

UNDERSTANDING “HOW” AN ENJOYMENT-FOCUSED INTERVENTION IMPACTS DIVISION 1 WOMEN’S SOCCER PLAYERS’ COGNITIONS AND PERFORMANCE

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ABSTRACT

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). Previous work on this topic (Barnicle, 2017; Barnicle & Burton, 2016) 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 can provided evidence for inclusion and appreciation of enjoyment’s place as an enhancement strategy in the field of applied sport psychology.

Keywords: Sport psychology, enjoyment, soccer, motivation.

1. INTRODUCTION

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

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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 (Birrner & 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 (Barnicle, 2017; Barnicle & Burton, 2016), 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 (Birrner & 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, 2017; Barnicle & Burton, 2016) 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

2. METHODS AND MATERIALS

2.1 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.

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 treatment and control samples, with the remaining participants randomly selected from any of these three positions. Both groups consisted equally of potential starters and non-starters, limiting any skill/ability or playing time bias in the results. Group selection also included at least one athlete from each academic class (i.e., freshman, sophomore, etc...) to minimize age and experience bias in the sample. The head coach assisted in the matching process for treatment and control groups, with the aim to create groups with the same potential skill level and scoring output.

2.2 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.

2.2.1 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.

2.2.2 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.

2.2.3 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).

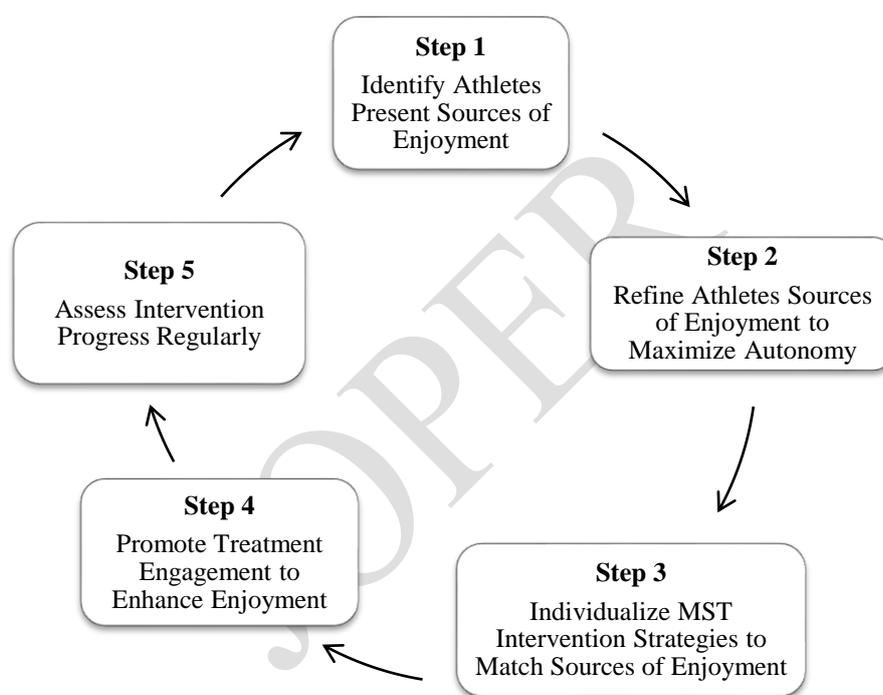
2.2.4 Individual Engagement Score (IES). Instruments have been developed which analyze participant-reported levels of engagement (Londsdale, Hodge, & Jackson, 2007), but the IES was designed as a method to examine consultant-assessed athlete engagement that should influence enjoyment in this intervention 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.

2.2.5 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.

2.2.6 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.

2.2.7 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.

Figure 1: Enjoyment-focused MST intervention implementation working model



2.3 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.

2.3.1 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 last in 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. 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.

3. RESULTS

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.

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	
	M	SD	M	SD	M	SD
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

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.

Figure 2: Treatment group’s pre- and post-season personal models of sport enjoyment

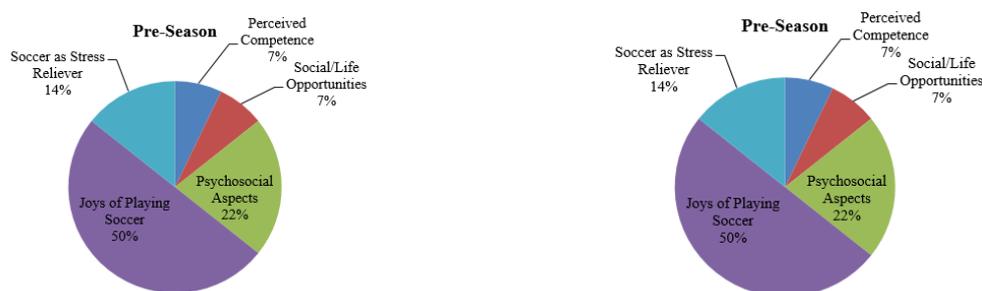


Figure 2a. Group Pre-Season Primary SOE Profile

Figure 2b. Group Post-Season Primary SOE Profile

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, $F(2,5) = 2.89$, $p < .15$, 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, $F(1,6) = 19.1$, $p < .005$, 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 $F(1,7) = 14.33$, $p < .05$, partial $\eta^2 = .98$, and goal setting $F(1,7) = 5.52$, $p = .05$, 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, $F(1,7) = 7.62$, $p < .05$, 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 $F(1, 7) = 16.67$, $p < .05$, partial $\eta^2 = .74$, 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 relationships 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 non-significant 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.

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

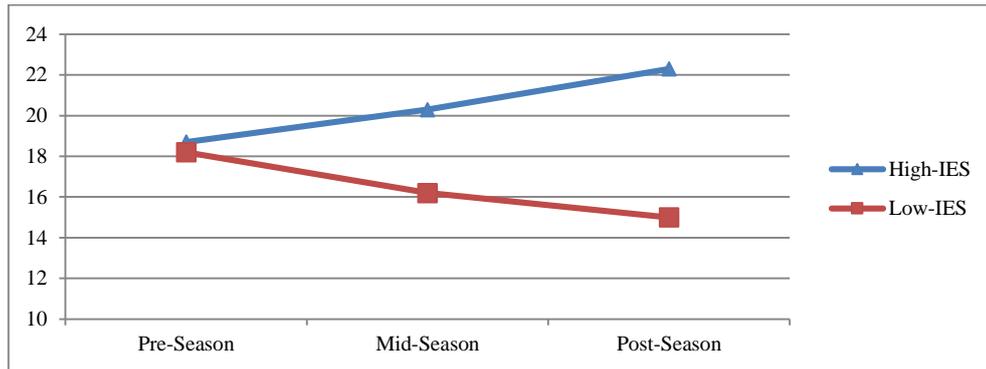
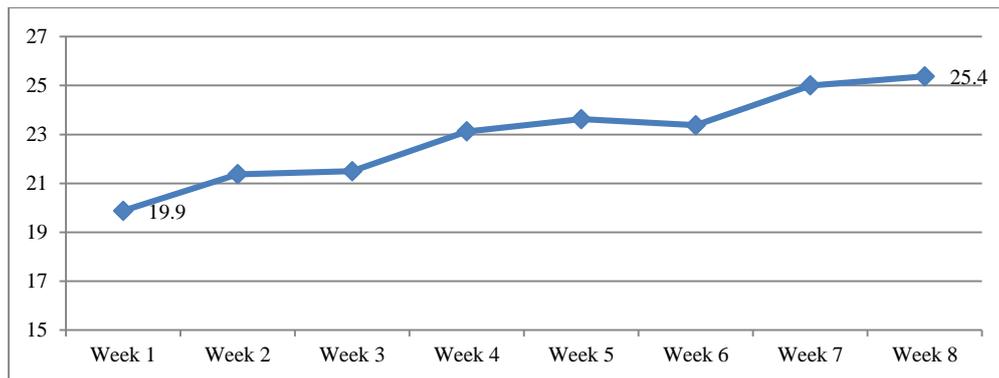


Figure 3b: Weekly log sport enjoyment scores across the season



4. DISCUSSION AND CONCLUSION

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. Cross cases analyses demonstrated 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.

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).

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. 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.

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