of the intervention. Participants would routinely text and call the consultant while on road trips for quick refreshers on what they should be focused on, indicating a high-level of trust in both the consulting process and the relationship with the researcher. Case study results demonstrating Sarah's increased enjoyment, use of targeted tools and performance across the season strongly support the hypothesis that increase engagement enhances enjoyment and intervention effectiveness. Her initial engagement was relatively low, yet upon buy-in her enjoyment and targeted tools, MSs and skills rapidly increased compared to other participants. Qualitative results moderately support the hypothesis that improved engagement can enhance enjoyment (see Table 1, Figure 3b), both from a periodized standpoint (Holliday et al., 2008) and an overall trend across the season. The upward trend of engagement scores in the high-IES group (see Figure 3a) compared to the downward trend in the low-IES group partially support the hypothesis that increased engagement promotes enjoyment from a correlational perspective and emphasize the role of engagement components during different phases of the intervention.

Assess Progress Regularly

The use and analysis of the weekly sport enjoyment logs allowed for consistent and constant refining of the enjoyment-focused MST intervention with the aim of always meeting the present needs of the individual athlete (Holliday et al., 2008). The WSEL, coupled with the mid-intervention assessment results, allowed the consultant to ensure each athlete was receiving specific treatment strategies to most effectively enhance enjoyment, build engagement and improve athletic performance. This cycle of assessment, refinement of intervention strategy, and re-assessment (Burton & Raedeke, 2008; Holliday et al., 2008) allowed for limited plateau effects (see Table 1, Figure 3a), continually enhancing enjoyment and improving performance throughout the intervention. Following the previous four steps of the working model allowed participants to develop trust in the consultant's view of how the MST individualization should progress from each assessment point. Case study and cross case analyses demonstrated the steady increase in enjoyment and targeted mental tools across the season (see Table 1), strongly supporting the hypothesis that consistent assessment and refinement of an individualized MST intervention can enhance effectiveness. Qualitative results demonstrated that the participants remained interested and engaged with the intervention due to this consistent assessment-refinement cycle, strongly supporting the hypotheses that an enjoyment-focused MST intervention that consistently reassesses and re-tailors processes to the individual, can enhance sport enjoyment and athletic performance.

Limitations

The relatively small treatment sample size of eight is the primary limitation on this study. The 12-week intervention schedule was ideal to be completed within the timeframe of the season, although mental skills training programs in the future may be more effective if

longer, because the group's reported sport enjoyment and use of mental skills were trending upwards through the second half and into the end of the season.

Future Directions

The most prevalent topic which arose from this intervention was the varying enjoyment barriers athletes' faced throughout the season. Each athlete reported varying degrees of barriers to their enjoyment, which topics ranging from the negative effects from the constant travel during the season, to the impact of the coach-player relationship. Future research may be able to examine and identify common barriers of sport enjoyment, and develop coping strategies and techniques to handle the barriers.

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Table 1. Means and Standard Deviations for Pre-, Mid- and Post-Season Assessment of Enjoyment and Two Subscales of the SEYSQ, Motivational Styles, Three Subscales of the Test of Performance Strategies-2, Individual Engagement Score, and Two Performance Measures

Variables	Treatment Participants (n= 8)					
	Preseason		Mid-Season		Postseason	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Enjoyment	4.2	0.2	4.1	0.4	4.4	0.4
Intrinsic Enjoyment	4.2	.3	4.2	.4	4.4	.4
Extrinsic Enjoyment	4.2	.2	4.0	.4	4.4	.4
CMSQ – Doubt Oriented	4.1	1.5	4.1	1.2	3.9	1.3
CMSQ – Failure Evader	2.5	0.8	2.9	0.6	2.9	0.9
CMSQ – Development Focused	4.7	0.6	4.5	1.1	4.6	0.8
CMSQ – Win Fixated	3.8	0.9	3.2	1.1	3.2	1.1
TOPS – Goal Setting	2.9	0.6	3.5	0.4	3.9	0.6
TOPS – Relaxation	2.7	0.7	3.2	1.1	2.7	0.8
TOPS- Self-Talk	2.9	0.7	3.6	0.6	3.8	0.6
Individual Engagement Score	18.4	2.4	17.8	2.7	17.8	4.3
Competitive Performance	-	-	0.9	1.4	2.1	3.1
Soccer Skills Assessment Tool	25.3	5.3	-	-	27.2	6.7

Figure 1. Enjoyment-Focused MST Intervention Implementation Working Model.

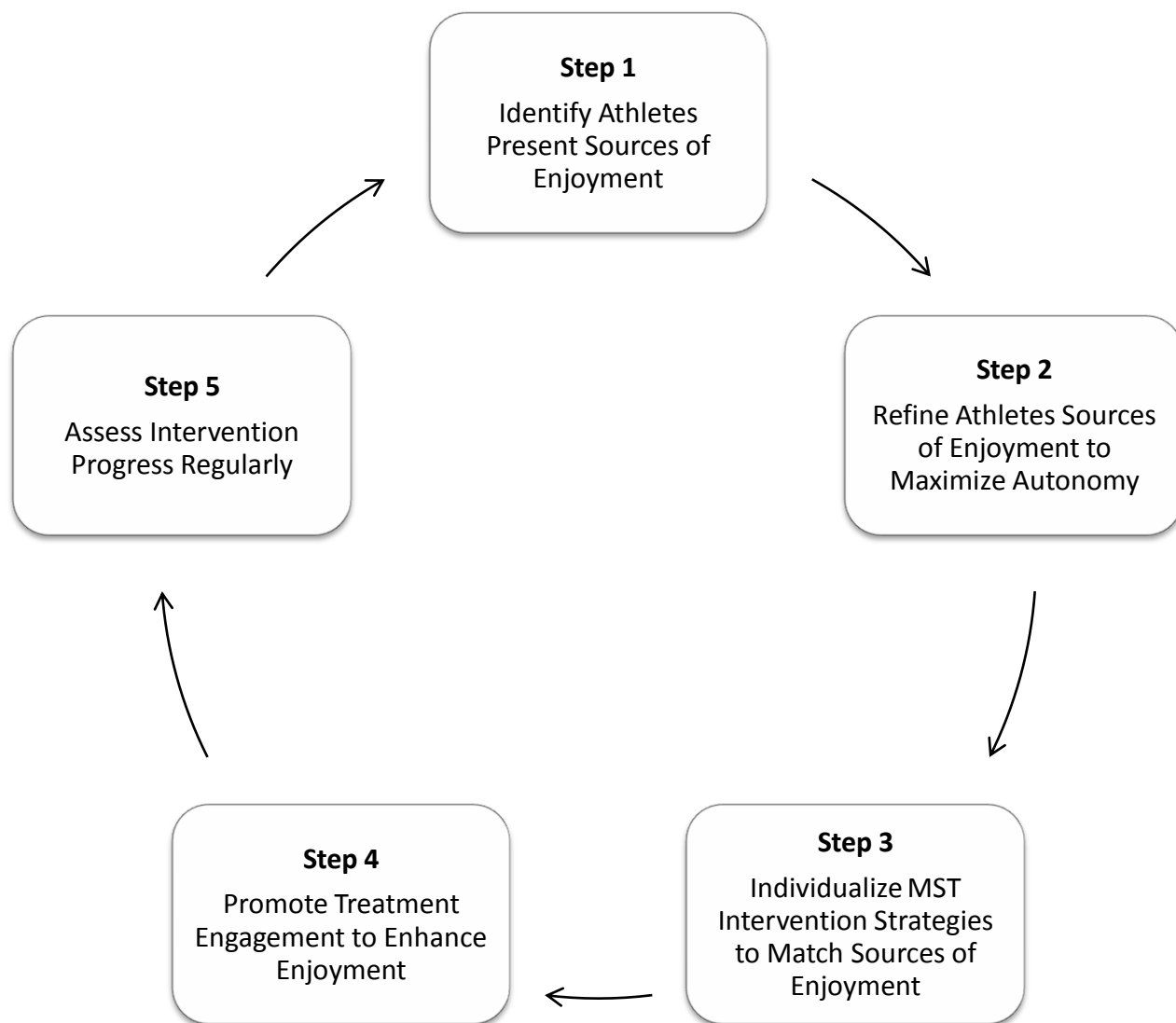


Figure 2. Treatment Group's Pre- and Post-Season Personal Models of Sport Enjoyment

Figure 2a. Group Pre-Season Primary SOE Profile.

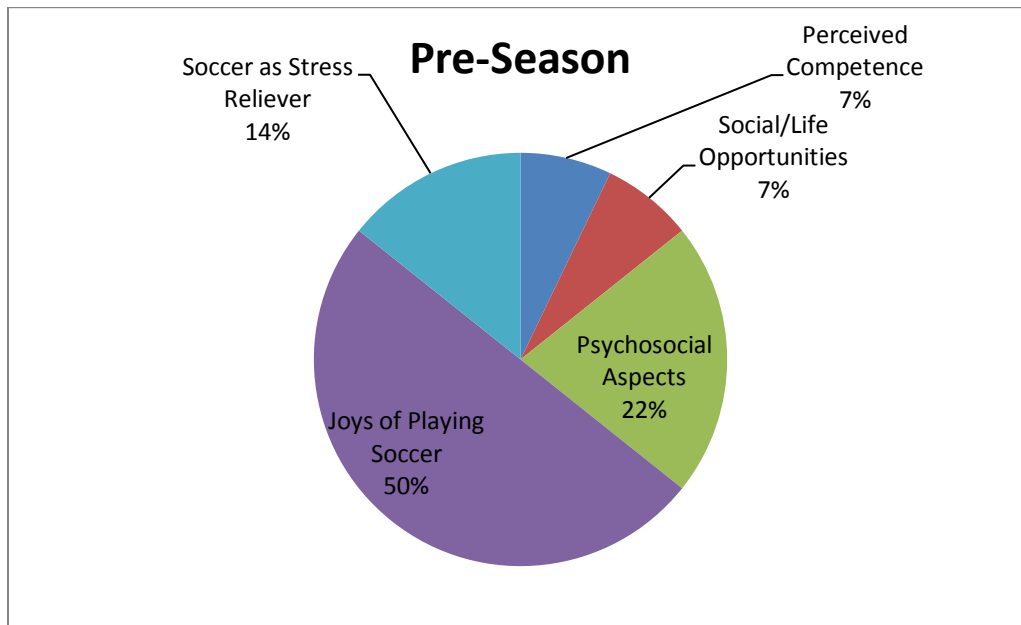


Figure 2b. Group Post-Season Primary SOE Profile.

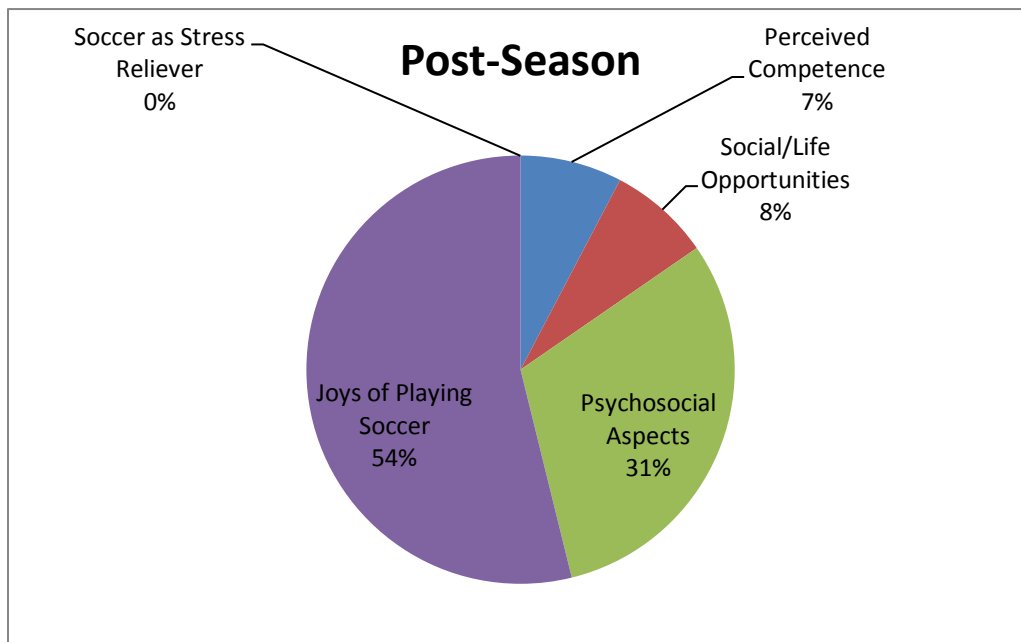


Figure 3. Treatment Group Trends in Engagement and Enjoyment Across the Season

Figure 3a. Individual Engagement Scores (IES) Trends for Low- and High-IES Group Across the Season.

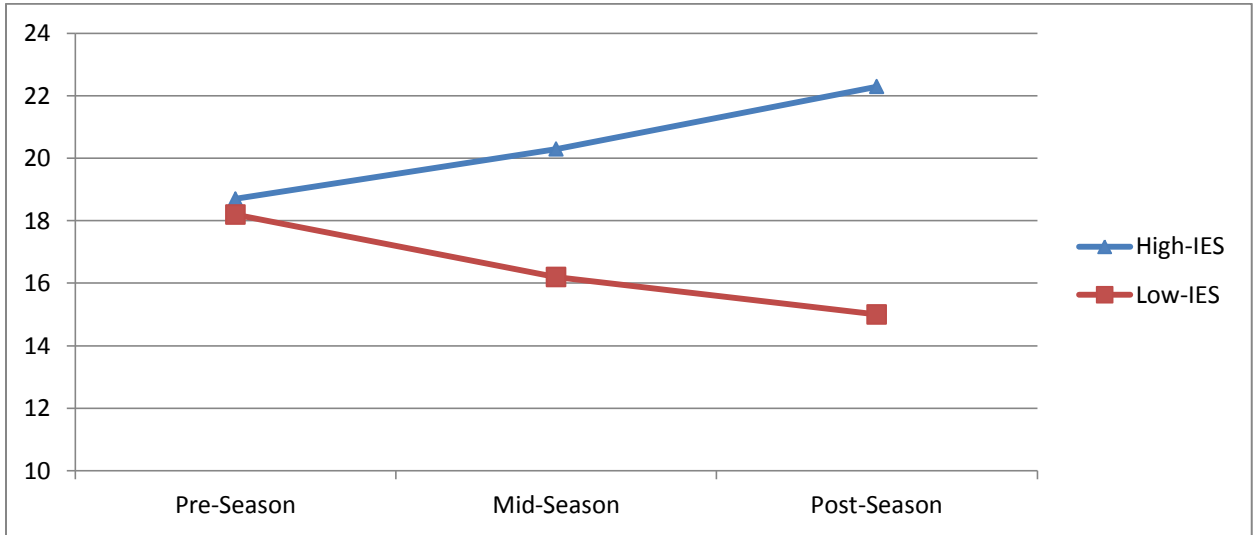
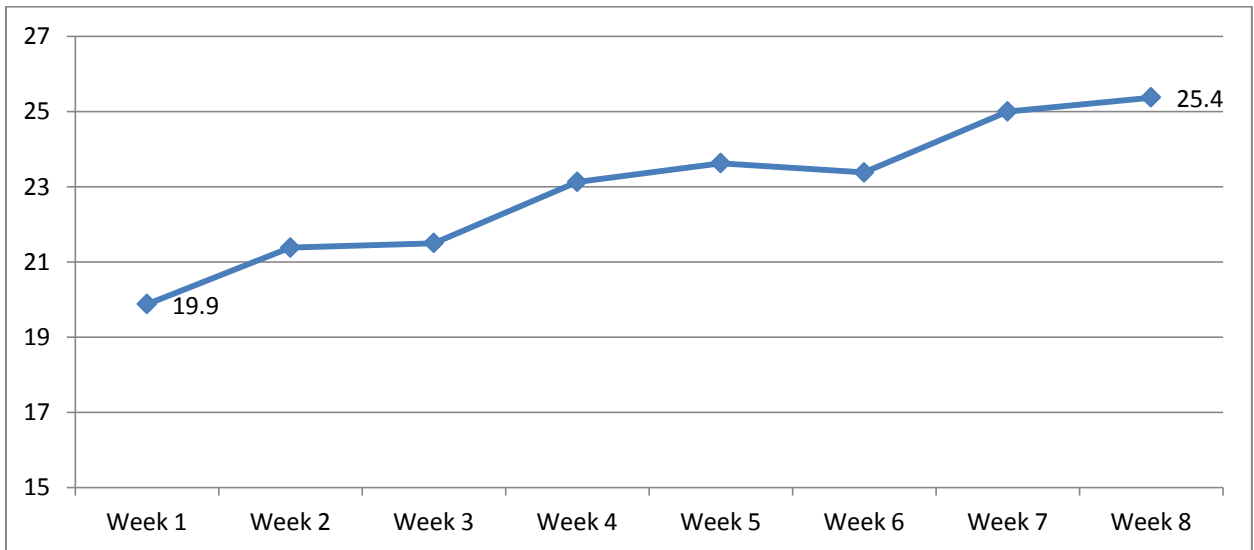


Figure 3b. Weekly Log Sport Enjoyment Scores across the Season. S



Appendix 1. IRB Protocol Approval

University of Idaho

September 26, 2012

Office of Research Assurances
Institutional Review Board
PO Box 443010
Moscow ID 83844-3010

Phone: 208-885-6162
Fax: 208-885-5752
irb@uidaho.edu

To: Burton, Damon
Cc: Barnicle, Scott

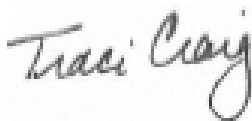
From: Traci Craig, PhD
Chair, University of Idaho Institutional Review Board
University Research Office
Moscow, ID 83844-3010

Title: 'The Ultimate Goal: Achieving Optimal Performance through
Increased Sport Enjoyment in Collegiate Women's Soccer'

Project: 12-286
Approved: 09/25/12
Expires: 09/24/13

On behalf of the Institutional Review Board at the University of Idaho, I am pleased to inform you that the protocol for the above-named research project is approved as offering no significant risk to human subjects.

This approval is valid for one year from the date of this memo. Should there be significant changes in the protocol for this project, it will be necessary for you to resubmit the protocol for review by the Committee.



Traci Craig

Appendix 2. Athlete Informed Consent

Applied Sport Psychology & Sport Enjoyment

Thank you for your participation in this research study which will be implemented by Scott Barnicle, with the endorsement of the University of Idaho Women's Soccer staff and the Department of Movement Sciences. The goal of this study is to examine the impact that sport enjoyment has on athletic performance via the use of an applied sport psychology training program focused on enhancing sport enjoyment. My goal is to further understand the components of sport enjoyment, how sport enjoyment affects performance, the individualized nature of sport enjoyment, and how it can be enhanced through applied sport psychology.

The intervention will consist of 12-weekly meetings throughout the course of your season. Participation in the study and weekly meetings is completely voluntary, can be ended at any time, and in no way will affect your standing on the soccer team or within the university as a whole.

The information discussed in the individual meetings will be confidential with the researcher (Scott Barnicle), and will not be shared with the coaching staff, unless you specifically request I do so. The intervention will consist of traditional mental skills training, surveys, and interviews. There are not anticipated risks beyond those you might experience in your normal daily life. Should any problems arise, the intervention will be stopped, and you will be referred to the appropriate on-campus office, or off-campus facility. Post-session notes will be recorded, and the post-intervention interview will be tape-recorded for accuracy, upon participant approval.

Aside from the individual meetings, you complete a weekly sport enjoyment log at the beginning of each meeting, and a battery of research-proven sport psychology instruments at the beginning, middle, and end of the 12-weeks. As stated above, you have the right to withdraw or cease participation in the study at any time without fear of any form of consequence.

Informed General Consent

By acknowledging this agreement, I understand that I am participating in the designated research project described above. I agree to allow my responses to be used to further the field of sport psychology. This study has been approved by the University of Idaho Institutional Review Board.

Participant's Signature _____

Scott Barnicle
University of Idaho
207-751-7229

_____ Date

Dr. Damon Burton
University of Idaho
Department of Movement Science

Appendix 3. Sources of Enjoyment in Youth Sports Questionnaire (SEYSQ)

Directions: An athlete may enjoy several things about sports. Enjoyment can be thought of as experiences or events that lead to positive feelings of pleasure, liking, and fun. Please think about your entire experience in sport: the competitions, practices, times away from your sport environment, and your experiences with other people involved in your sport participation. Think about not only your present experience, but your experience in sports overall, then answer the following questions. There are no right or wrong answers, so please respond honestly.

Please indicate your answers to the statements by circling the number that follows each item.

1= not at all

2= a little

3= not sure

4=yes

5= very much

*During the times when I most enjoy sport,
I usually experience that enjoyment from...*

How much enjoyment does each experience bring?				
None at All				Very Much

- | | | | | | |
|---|---|---|---|---|---|
| 1. Playing up to my potential | 1 | 2 | 3 | 4 | 5 |
| 2. Working hard in practice. | 1 | 2 | 3 | 4 | 5 |
| 3. Improvement of my performance based on my ability to outperform others. | 1 | 2 | 3 | 4 | 5 |
| 4. Being with friends on my team. | 1 | 2 | 3 | 4 | 5 |
| 5. The feeling of team spirit and togetherness I feel from being on a team. | 1 | 2 | 3 | 4 | 5 |
| 6. Getting support and encouragement from my teammates. | 1 | 2 | 3 | 4 | 5 |
| 7. Participating in a close game, meet, or competition. | 1 | 2 | 3 | 4 | 5 |
| 8. Participating in and finishing a difficult practice. | 1 | 2 | 3 | 4 | 5 |
| 9. Making new friends in my sports. | 1 | 2 | 3 | 4 | 5 |
| 10. Doing things with my teammates away from practice or competition. | 1 | 2 | 3 | 4 | 5 |

11. Being known by others for being an athlete. 1 2 3 4 5
12. Playing hard during competition. 1 2 3 4 5
13. Improvement of performance based on how I've done in the past. 1 2 3 4 5
14. Hearing the crowd cheer during a close game. 1 2 3 4 5
15. Showing that I am better than others who play my sports. 1 2 3 4 5
16. Getting encouragement from my family. 1 2 3 4 5
17. Being recognized by others because I participate in sports. 1 2 3 4 5
18. Feeling exhausted after a practice or competition. 1 2 3 4 5
19. Playing well compared to how I've played in the past. 1 2 3 4 5
20. The thrills of competition. 1 2 3 4 5
21. Getting support from my parents for playing my sport. 1 2 3 4 5
- How much enjoyment does each experience bring?

None at All Very Much
22. The excitement of competition. 1 2 3 4 5
23. Having my family watch me compete. 1 2 3 4 5
24. Giving a lot of effort in practice or competition. 1 2 3 4 5
25. Achieving personal goals I set for myself based on my performance. 1 2 3 4 5
26. Having my family pleased with my performance no matter what. 1 2 3 4 5

Appendix 4. Competitive Motivational Style Questionnaire (CMSQ)

Please rate each item on how well it describes you as an athlete. There are no right or wrong answers. Please answer as honestly as possible and with the first choice that pops into your head. It is important that you answer all of the questions, as there are subtle differences among them.

- 1- Strongly Disagree
- 2- Disagree
- 3- Slightly Disagree
- 4- Slightly Agree
- 5- Agree
- 6- Strongly Agree

How Much do you agree with each of these statements?	
Strongly Disagree	Strongly Agree
Disagree	Agree

	1	2	3	4	5	6
1. I choose goals that focus on how I perform.						
2. My most important goal is to always win.						
3. Public failures are hard to handle.						
4. I don't like to work on my weaknesses.						
5. After a loss, I want to use practice as a way to improve.						
6. Success to me is winning.						
7. I focus too much on the number of mistakes I make.						
8. After a loss, it is difficult to push myself.						
9. I feel like a failure when others think I am not skilled.						
10. All my effort is focused on winning.						
11. I always give my best effort.						
12. Sometimes I try my best, sometimes I don't try at all.						
13. Winning is more important than how I perform.						
14. I am willing to work a long time to reach my ultimate goal.						
15. I avoid setting goals.						
16. I am not as confident as I used to be.						
17. I work hard in every practice.						
18. Goals don't work for me.						
19. I worry that I won't perform my best.						
20. I doubt my ability.						

Scoring Key.

Doubt Oriented: 3, 7, 9, 16, 19, 20.

Failure Evader: 4, 8, 12, 15, 18.

Development Focused: 1, 5, 11, 14, 17

Win-Fixated: 2, 6, 10, 13.

Appendix 5. Sport Anxiety Scale-2 (SAS-2)

Directions: Many athletes get tense or nervous before or during games, meets, or matches. This happens even to pro athletes. Please read each question. Then circle the number that says how you USUALLY feel before or while you compete in sports. There are no right or wrong answers. Please be as truthful as you can.

- 1- Not at All**
2- A Little Bit
3- Pretty Much
4- Very Much

How much do you experience each of these before you compete in sport	
Not at all	Very Much

Before or while I compete in sports:

1. It is hard to concentrate on the game.	1	2	3	4
2. My body feels tense.	1	2	3	4
3. I worry that I will not play well.	1	2	3	4
4. It is hard for me to focus on what I am supposed to do.	1	2	3	4
5. I worry that I will let others down.	1	2	3	4
6. I feel tense in my stomach.	1	2	3	4
7. I lose focus on the game.	1	2	3	4
8. I worry that I will not play my best.	1	2	3	4
9. I worry that I will play badly.	1	2	3	4
10. My muscles feel shaky.	1	2	3	4
11. I worry that I will mess up during the game.	1	2	3	4
12. My stomach feels upset.	1	2	3	4
13. I cannot think clearly during the game.	1	2	3	4
14. My muscles feel tight because I am nervous.	1	2	3	4
15. I have a hard time focusing on what my coach tells me to do.	1	2	3	4

Scoring Key.

Somatic: Items 2, 6, 10, 12, 14;

Worry: Items 3, 5, 8, 9, 11;

Concentration Disruption: Items 1, 4, 7, 13, 15

Appendix 6. Sport Confidence Inventory (SCI)

Directions: Using the scale below, please indicate how certain you are that you can do each of the following.

- 1=CAN'T DO AT ALL**
- 2=VERY UNCERTAIN**
- 3=FAIRLY UNCERTAIN**
- 4=MAYBE I CAN**
- 5=FAIRLY CERTAIN**
- 6=VERY CERTAIN**
- 7=TOTALLY CERTAIN**

How certain are you that you can performance each of these tasks?	
Can't Do	Totally
At All	Certain

How certain are you that....

1. You can execute the physical skills necessary to succeed?	1	2	3	4	5	6	7
2. You can keep mentally focused throughout the competition?	1	2	3	4	5	6	7
3. You can bounce back from performing poorly to successfully execute your skills?	1	2	3	4	5	6	7
4. Your physical training has prepared you enough to succeed?	1	2	3	4	5	6	7
5. You can successfully make critical decisions during competition?	1	2	3	4	5	6	7
6. You can regain your mental focus after a performance error?	1	2	3	4	5	6	7
7. Your physical fitness level will allow you to compete successfully?	1	2	3	4	5	6	7
8. You can effectively use strategies needed to succeed?	1	2	3	4	5	6	7
9. You can overcome doubt after a poor performance?	1	2	3	4	5	6	7-
10. You can successfully perform the physical skills required in your sport?	1	2	3	4	5	6	7
11. You can maintain the mental focus needed to perform successfully?	1	2	3	4	5	6	7
12. You can overcome problems and setbacks to perform successfully?	1	2	3	4	5	6	7
13. You have the physical preparation that is needed to compete successfully?	1	2	3	4	5	6	7
14. You can successfully manage your nerves so that it doesn't hurt your performance?	1	2	3	4	5	6	7

Appendix 7. Test of Performance Strategies-2 (TOPS-2)

INSTRUCTIONS: This questionnaire measures performance strategies used by athletes in various sport situations. Because individual athletes are very different in their approach to their sport, we expect the responses to be different. Thus, there are NO RIGHT or WRONG answers, so please be open and honest in your responses.

Each of the following items describes a specific situation that you may encounter in your training and competition. Please check how frequently these situations apply to you during PRACTICE.

1= Never
2= Rarely
3= Sometimes
4= Often
5= Always

How frequently do you use these mental training tools or skills during practice?
--

Never

1. I set realistic but challenging goals for myself	1	2	3	4	5
2. I say things to myself to help my practice performances	1	2	3	4	5
3. I practice using relaxation techniques at workouts	1	2	3	4	5
4. During practice I use relaxation techniques to improve my performance.	1	2	3	4	5
5. I use practice time to work on my relaxation techniques	1	2	3	4	5
6. I manage my self-talk effectively during practice	1	2	3	4	5
7. I use workouts to practice relaxing.	1	2	3	4	5
8. I set goals to help me use practice time effectively	1	2	3	4	5
9. I motivate myself to train through positive self-talk	1	2	3	4	5
10. I talk positively to myself to get the most out of practice	1	2	3	4	5
11. I have very specific goals for practice	1	2	3	4	5
12. I don't set goals for practices; I just go out and do it	1	2	3	4	5

Appendix 8. Weekly Sport Enjoyment Logs (WSEL)

Directions: Please respond to the statements below regarding your feelings over the past week.

1= Strongly Disagree

2= Slightly Disagree

3= Slightly Agree

4= Strongly Agree

How much do you agree with each statement about how much enjoyment you received from soccer this week?

Strongly Disagree	Strongly Agree
-------------------	----------------

1. I enjoyed how well I performance in soccer this week	1	2	3	4
2. My soccer performance has led to positive opportunities off the field	1	2	3	4
3. I enjoyed my relationship with teammates and coaches	1	2	3	4
4. I enjoyed playing soccer this week	1	2	3	4
5. Playing soccer helped reduce tension and stress this week	1	2	3	4
6. I enjoyed the opportunity to improve my skills this week	1	2	3	4
7. I enjoyed how m body felt playing soccer this week	1	2	3	4
8. I enjoyed the positive feedback and recognition I received from soccer	1	2	3	4

Directions (optional): Please use this space to note any significant feelings or thoughts you had this week regarding soccer or your enjoyment in soccer.

Appendix 9. Soccer Skill Assessment Tool (SSAT)

University of Idaho Women's Soccer Assessment

Player: _____ Position: _____

Opponent & Date: _____ Weather: _____

Minutes Played: 1st Half: _____ 2nd Half: _____

Shots: _____ Shots on Goal: _____ Goals: _____ Carded: Y/N

Physical Skills

PH1.	Rate the Player's Level of Endurance & Match Fitness	1	2	3
	4			

PH2.	Rate the Player's Level of Speed Endurance	1	2	3	4
------	--	---	---	---	---

PH3.	Rate the Player's Level of Agility	1	2	3	4
------	------------------------------------	---	---	---	---

Physical Skills Score: _____

Technical Skills

TE1.	Rate the Player's First Touch	1	2	3	4
------	-------------------------------	---	---	---	---

TE2.	Rate how the Player Played out of Pressure	1	2	3	4
------	--	---	---	---	---

TE3.	Rate the Player's Aerial Control	1	2	3	4
------	----------------------------------	---	---	---	---

Technical Skills Score: _____

Tactical Skills

TA1.	Rate the Player's Transition Skills & Decisions	1	2	3	4
------	---	---	---	---	---

TA2.	Rate the Player's Understanding of their role within the Formation and Flow of Play	1	2	3	4
------	---	---	---	---	---

TA3.	Rate the Player's Performance on Set Pieces	1	2	3	4
------	---	---	---	---	---

Tactical Skills Score: _____

Game Total Score: _____

Assessed By: _____

Date: _____

Appendix 10. Post-Intervention Interview

I would like to thank you for your participation in this investigation and agreeing to complete this interview. The goal of this interview is to hear your thoughts about our work together over the past three months. In answering the questions, be sure to discuss and include both the team and individualized programs. Please be sure to answer openly and honestly as this interview will not affect your standing on the team in any way. Confidentiality of this interview will be maintained along with the other measures you have completed as part of this program.

Are there any questions before we start?

1. How would you describe your 2012 soccer season?
2. Tell me about your experiences with the mental skills training program this season?
3. What was most helpful about the MST program?
4. What was least helpful about the MST program?
5. What does the term sport enjoyment mean to you?
6. Do you feel your sport enjoyment has changed at all throughout the season or as a result of the MST program?
If so, how?
7. Do you feel your enjoyment of soccer has changed since the beginning of the season?
If so, how?
8. Do you feel your enjoyment of being a part of the Vandal women's soccer team has changed?
If so, how?
9. How has the MST program this season impacted your game or life?
If so, how?
10. Has your understanding of mental training tools such as goal setting, imagery, relaxation/energization, and self-talk changed from the beginning of the program?
If so, how?
12. What would you change about the MST program if given the opportunity?
13. Do you have any final comments about the program that you would like to make?

I would like to thank you for your time, if you have any questions or would like to at any point review your answers please let me know and I can provide you with a transcript of the interview. I enjoyed working with you throughout the season. Go Vandals!