

The Effects of Pre-Performance Motivational Techniques on the Success
of the Student-Athlete in a Field Hockey Game

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Abstract

The purpose of this study was to determine whether the use of various pre-performance routines affect the success and performance of Division III collegiate field hockey athletes. A causal comparative study was designed using a convenient sample. The measurement tool was developed by the researcher to record positive and negative statistics achieved within competition. This study involved the use of a preseason and postseason survey to compare with the data recorded throughout the season. Results indicated that the use of certain pre-performance motivational techniques is associated with better athletic performance. Additional research should be continued to determine which pre-performance technique produces the best result for athletes.

CHAPTER I

INTRODUCTION

Overview

In a competitive sport environment, the ability for an athlete to achieve and execute optimal performance has a direct connection to the outcome of that competition. The process for an athlete to achieve optimal athletic performance includes physical training as well as mental/psychological training. Recent research has shown the importance of psychological training simultaneously with physical training in order to positively affect the motivation, performance, and overall athletic experience for the student-athlete.

Mesagno, Hill, and Larkin (2015) found that the use of pre-performance routines by athletes had a positive influence on performance by increasing relaxation, focus, and confidence; in addition, these routines aid in promoting emotional control. Increasing the use of pre-performance routines encourages athletes to focus not only on task-relevant information but also to help suppress inappropriate conscious actions, thoughts, or emotions an athlete may retreat to in high-pressure competitions.

While physical preparation is an important technique in getting an athlete prepared for competition, psychological training is just as important and often overlooked and underused by collegiate programs. Cotterill (2010) concluded that pre-performance routines provide aid in attentional focus, reducing distractions, improving concentration and confidence, and helping athletes achieve consistency with performances.

Statement of Problem

Even though psychological training is often underused, this study was initiated to examine the impact of pre-performance routines as an attempt to improve athletic concentration, improve

athletic performance, and help athletes cope effectively with the stress of competition. The use of mental training is oriented to identifying a person's own individual resources to facilitate consistently successful performances that are up to his or her potential.

The purpose of this study is to examine and determine whether various pre-performance routines affect the success and optimal performance of athletes in collegiate-level field hockey.

Hypothesis

The null hypothesis for this study is that using different pre-performance routines will have no effect on the performance of athletes during competition in field hockey at the collegiate level.

Operational Definitions

In this study, the athlete refers to an individual participating in an organized, competitive varsity sport at the collegiate level. The independent variable is the different motivational techniques (pre-performance routines) used. The pre-performance routines include mental imagery, self-talk, goal setting, and pre-game speeches. The dependent variable is the success of the athletes as measured by specific statistics. Statistics that are measured during competition are turnovers, caused turnovers, offensive penalty corners, shots on cage, goals, and defensive saves.

CHAPTER II

REVIEW OF THE LITERATURE

This literature review examines various pre-performance routines and the effect they have on the success of the student athlete in a field hockey game. Athletes are influenced by numerous forces that not only help determine the outcome of a sporting event but also affect their interpretation of their athletic experiences. There are many motivational techniques that an athlete can partake in before participating in competition. The purpose of engaging in motivational techniques is to help the athlete to achieve optimal athletic performance in competition. Before examining specific motivational techniques the athlete can do before competition, however, it is important to look at motivation as a whole.

Section one of this review of the literature will focus on achievement, especially with regard to athletic competition. Section two will take up the issue of motivation, and section three will discuss pre-performance routines such as mental imagery, self-talk, goal setting, and pregame speeches.

Achievement

While many people consider winning the ultimate achievement of any athletic competition or team, to athletes and coaches, there are many other forms of achievement. Athletic excellence is defined as “the athlete’s exceptionally good performance compared to previously achieved standards” (Hanin, 2004, n.p.). Standards of performance for any athlete or coach can be self-referenced and can also be based on previous performance history. Many indicators of athletic achievement and excellence are based on the results achieved and the quality of the performance and task execution. Achievement can also be looked at from the individual standpoint as well as from the overall team standpoint. Although the team excellence

depends on the contributions of the individuals, each individual can define his or her own standard of excellence that does not equal the goal of team achievement. In order to achieve team excellence, it is important to find an adequate balance between the individual goals of the athletes and the goals of the team (Hanin, 2004). Once that balance is established and found, it is possible for the team or the individual to find achievement in the specified activity.

Motivation

Motivation is one of the most important elements that allow an athlete to display optimal performance as well experience a positive environment. Vallerand (2004) explains that motivation represents the “hypothetical construct used to describe the internal and/or external forces that lead to the initiation, direction, intensity, and persistence of behavior” (p. 427) and ultimately leads to the action taken by the athlete. The different internal and external forces divide the overall concept of motivation into two separate types: internal motivation and external motivation. People who exhibit intrinsic motivation strive inwardly to engage in an activity and are self-determined to master the specific task or sport (Weinberg & Gould, 2015). People who are intrinsically motivated to participate in athletics enjoy the competition and action and participate for the love of the sport. In contrast, extrinsic motivation is defined as engaging in a certain activity in order to get a reward or to receive positive or negative reinforcements from an influential force (Weinberg & Gould, 2015). The world of athletics uses extrinsic motivation considerably to motivate an athlete to receive tangible items from competition such as awards, plaques, trophies, money, and clothes. While extrinsic motivation techniques are widely used throughout the sports realm, athletes who are intrinsically motivated tend to experience optimal athletic performance and mastery (Amorose & Horn, 2001).

People widely believe that physical preparation is the most important way to get an athlete ready for competition. However, the psychological preparation of an athlete is just as important and involves strategies and techniques in order to increase mental ability. Motivation directly affects attention and determination (Cucui & Cucui, 2014) and supports the efforts of training and participation within a competition. In fact, Cucui and Cucui (2014) concluded that “motivation for high performance sport can be triggered by various motives depending on the individual, on his/her aspirations, personality, level of development, training and there can be various other motives” (p. 69). The intensity of motivation has a direct influence on sports performance, and athletes who achieve better performance are optimally motivated to do so. “Motivation determines focus and will, and energetically supports the efforts of training and participation in competitions” (Cucui & Cucui, 2014, p. 70).

Part of the complexity that is associated with motivation is that different people will be motivated by different goals and conditions. Even though people are motivated by different factors, in high performance sports, “motivation is a key factor for achieving athletic performance, without which athletes would not be determined to cope with the sports training effort in order to improve their psychomotor abilities” (Cucui & Cucui, 2014, p. 70). Overall, the main factor for participation in athletics by individuals is attributable to motivation; however, athletes need to be physically and cognitively prepared. “Motivation refers to the fact the behavioral acts do not occur without a cause, at their origin there is always a number of internal causes that drive action and support it energetically” (Cucui & Cucui, 2014, p. 70).

Pre-Performance Routines

There are many ways in which an athlete can get motivated to participate in an athletic competition. In order to mentally and physically prepare for a game, many athletes will complete pre-performance routines (PPR). “A pre-performance routine is a preferred sequence of task-relevant thoughts and actions which athletes engage in systematically prior to their performance of specific sport skills” (Kremer, Moran, Walker, & Craig, 2011d). Pre-performance routines are used as a form of mental preparation in order to improve the focus skills of the athlete.

Enhancing performance is one of many reasons why pre-performance routines exist: because they encourage and allow athletes to focus on task-relevant information, and they also help suppress inappropriate conscious control that athletes might retreat to in high-pressure situations.

Cotterill (2010) examined the importance of pre-performance routines on assisting athletic performance and allowing the performers to concentrate more effectively. Cotterill suggested that pre-performance routines both provide an attentional focus and also aid in reducing the number/impact of distractions, divert attention to task-relevant thoughts, improve performance under pressure, acts as a trigger for movement patterns, improve concentration, and help athletes achieve consistency with their performances (Cotterill, 2010).

Mesagno et al. (2015) found that when athletes engage in the use of pre-performance routines, they enhance athletic performance by facilitating emotional control and increasing relaxation. By engaging in pre-performance routines, athletes become more focused on executing the task at hand and develop a sense of control over their performance. Becoming more confident with their abilities and routines through pre-performance decreases their extrinsic motivation for a good outcome and increases their intrinsic motivation of skill mastery (Mesagno et al., 2015). Ultimately, pre-performance routines serve to help decrease an athlete’s anxiety and allow the

athlete to put him or herself in an optimal, confident, and focused state immediately prior to the execution of certain skills and throughout the continuation of a competition.

Mental Imagery

There are many pre-performance routines that an athlete can complete in order to feel prepared and focused for a certain competition. Mental imagery is one of a number of pre-performance routines that an athlete can use. Mental imagery, also commonly known as visualization, is the ability to stimulate information in the mind that is not being currently used by the other senses (Kremer, Moran, Walker, & Craig, 2011b). It is a cognitive process that allows an athlete to use the other senses, such as seeing, touching, and feeling, in his or her imagination. Mental imagery is one of the most prevalent cognitive strategies of mental rehearsal used in the world of athletics and is used to stimulate the athletes' minds in order to motivate themselves to carry out a specific task. One of the major reasons for the use of mental imagery in the athletic realm is to help increase concentration. The ability to maintain concentration while avoiding distractions is important to master in athletics. The ability to focus mental efforts on the task at hand (concentration) while ignoring distractions is considered to be a vital factor of a successful athletic performance (Kremer et al., 2011b). The use of mental imagery is sought to aid in that process of enhancing concentration with the overall goal of improving athletic performance.

There are many ways in which mental imagery is found to enhance athletic performance. Jones and Stuth (1997) grouped the use of mental imagery into four functionally separate categories: arousal regulation, performance enhancement, cognitive modification, and rehabilitation. Mental imagery is among many techniques athletes use to heighten their physiological arousal to positively affect performance. The ability to "psych up" the athlete

through physiological arousal is important in preparing the athlete for physical responses and activities (Jones & Stuth, 1997). Depending on athletes' perceived optimal arousal state and their current state of arousal, mental imagery is used as an effective psyching up technique to increase or decrease their arousal state. The trained or spontaneous use of mental imagery is also used in various ways in order to enhance athletic performance. These various ways include facilitating the learning and achievement of certain motor skills/patterns of movement, learning preplanned motor sequences, developing specific game-plan strategies, and maintaining and remembering previously acquired skills and movements (Jones & Stuth, 1997). Athletes are also exposed to highly stressful and high-pressure situations. Many athletes respond to these situations with negative thoughts and images that inhibit their performance. The use of mental imagery has been found to be an effective tool for athletes to be able to modify their cognitive thinking and feelings (Jones & Stuth, 1997). Replacing negative thoughts, self-statements, and images with the use of mental imagery can increase the athletes' self-confidence as a type of positive support.

Many athletes use mental imagery specifically to visualize various games or play scenarios/situations in order to prepare for what could potentially happen within a competition. Being able to "feel" oneself performing various skills, making various decisions, or tapping into motivational purposes are all uses of mental imagery in athletics (Trafimow & Miller, 1996). Cognitively training the brain to relax allows the athletes to focus, anticipate problems that could occur, and also calm nerves before a big game.

Suinn (1997) concluded that several procedures have been used to enhance the value of mental practice in athletics, such as alternating mental and physical training, the use of internal perspective, the use of scene setting/ stimulus and response proposition, and the use of training that is initiated with relaxation. Mental imagery and the use of mental practice have been proven

to have powerful effects in enhancing athletic performance as well as boosting self-confidence in athletes and strengthening mental skills and thoughts.

Self-Talk

Self-talk is another pre-performance routine that athletes can complete in order to mentally prepare and motivate them for competition. A sports-related thinking strategy, self-talk is “a cognitive self-regulation strategy which involves the use of vividly phrased cue-words to help athletes to control their thoughts and to instruct and motivate themselves” (Kremer et al., 2011c, n.p.). Athletes engage in the practice of self-talk to improve not only their performance but also their thinking and concentration. Two types of self-talk have been identified, and they include instructional self-talk where an athlete uses self-directed statements to enhance athletic performance through task-relevant focus, and motivation self-talk, which involves similar self-directed statements that are used to boost one’s confidence and mood (Kremer et al., 2011c).

While self-talk is intended as an important strategy to “psych up” an athlete, it is also possible that athletes can discourage themselves and their abilities with negative self-talk. In order to enhance athletic performance and find success in competition, an athlete should participate in positive self-talk rather than using negative self-talk. While negative self-talk is associated with losing, positive self-talk can help enhance attentional focus, increase confidence, control cognitive and emotional reactions, and trigger automatic execution (Hatzigeorgiadis, Zourbanos, Galanis, & Theodorakis, 2011).

Latinjak, Zourbanos, López-Ros, and Hatzigeorgiadis (2014) examined the self-statements and thought contents of athletes and how those relate to behavior and performance within competition. Research identified that positive self-talk helps to keep the focus of attention of the athlete in the present, instead of looking back on past errors or errors that could arise in the

distant future. When athletes used positive self-talk to motivate themselves in the present competition, it yielded positive results of performance enhancement as well as motivation within the athletes (Latinjak et al., 2014). With the use of repeatedly vivid phrases or cue words, positive self-talk has shown to improve thinking, concentration, and performance in athletes.

Goal Setting

Another pre-performance routine that is commonly used by athletes is goal setting. A goal is an outcome that an individual or athlete is seeking to achieve through a particular action. Goal setting is a “self-motivational technique based on the principle of establishing specific and challenging short-term goals in order to move towards the realization of long-term targets or objectives” (Kremer et al., 2011, n.p.). There are many ways in which goal setting can affect an athlete’s performance including allowing the athlete to focus his or her attention and concentrate, activating appropriate levels of effort for the task at hand, enhancing persistence, and encouraging the athlete to expand on strategy development in order to achieve goals.

When setting a goal, athletes may choose the SMART Goal Setting strategy, which checks whether goals are Specific, Measurable, Action-Oriented, Realistic, and Timely (Kremer et al., 2011). If an athlete sets a goal that is not realistic or measurable, that goal will not motivate the athlete enough to try and achieve success and that goal may have a negative effect on the athlete, cognitively and emotionally. Setting positive goals that are realistic and measurable allows athletes to feel a sense of accomplishment when achieving that goal and can also have a positive effect on their self-esteem. “Goals should be set in positive terms, focusing on accomplishing rather than what the athlete is trying to avoid” (Sullivan & Strode, 2010, p. 22). The key characteristic of goal setting in the athletic realm is to keep the athletes focused on

the means to achieving their desired outcome through practice and successfully applying a particular skill to their sport.

Goal setting can be further divided into two separate categories based on motivation: self-determined goal setting and achievement goal setting. Self-determined goal setting emphasizes the effort on intrinsic motivation and self-determination that fuel an athlete to participate in a particular sport (Kremer et al., 2011e). Based on this theory, individuals tend to participate in certain activities based on passion, how much a person likes (or loves) the activity, and how much he or she finds the activity important enough to invest his or her time in that activity. When an individual is using the self-determined goal setting in a certain activity, he or she is intrinsically motivated to achieve those goals because he or she enjoys the activity and is self-determined to master a specific skill.

Using the self-determined theory of goal setting, “the chance increases for that athlete to feel enjoyment, satisfaction, and persistence and to stay motivated to continue their athletic participation” (Sullivan & Strode, 2010, p. 23). While self-determined goal setting focuses on the internal goals to motivate an athlete, achievement goal setting focuses on task orientation where a person focuses primarily on mastery of a skill and improvement of overall performance (Kremer et al., 2011a). Achievement goal setting is based on effort and is within control of the athlete to successfully master. With this type of goal setting, the goal can be achieved and it can also be tracked and measured in order to demonstrate growth and show improvement to the athlete (Sullivan & Strode, 2010). Athletes who are able to track their achievements and improvements through specific goals are then able to see the correlation associated with effort and success. Creating goals that are related to the effort given by the athlete behind the outcome enables the athlete to feel a greater sense of control over his or her efforts. Goal setting can be a

useful tool in the world of athletics because setting specific goals may lead to higher performance by athletes who are striving to achieve those goals and feel a sense of accomplishment rather than simply striving toward the general idea of doing their best.

Pregame Speeches

Coaches have been singled out as one of the most powerful and influential sources for an athlete's motivation because coaches structure the practices, prepare the game plans, and create the motivational climate on the team. For many coaches, motivating student athletes comes from a great pregame speech that inspires and evokes an emotional response from the athletes to want to achieve victory. Benefits of pregame speeches include raising the emotional and motivational level of individual players and also enhancing team performance efficacy (Vargas-Tonsing & Bartholomew, 2006). Team efficacy refers to the judgments made by individuals on a team of their capabilities to perform and succeed in group tasks (Vargas-Tonsing & Bartholomew, 2006). According to Vargas-Tonsing and Bartholomew (2006), it is important for the coach to raise the efficacy levels of the collective team in order for the athletes to compete at the optimal level. "Through the use of verbal persuasion, a coach can provide sport-specific feedback that can be used to help athletes understand past performance and utilize attributional styles and persuade them that success is possible" (Vargas-Tonsing & Bartholomew, 2006, p. 920).

Verbal persuasion, or pregame speeches, can benefit athletic performance by increasing the efficacy level in athletes in themselves and their team and promoting positive cognition rather than negative cognition. Vargas-Tonsing and Bartholomew (2006) examined the effect that a coach's pregame speech had on individual and team self-efficacy. The athletes were exposed to three separate types of pregame speeches: (1) an emotionally persuasive speech, (2) a speech that emphasized technical strategy, and (3) a control speech that was unrelated to the play

of the game. “The persuasive speech was designed for participants to experience feelings of pride, motivation, and confidence, while the strategy-based speech was designed to increase their belief in the team’s ability to outplay their opponent” (Vargas-Tonsing & Bartholomew, 2006, p. 926). Results concluded that exposure to the emotionally persuasive speech prior to the game enhanced the athletes’ feelings of team and self-efficacy (Vargas-Tonsing & Bartholomew, 2006). Since the coach is one of the most influential motivational forces influencing the climate of the team, the use of persuasive pregame speeches prior to competition increases the feelings of team and self-efficacy throughout the team. A coach’s ability to focus his or her athletes on the emotions and positive cognitive thinking prior to competition could allow the team to gain an important edge on their competition.

Conclusion

The use of pregame motivational techniques has proven to both help an athlete achieve optimal athletic performance and also train the athlete to focus cognitively and emotionally. While there are various ways to motivate an athlete, the use of mental imagery, pre-performance routines, self-talk, goal setting, and pregame speeches delivered by a coach are some of the most popular methods. The purpose of this literature review was to review the listed methods. This study will seek to determine whether these methods can achieve the goal of motivating athletes in order to bring about optimal athletic performance. While each pregame motivational technique contains different strategies, they all have been proven to be somewhat successful in preparing and motivating the athlete cognitively, mentally and emotionally.

CHAPTER III

METHODS

Design

This study was designed as a causal comparative study using a convenience sample. The independent variable is the various motivational techniques that were used, such as mental imagery, self-talk, goal setting, and pregame speeches. The techniques were self-selected by the participants. The dependent variable is captured by the specific statistics measured to determine the success of the athlete within the game. A questionnaire was given to each athlete in order to see which pre-performance routines were used. There was a posttest administered in this study. Statistics were used to measure the success of the athletes who partake in pre-performance routines before competition versus those who do not utilize them. The various pre-game routines were also compared for success of the participants.

Participants

The participants in this study were student-athletes who participated in a Division III women's field hockey program. The team consisted of 27 members, ranging in age from 18 to 22 years old.

Instrument

There were three instruments used in this study. The first instrument was a questionnaire that measured the athlete's use of pre-performance routines before any type of competition. It looked at the different types of pre-performance routines used by the athletes, the frequency of use, and whether or not those routines previously helped them. The second instrument measured the success of the athlete within a field hockey game by looking at specific statistics and her positive or negative value within the game. Positive statistics were the caused turnovers, goals,

shots on goal, assists, and creating an attacking penalty corner. Negative statistics included turnovers, turnovers within the attacking circle, and causing defensive penalty corners. The success of the athlete was determined by the positive or negative point value the athlete finished the competition with. The goalkeepers were given a separate statistical chart to track their negative and positive statistics within the game. Positive statistics included saves and strong clears out of the circle. Negative statistics for the goalkeepers included goals allowed and causing defensive penalty corners. The third instrument was a postseason questionnaire that measured the pre-performance routines used by the athletes prior to their season ending. It looked at the effectiveness of their use of pre-performance routines and how it correlated with their overall positive or negative statistical value on their season.

Procedure

The purpose of this study was to examine and determine whether utilizing various pre-performance routines before competition affected the success and optimal performance of athletes in collegiate-level field hockey. The athletes were given the questionnaire, which evaluated how frequently they use the routines, before the regular season began. The athletes were then measured during competition by looking at various positive and negative. The statistics were tallied to get an overall positive or negative score. The overall score that the athlete earned at the end of competition was then compared to the questionnaire the athlete completed prior to competition, as well as the questionnaire completed at the conclusion of the season. The overall positive or negative statistic was compared to the frequency with which the athlete used pre-performance routines as well as her previous experiences to using it before. The overall score and the questionnaire were compared to determine whether there was a correlation to using pre-performance routines and whether those routines affect the overall statistical score

of the athlete. The overall statistic was also compared to the postseason survey, which measured the effectiveness of the pre-performance routine used by each athlete and how often they utilized those routines throughout the season.

CHAPTER IV

RESULTS

This study investigated how effective the use of pre-performance motivation techniques is on affecting the success and optimal performance of athletes in collegiate level field hockey. For this study, a null hypothesis was proposed. At the beginning of the season, a survey was administered to the athletes which charted how often they used pre-performance techniques before previous competitions. Data was collected over 17 field hockey games which measured specific statistics in order to calculate athletes' overall success in each game. Positive and negative statistics measured throughout competition included turnovers, caused turnovers, offensive penalty corners, shots on cage, goals, and defensive saves. At the conclusion of the season, the athletes were administered a postseason survey which measured how effective and how often they used pre-performance motivational techniques prior to competition this season.

Sub scores were computed for the various sections of the pre- and postseason surveys by averaging across the items within each motivational technique section (goal setting, mental imagery, self-talk, and psychological skills training). The preseason survey sections were based on how often pre-performance techniques were used. Usage for preseason survey was rated on a five-point scale: never, rarely, sometimes, very often, and always. Postseason survey sections were separated into effectiveness and usage. Effectiveness was rated on a four-point scale: not, somewhat, very, and extremely. Usage was rated on a five-point scale: never, rarely, sometimes, very often, and always. The impact scores were calculated based on points awarded for positive or negative performance statistics during each game. The data were collected in real time as the games progressed. The impact score was the total tally of the positive and negative statistics achieved throughout each competition and could be positive or negative. The impact scores were

correlated with the sub scores to test for relationships. In order to deeply examine how motivation affected athletic performance, one-way ANOVAS were run on each postseason item. Where statistical significance occurred, Scheffe post-ANOVA comparisons were used to identify which scale positions had the highest impact score. The one-way ANOVA is an extension of the t-test when there are more than two groups. In this study, the effectiveness ratings had four categories, and the usage ratings had five categories.

The results of the preseason survey compared with the athlete's overall impact chart score shows that impact correlated only with the frequency of use of psychological skills training, and the variables were related inversely. The higher frequency of use was associated with lower impact scores on athletic performance. The correlation was -0.44 or 20% of the variance in the preseason survey and the impact scores were shared (Table 1). This result was counter to the research hypothesis of the study. Significant postseason correlations (at the $\alpha = 0.05$ level) were between impact and goal setting use (correlation = 0.68), imagery use (correlation = 0.60), and coach's speeches effectiveness (correlation = -0.41). The positive correlations indicate that more use of a particular motivation technique was associated with a higher positive impact score. These results supported the research hypothesis. The inverse correlation (coach's speeches = -0.41) indicates that higher rated effectiveness of a particular motivation technique was associated with lower athletic performance. This result was counter to the research hypothesis of the study (Table 1).

The one-way ANOVA was run on each postseason item in order to delve deeper in examining how motivation affected athletic performance. Impact scores differed significantly ($\alpha = 0.05$) by how often certain motivation techniques were used or how effective a technique was rated (Table 2). For the three goal setting usage items (11, 12, and 13), students

who “always” used the motivation techniques achieved the highest impact scores. For two of the three mental imagery items (29 and 30), students who “always” used the motivation techniques had the highest impact scores. For coach effectiveness item (35), students who rated the effectiveness as “somewhat” had the highest impact scores (Table 3). Individual item tables for the pre and postseason survey are located in the appendix.

The mean and standard deviations of postseason survey were separated into usage and effectiveness. For usage, a five-point scale, goal setting had the highest mean value at 3.8, followed by imagery at 3.5, and self-talk at 3.4. For effectiveness, a four-point scale, goal setting and coach’s speeches had the highest mean value at 3.2, followed by psychological skills at 3.0, imagery at 2.8 and self-talk at 2.7 (Table 4). The standard deviations were similar, except for goal setting, which had more variation for usage and less variation for effectiveness than the other motivational techniques.

Table 1
Correlations between Impact Scores and Ratings of Motivation Techniques

Pre Technique	Correlation	Post Technique	Correlation
Goal setting use	-0.16	Goal setting use	0.68*
Self-talk use	-0.18	Self-talk use	0.25
Imagery use	-0.04	Imagery use	0.60*
		Goal setting effectiveness	0.01
		Self-talk effectiveness	-0.25
		Imagery effectiveness	0.16
		Coach effectiveness	-0.42*
		Psychological effectiveness	-0.25

Note: asterisk = statistically significant correlation at alpha = 0.05 level

Table 2
One-way ANOVA Results for Impact by Postseason Survey Scale Points

Motivation	Item	F-test	p-value	Differences when significant
Goal setting effective	1	0.94	0.41	
	2	0.00	0.99	
	3	0.10	0.90	
	4	0.22	0.88	
	5	0.66	0.58	
	6	1.40	0.27	

Motivation	Item	F-test	p-value	Differences when significant
	7	0.53	0.60	
	8	2.54	0.10	
	9	1.01	0.38	
	10	1.24	0.28	
Goal setting usage	11	13.44	0.00*	“Always” is highest
	12	5.81	0.00*	“Always” is highest
	13	15.09	0.00*	“Always is highest
Self-talk effective	14	0.44	0.65	
	16	1.94	0.15	
	17	0.27	0.76	
	18	1.48	0.25	
	19	0.73	0.55	
Self-talk usage	20	1.38	0.28	
	21	0.81	0.54	
	22	1.32	0.30	
Imagery effective	23	0.56	0.65	
	24	0.41	0.67	
	25	0.85	0.44	
	26	0.53	0.60	
	27	0.11	0.96	
	28	0.41	0.67	
Imagery usage	29	7.95	0.00*	“Always” is highest
	30	3.43	0.03*	“Always” is highest
	31	2.96	0.05	
Coach effective	32	2.49	0.11	
	33	1.86	0.18	
	34	1.95	0.17	
	35	3.67	0.04*	Somewhat is highest
	36	3.15	0.06	
Psychological skills effective	37	0.94	0.44	
	38	0.39	0.76	
	39	0.79	0.52	

Note: to be statistically significant at the 0.05 level, the p-value must be less than 0.05.

Table 3

Mean Impact by Survey Scale Point for Significant Postseason Items

Item	Never	Rarely	Sometimes	Very Often	Always
11		1.8	0.3	7.4	56.1
12		0.0	29.0	8.3	46.6
13		0.0	-3.0	5.9	53.8
29		4.3	1.8	38.5	52.6
30	-12.0	9.5	-1.5	32.9	44.2

	Not	Somewhat	Very	Extremely	
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35		53.8	18.6	10.8	
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Table 4

Descriptive Statistics for 26 Motivation Techniques and Impact Scores

Variable	Mean	Std Dev
Impact Scores	20.4	30.4
Pre goal setting use	3.5	0.4
Pre self-talk use	3.3	0.7
Pre imagery use	2.9	0.7
Pre psychological skills use	3.0	0.7
Post goal setting use	3.8	1.1
Post self-talk use	3.4	1.2
Post imagery use	3.5	1.0
Post goal setting effectiveness	3.2	0.4
Post self-talk effectiveness	2.7	0.6
Post imagery effectiveness	2.8	0.7
Post coach's speech effectiveness	3.2	0.6
Post psychological skills effectiveness	3.0	0.7

The results of this action research study indicate that using certain motivational techniques is associated with better athletic performance for collegiate field hockey. Students who report “always” using these techniques (for goal setting and mental imagery, but not for self-talk) had the highest impact scores as measured during the season.

CHAPTER V

DISCUSSION

The results of this study failed to support the null hypothesis that proposed that using different pre-performance routines would have no effect on the performance of athletes during competition in field hockey at the collegiate level. The results showed the more often an athlete used various pre-performance techniques prior to competition this season, the higher the impact score.

Implication of the Results

The results demonstrated that the sample athletes saw positive effects from the use of pre-performance techniques throughout the season. After the use of pre-performance routines throughout the season, they showed a positive effect on the athletes who “always” used one or more of the techniques by contributing to a higher, positive impact score. The implications of an athlete partaking in pre-performance motivational techniques are supported from the findings of this study. When comparing the postseason survey results to the overall impact charts, the athletes’ usage of the each pre-performance technique had a direct correlation with their positive impact scores.

Theoretical Consequences

From a theoretical standpoint, this study shows that partaking in pre-performance techniques has an overall positive effect on the success of the athlete within competition. This study also shows that athletes need to continue to partake in these routines in the off-season to help them prepare for future competitions. Derived from the preseason survey, the results of the survey supported the null hypothesis of the study, showing that pre-performance routines did not aid in the success of the athlete. However, after executing various pre-performance routines

through the season, the results showed to have a positive effect on the overall impact of the athlete throughout competition. Therefore, this study shows that the training and practice of pre-performance routines within the off-season could help maximize the athletes' ability for their preseason survey results to positively correlate with the study.

Threats to Validity

There are several threats to the validity of this study that could compromise the results. First, the design and execution of the study was not done by an expert in the field of sport psychology. It is possible that the use of these pre-performance routines was not correctly or consistently completed throughout the season. Another concern was that the athletes were asked to rate themselves on their own use and effectiveness of each pre-performance routine. Each athlete may differ in his/her scale of self-evaluation for pre-performance routines.

Another important concern for the validity of this study is how injury could affect impact scores. Throughout the season there were many athletes who sustained minor or major injuries which could have affected or not affected their playing time on the field. If an athlete sustained an injury during a game and sat out for multiple games after that, his/her individual impact score could have been different if he/she hadn't gotten injured. Playing time is also another concern for this study. Since only 11 players are allowed to be on the field at one time and the sample looks at a total of 26 people, many of the athletes did not receive the same amount of playing time for each game. This could have an influence their overall impact score at the end of the season.

Connections to Previous Studies/Existing Literature

Athletes are influenced by numerous forces when it comes to being successful within competition. The use of motivational techniques by athletes and teams has proven through many studies to be an effective and successful to not only motivate athletes, but also to improve their

concentration and attention. While physical preparation for athletic competition is very important, the psychological preparation of athletes is just as important. In order to increase mental ability and motivation with an athlete, it is important to develop mental strategies and techniques that can trigger the individual's various motives (Cucui & Cucui, 2014). Also known as pre-performance routines, mental strategies are ways in which an athlete can engage in a preferred sequence or task in order to mentally prepare for competition. Pre-performance routines allow athletes to focus on task-relevant information before their performance in competition as well as subdue any inappropriate or discouraging thought that athletes might have before competition.

One of the most common misconceptions of implementing pre-performance routines is the amount of time that athletes need to spend on enhancing these techniques. While athletes should partake in the use of mental training just as much as physical training, as long as they focus on a specific strategy, they can be somewhat successful in preparing for competition cognitively, mentally, and emotionally, according to most of the research conducted on mental training. If athletes spend a small amount of time on mental training through the use of pre-performance routines, they will improve their focus and performance under pressure as well as reducing the number of distractions or negative thoughts within competition (Cotterill, 2010).

Implications for Future Research

Future studies could use a similar pre- and postseason survey as well as the impact charts for measurement; however, increasing the sample size of the research would be advised. Increasing the sample size could look at other teams not only within the Division III field hockey spectrum but in other sports within that division as well. Future research should also be done on athletes and programs from all three divisions within the NCAA Organization: Division I, II and

III. Comparisons of programs can also be done as a future study looking at programs/teams that utilize the use of pre-performance routines versus programs that do not. Analyzing other pre-performance routines other than mental imagery, self-talk, goal setting, and coach speeches could also be examined in a future study of this topic.

Conclusion

While many programs believe that only physical preparation is necessary for athletes before competition, mental preparation is also extremely important. The postseason survey study against the impact chart scores rejected the null hypothesis for this study, showing that the use of pre-performance routines has a positive impact on the success of the athlete within competition. Even though this study showed the positive impact that mental preparation has for athletes, more research needs to be done in order to influence programs to observe and implement mental training strategies with the intention to examine improvement in athletic performance.

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