Running head: Preparation for Success

Student Athletes and Their Preparation for Success in Competition:

Comparing Against Elite Athletes

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A Project

Presented to

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California State University,

San Bernardino

Spring 2009

ABSTRACT

This study examined the range of preparation strategies and managing responses of student athletes. Focus was on what the student athletes displayed the day before competition, the day of competition, and after the competition. The results will be compared to elite pent athletes: 20 male, high school basketball students were interviewed based upon open-ended questions. As in the previous study, conducted by Bertollo, Robazza, & Saltarelli, 2007, the data was hierarchically content analyzed. The results showed that the student athletes’ responses centered around three main dimensions: emotional control, mental practices, and physical routines. The dimensions include many of the psychological skills (imagery, focusing, anxiety control, positive self-talk, and goal setting) as the elite pent athletes.

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**CHAPTER 1**

**INTRODUCTION**

**1. General Statement of the Problem**

 The Purpose of this study was to examine the range of preparation strategies and managing responses of student athletes. For many years, researchers have tried to measure the psychological skills of athletes within competitive sports. Early research shows that it is the more successful and elite athletes who are more committed, motivated, self-confident, focused, and able to cope with adversity, and peak under pressure (Bertollo, Robazza, & Saltarelli, 2007). The psychological skills which have appeared under those factors include imagery, focusing, anxiety control, positive self-talk, and goal setting. Our group hopes to identify these same idiosyncratic mental preparation strategies and behaviors among the student athletes.

**2. Review of Related Literature**

Goal Orientations

In Stuntz, C.P., Weiss, M.R. (2008), Achievement goal orientations and motivational outcomes in youth sport; The role of social orientations, they explore if social goal orientations in the physical domain have a positive or negative effect on a students’ participation in youth sport. This quantitative study focused on weather social goal orientations in the physical domain were linked to friendship, group acceptance, and enjoyment of sport and physical activity in youth sport. The study raises questions with students assessing their task and ego goals, coach praise, friendship, and group acceptance. The study takes these questions and compares them to the student’s task, ego, and social goal orientations. From there they decide if their social goals affect their motivation in physical education and youth sport. There are many researches on achievement goals, including task and ego orientations. However, there has been little research in the physical domain and with social goal orientation.

The data was separated in to 9 categories (task, ego, coach praise, friendship, group acceptance, mastery motivation, challenge motivation, perceived competence and enjoyment) on one table and 5 categories (task, ego, coach praise, close friendship, and group acceptance) on the other. The findings in the current study show that social orientations are related to motivational and moral variables. The author goes on to explain that social orientations can be useful constructs for increasing participation, as well as enhancing the sport experiences of youth and adolescents.

Bruene, A., McBride, R., Xiang, P. (2004), Using Achievement Goal Theory to Assess an Elementary Physical Education Running Program, examined student motivation and achievement behavior within a running program, focusing on multiple theoretical perspectives. The focusing question is as follows: What are the relationships among achievement goals, perceived motivational climate, and student achievement behavior in an elementary physical education running program?

 The study used an adapted 12 item Task and Ego Orientation in Sport Questionnaire (TEOSQ) to measure achievement goals. The study also used a 24 item Perceived Motivational Climate in Sport Questionnaire (PMCSQ). 11 statements were mastery focused, and the remaining 13 were performance focused climate statements. Scores were higher on mastery goals rather than performance goals. Motivational climate was more mastery focused than performance focused. “Correlations of the mastery goal, performance goal, perception of a mastery-focused climate, perception of a performance-focused climate, and student persistence/effort to the one-mile run test all were negative.” Mastery goal was not related significantly to the performance goal. The performance goal related positively to perception of a performance focused climate. Only the mastery goal related positively to both student persistence/effort for the program and the one mile run performance, while student persistence/effort related positively to their one mile run performance.

Performance and Goal Orientation

In Duda, J., Newton, M. (1993), The Relationship of Task and Ego Orientation to Performance-Cognitive Content, Affect and Attributions in Bowling, the purpose of the study was to distinguish the relationship of individual differences in “goal orientation to mid-activity cognitive content and affect and post-performance attributions, within bowling.” The question raised is: which goal orientation will be found dominant among subjects playing 3 standard games of bowling? “Task oriented individuals tend to attribute their performance effort, while ego oriented individuals tend to attribute their performance to innate ability” (Duda, Newton, 1993).

A 13 item Task and Ego Orientation in Sport Questionnaire (TEOSQ) was used to assess the dispositional proneness toward task and ego involvement. A self-report questionnaire was used to assess cognitive content, affect, and performance attributions. The authors believe that the findings suggest that “within an environment focused on the learning of sport skills, students’ cognitive and affective responses during and following performance vary as a function of the goal perspective of the student.” They believe that findings are compatible with “predictions emanating” from current social theories of achievement motivation. The authors also feel that the reason the ego orientation did not significantly correspond with performance worry was due to the “emphasis placed on learning and having fun in the situation at hand.” The context of the games was not competitive.

Group Performance

Bray, Steven R. (2004), Collective Group Efficacy, Group Goals, and Group Performance of a Muscular Endurance Task, examined the relationships among collective efficacy, group goals, and group performance using an interdependent muscular endurance task in a controlled laboratory setting. Will groups that believe in their ability perform better on tasks and will their self-belief raise the standards and goals that they set for themselves thus leading to improved performance? It was hypothesized that collective efficacy should predict group performance independent of previous group performance and that group goals would mediate the relationship between the two. In this quantitative study, the researchers acknowledge that a great deal of study has been done on self-efficacy however, there is significantly less research on collective (group) efficacy especially when considering group goals as a mediator for predicting performance.

The authors found that effects of collective efficacy were consistent with the hypotheses. Essentially, what was determined was that “what members come to believe about their collective capabilities…plays a significant role in determining performance. They also learned that groups with higher collective efficacy set higher goals and those goals resulted in performances greater than the initial collective efficacy.

Preparation strategies

The following literature encourage our study. Bertollo, M., Saltarelli, B., & Robazza, C. (2009), Mental Preparation Strategies of Elite Modern Pent Athletes, examined the repertoire of preparation strategies and coping responses of elite modern pent athletes (including the use of setting short a long term goals). The objective of the researchers was “theoretical” as the results could potentially be used to design individualized programs intended to enhance other athletes’ self-regulation strategies prior to-, during and post competition. The sample consisted of 14 athletes, six women, and eight men, who range in age from 21 to 33 years. The sample represented the whole Italian modern pent athlete national team. Most had participated in international events and had on average 8 years international senior experience. None had reported receiving any previous formal interventions from sports psychology consultants save for some info about psychological preparation from their coach.

After conducting interviews, hierarchical content analysis was used to analyze the data. The researchers were able to create categories inductively based on the similarity of responses given by the different athletes. The following sub themes were created under the general dimension and higher order theme of *Attitudes during training*: Dedication during training, high level training, and commitment during training. The next sub themes came out of the general dimension of *Behaviors during training* and higher order themes of Competition simulation and technique improvement: Competition simulation during training, competitive feelings during training and technique improvement during training. The next sub themes were derived from the general dimension and higher order theme of *Behaviors outside of training*: Cultivating personal interests and relaxing activities. Next sub themes were derived from the general dimension *Mental practice* and corresponding higher order themes of Visual mental rehearsal, Kinesthetic mental rehearsal, Emotional rehearsal, and Remembering Events: visual mental rehearsal, kinesthetic mental rehearsal, emotional rehearsal, and remembering an event, remembering a positive event, visualizing successful events and self-talk. Next sub themes were derived from the general dimension of *Goal setting* and higher order themes of Performance goals and Achievement goals: Technical improvement, obtaining a performance score, and achieving goals. The final sub themes were derived from the general dimension of *Seeking optimal feelings* and corresponding higher order themes of seeking optimal feelings and Keeping records of feelings: seeking technical feelings, seeking competitive feelings, and keeping record of personal feelings.

As predicted, the pent athletes in this study exhibited a large range of both preparation and coping strategies. Although it is important to point out that no one athlete used all the strategies, and there was variance between which strategies were more common among the athletes. The researchers note that these results have implications for those designing mental training programs. An interesting result was the ironic process of negative thoughts and how they were reinforced instead of removed. The authors turn to the work of sport psychologist, C.M. Janelle, to provide solutions for adapting and overcoming this hurdle and making operating processes more automatic, which is essential for high performance athletes.

**3. Assumptions**

 One assumption that we had was that student athletes who have a minimum of four years experience should posses the same idiosyncratic mental strategies as adult elite athletes. This assumption comes based off the thoughts that age does not always determine the degree to which a person can do things. If young student athletes have received proper training throughout their sports experiences, then it is only right to assume that they are capable of possessing the same qualities to those identified among the elite pent athletes.

**4. Research Question(s), Hypothesis, or Foreshadowed Problems**
 The central questions the group was focused on were: 1. What are the main strategies student athletes employ in preparation for, and during competition. 2. How do these student athletes compare to the elite athletes studied by Bertollo et al. Although student athletes may not possess the experience of an elite athlete, similarities of preparation strategies are hoped to arise. Given that student athletes may not have the same experience as an elite athlete, the problem may come forth in lack of detail provided by responses. If the majority of the student athletes are unfamiliar with sports psychology and the terms used, this may create a delay in the grouping and analyzing of the data.

**5. Definitions of Terms**
For this study, the following definitions apply:

1. Idiosyncratic strategy is a plan of action designed to achieve a particular goal, that is an individualizing quality or characteristic of a person or group, and is often used to express [eccentricity](http://en.wikipedia.org/wiki/Eccentricity_%28behavior%29) or peculiarity.
2. Imagery is the process in which you can create, modify, or strengthen pathways important to the co-ordination of your muscles, by training purely within your mind.
3. Self-talk is a mental preparation strategy in which individuals talk to themselves in an

attempt to enhance their self-confidence and convince themselves that they can succeed.

**6. Significance of the Proposed Study**
 The social importance of the study was to see what motivates student athletes before and during performance. Coaches must know how to get our athletes motivated in order for them to have their best performance and ultimately enjoy and continue to participate in their sport. Coaching goes well beyond teaching fundamental skills. Once the athlete has learned the basic skills of the game, they must learn how to apply their skills, knowledge of the rules, and etiquette of the game in order to prepare for competition. An athlete must have a trustworthy and respectful relationship with their coach to make the experience that much more beneficial. It has been stated by Stuntz and Weiss (2009) that “Youth participants who interact positively with their coaches are more likely to feel competent, exhibit higher self-esteem, enjoy their involvement, be more intrinsically motivated, and stay involved with their sport” (p.255). Before any of that happens, the athlete must enjoy the sport and want to play it. Establishing that from the beginning gives the coach an immediate platform for learning. When times are hard, the coach can remind athletes that it is meant to be challenging and that sport is an activity they really want to be able to do. Without setting that groundwork, the concept of quitting becomes an option and that is the worst possible scenario in sport.

Positive motivation and participation can inspire the athlete to excel and gain sport confidence. Research by Clark-Carter, Jones, and McCarthy (2008) suggests that, “Enjoyment has been recognized as a key factor for motivated behavior and sustained involvement in youth sport” (p. 143). Anxiety and stress can be controlled through proper preparation. Many of our students and athletes are dealing with a lot of stress in their lives and are too young to know how to deal with it. When they experience these same emotions in sport they tend to either have a bad performance or they end up quitting. We have to teach our athletes how to deal with these emotions and that they can be successful and learn from their mistakes. Setting task goals instead of ego goals are very important in order to accomplish this. You can have a common goal of winning on a team but it will definitely affect the attitude of the team if the players do not have individual and social goals. Auweele, Lens, Mouratidis, and Vansteenkiste (2009) acknowledged that, “Task oriented pupils are more likely to feel hopeful, perhaps because PE classes offer them new opportunities for skill-development, and proud, perhaps because they have learned some new exercise skills; they also seem to enjoy the learning process more” (p.341). This is assuming that the physical education program is doing what is required of them in their school. Many schools in our society do not provide students with a good physical education program and that is what we would like to change as future coaches. We want to give students the chance to be successful and provide them with the confidence and motivation for them to be thriving adults. A winning attitude and confidence will equip an athlete with coping skills to handle his/her emotions when confronted with a stressful or anxious moment. These same athletes will hopefully be able to carry these coping skills over to their everyday lives and lead to them being more happy and ultimately, successful.

The results from this study will help coaches and teachers better themselves in their professions. The information from this study is also helpful to future teachers because they will learn what their students are thinking, how they act in specific situations, and how to help their student-athletes to be successful in the sport they love. This type of research is applied research. The information studied is in the education field and is adding to the researched base knowledge of a given field. Our research builds off research done on professional athletes and on paraplegic athletes. The study is community oriented because it deals with the children and young adults in our community. As a coach, it is important to study the student-athletes in our community to ensure we provide them with the skills and experience to help them be successful in their future as young adults.

**CHAPTER 2**

**DESIGN AND METHODOLOGY**

**7. Subjects**
 The sample consisted of 20 student athletes. Of the 15 students, all were male basketball players. The ages ranged from 14 to 18 years (M=16). The sample represented 2 male high school basketball teams within the Inland Empire, during the 2009 basketball off-season and in the upcoming 2009 summer season. All of the students have engaged in both physical education classes and season league games. On average the student athletes had 5.5 year of basketball experience. Each student received a consent form to be signed by parents. It was understood that all information obtained through the interview process was for a research study, being conducted by students of California State University, San Bernardino. It was further understood that all information would be confidential, as the athletes would remain anonymous.

**8. Instrumentation/Data Collection**

 In order to examine if the idiosyncratic preparation strategies of the student athletes, we had to conduct an interview. The interview could not begin without first distributing and collecting parent consent forms (Appendix A) for all 20 students. Once we received all consent forms, we developed an open-ended interview, similar to that of Bertollo, Robazza, & Saltarelli 2007: to fully investigate the research questions, standardize and facilitate the acquisition of qualitative data, and minimize biases. The interview questions focused on the mental preparation strategies and behaviors found in the days before competition, the day of competition, and after competition. The principal questions (Appendix B) were as follows: “What strategies to you use to ensure you are working with your teammates?” “What mental preparation strategies and behaviors do you adopt in the days before an important competition/game? Day of? Day after?” “What routines do you follow to prepare yourself?” “How do you try to attempt to control your heart rate and breathing before and during the event?” “How do you get focused and cope with distractions?” “How do you react emotionally during competition?” “What are your strengths and weaknesses?” “How do you analyze your performance?”

 The process for data collection involved taped interview conversations between the investigator and the participants of the study. The interviews were conducted during the 2009 basketball off-season and in preparation for the coming 2009 summer season. The high school athletes were met in their usual training gymnasium and then were requested to meet the interviewer individually in the team room for the interview. No names were used to protect the identity of the participants and to guarantee their anonymity. As in the Mental Preparation Strategies of Elite Modern Pent athletes study, emphasis was placed on strategies, strengths, and weaknesses. The researchers observed the emotional reactions, nonverbal cues, and main assertions of all the individuals partaking in the questionnaire.

**9. Data Treatment Procedures**

 The purpose of the study was explained to the participants before the interview began. Stress was given to the fact that information provided by the participants could be used to help benefit them in their future performance and achievement goals. The formal interview began with and consisted of seven open-ended questions that the interviewer then elaborated on and deviated from to gain more insight into the participants’ responses. The interviews lasted between five and ten minutes depending on the length of individual responses. The flow of the interview was more lucid and casual allowing for more give and take in the participants’ responses. At the conclusion of the interview, each participant was asked if there was any more information they would like to share about the questions they were asked.

 Data Analysis

The procedures used to code and chunk data were loosely consistent with the hierarchical content analysis standards employed by Bertollo, Saltarelli and Robazza (2009) and progressed through the following steps:

1. The taped interviews were transcribed verbatim and then given back to the participants for confirmation of their responses.

2. The transcripts were read multiple times by the investigator to ensure a clear grasping of the participants responses.

3. The investigator then identified specific (sub) themes attempting to categorize the responses of the participants.

4. The specific themes were then generalized into more broad (higher-order) themes and finally general dimensions.

5. Finally, themes were organized into a table to help identify them according to their broader categories.

**10. Presentation of Findings**

Results

 Despite the narrow focus of this study and short duration of the interviews, it was still impossible to include all information collected from the interviews. Selected quotes that highlighted participant responses were used to supplement and expand upon the general dimension categories used in Table 1. It is important to note that responses in the sub themes and higher-order themes as well as general dimension categories are consistent with attitudes or behaviors that occur before, during and after competition.

**Table 1.**

Sub-themes, higher-order themes, and general dimensions related to mental preparation strategies and behaviors before, during and after an event

|  |  |  |
| --- | --- | --- |
| SUB-THEMES | HIGHER-ORDER THEMES  | GENERAL DIMENSIONS |
| Keeping calmDecreasing worryEmotional detachmentMaintaining relaxation Increasing relaxationDecreasing tensionMaintaining tensionIncreasing tension | Reappraisal Emotional detachment Attention of emotional symptom Intensification of emotional symptom Intensifying relaxation or tension | Emotional control |
|   |   |   |
| Focusing on techniqueAnticipating competition tasksRehearsing optimal executionInsecurityStrong opponentFatigueSelf-talk | Focusing on technique Anticipation of the competitionSelf-talk | Mental practice |
|   |   |   |
| Consistent warm-upCompetition focus & seclusionBodily check-upMuscular relaxationBreathingBehavioral strategies  | Warm-up and seclusionBodily check- upRelaxation for shootingBehavioral strategies | Physical routines |

## Emotional Control

 After reading the transcripts, several participants noted varying strategies that affected their emotional control. Three participants discussed specific techniques (including listening to Ipods before the game) they used to relax prior to a game noting that their levels of anxiety were often high during the day of an event. One athlete said, “During the [school] day, I can’t even think about my classes because I’m thinking about the game later. If I’m still nervous after school, I ask the coach if I can shoot around in the gym. And, while I’m shooting I listen to my Ipod to help me relax.” Five other participants discussed using music to raise their emotional levels prior to a game. One participant said, “I love the mix tape we have before the game. When we come out and do our lay-ups and the bass is pumping, it gets me so fired up I just want to dunk the ball…Then, when we play the song that the Bulls used to come out to, you know when they would introduce the starting lineups, I know that I’m ready to play.”

 Several participants discussed the importance of controlling their emotions during the game. They talked about how certain teams would like to play dirty by jabbing people in the stomach while they were shooting or how certain players from opposing teams would pull on their jerseys or shorts to make them angry. One participant was quoted:

“Yeah, you just have to play through those things. I mean, other teams will do all kinds of stuff to try and get in your head and you gotta stay focused because if you don’t then you’ll pick up stupid fouls and have to come out of the game. I remember this one time when I was playing club ball this guy kept holding on to me so I couldn’t get open. He was grabbin’ my shirt and hookin’ my arm and the ref never saw it because I didn’t have the ball. So I pushed him and told him to get off me [expletive] and the ref saw it and gave me a tech [technical foul]. I was so mad that I went and kicked a chair on the bench and they [refs] kicked out of the game.”

Other participants talked about not getting too emotionally excited when things are going well. “Coach always says don’t celebrate after making a basket or good play because then it seems like you’re telling the other team that you never score because you have to celebrate when you do. Plus, if you’re celebrating then the other team can go down and score when you should be playing defense” quoted a participant. Some participants talked about increasing tension and excitement when they felt their levels were too low. They talked about the coach had told them that “they were playing like they were not ready to play” or “playing asleep” or half-dead. Some talked about half time speeches that coaches would give to try to get them fired up into playing better during the second half of the game.

 Finally, a couple of participants talked about ways they tried to control their emotions after a game, particularly after a loss. These players focused on emotional detachment and the “letting go” process of a bad game. “I know that when I have a bad game that I just have to let it go and can’t spend my time worrying about it”, stated one of the two participants. The other participant said,

“There was this one season my sophomore year when I had a shooting slump and I shot like thirty percent maybe worse from the free throw line. I would get so nervous because I kept missing and then I would try to correct my form or try different stances or routines, but I was always afraid I was going to miss. Then my dad said I was thinking too much and I just need to stop worrying about whether or not I’m going to miss and just shoot the ball. Now, I shoot a lot better.”

## Mental Practice

 Despite never having any prior discussions with sports psychologists or formal knowledge of sport psychology, all of the participants in one way or another eluded to utilizing differing types of mental practice strategies prior to competing in a game. All of the participants talked about various types of “anticipating competition tasks”. Some participants talked about their “role” on the team and how they thought it was important to live up to that role for the good of the team. By mentally focusing on the techniques they needed to use, such as rebounding with proper form or defending the other team’s best player, these participants prepared for their role on the team.

Others discussed visualizing, during practice, the responsibilities and techniques they would have to employ during the game such as certain cuts or moves they needed to make on offense. Still, other participants talked about the use of “self-talk,” during practice and games, to help them remember particular tactics needed to defend properly such as “never looking at the ball and always watching the numbers to see where a player will dribble,” or “forcing a player to their weak hand,” or even, “forcing a player sideline/baseline.” By using these short phrase mantras, the participants could focus on using the proper footwork to defend correctly.

 During competition, all participants used rehearsing optimal execution techniques to focus on shooting free throws. Although each player’s routine prior to shooting a free throw differed (number of dribbles, stance, to spin or not spin the ball, etc.), the rehearsal and repetition of the sequence each player employed was used to create a rhythm for shooting. In combination with this rhythm method, some participants also tried to visualize the ball going through the hoop in order to create an “aura” of confidence. “Shoot with confidence, my coach would always yell to me from the bench…”, said one participant, “…and I never understood what he meant until I asked him and he said imagine the ball going in before you shoot it.”

## Physical routines

 In addition to emotional controls and mental practices, many of the participants noted that having a set routine of actions helped them to mentally prepare for a game. One example of such a routine was mentioned by at least four of the participants. They said that doing lay-ups prior to the start of a game helped them release tension and get focused on the game. Because doing lay-ups prior to a game is such a fundamental skill that is employed by all teams and at all levels of competition, the participants felt that its automaticity helped put them in a “zone”. This zone they achieved aided them in “drowning out” all other distractions being generated by the atmosphere of the game.

Another routine that was mentioned by the participants was the repetition of warm-up drills and talks used at the beginning of each practice. “When we do the diamondback dozen (a set of twelve various jogging, sprinting, cutting, defending and stretching moves without the ball) to warm-up for practice, I am able to forget about school and get my head ready to play”, said one participant. Another participant stated, “I like it when we start each practice with the three on two/two on one drills. It’s more like playing a game than doing a drill which is what I like.” Yet another participant mentioned, “I really like it at the beginning of each practice after game when we’re sitting at the center circle, how you tell us our stats from the night before. It gives me an idea of what I need to focus on for practice that day.”

One participant discussed a physical routine he used after each game to help him relax and come down from the highs or lows as well as recover from the physical exhaustion of the game. He was quoted:

 “First, my parents and I stop and get something to eat. I usually haven’t had anything to eat since lunch because I’m too anxious to eat before the game. We talk a little about the game before going home. I shower, sometimes ice my knee, and then finish homework before going to bed. If I don’t have homework, I’ll watch TV or play a video game. I just try to do stuff other than basketball to get it out of my head so I can relax.”

Even though, this participant was the only one to mention a routine he uses after the game, it is important to note that having some strategy for mentally focusing off the game is just as important as having mental strategies for focusing on the game. This ensures a balance between life and sport and can prevent distractions that may affect the participants’ abilities to perform in future contests.

**11. Limitations of the Design**
 The study was limited because the research was done only in a couple areas. Our students that participated in the interview were from two schools in the same neighborhoods. We may have gotten more diverse results if students from a variety of different schools were researched. It may have also helped to study student athletes from different sports. Students who play different sports are put in a variety of totally different situations and their answers may have been more diverse. It would have been very interesting to see if our results would be the same if we would have studied these different variances.

**CHAPTER 3**

**CONCLUSION**

As suspected, the student athletes possessed many of the same idiosyncratic mental preparation strategies as the elite pent athletes. The student athletes’ responses focused on emotional control, mental practice, and physical routines. The results did not go as in depth as in the elite pent athlete study. Our data centered on three general dimensions, whereas, the previous study encompassed over ten. This is believed to be a result of lack of detail given in the student athlete responses. Just as the elite pent athletes, the student athletes were motivated, self-confident, focused, and able to cope with adversity. Although the extent to how it was applied may differ, the following psychological skills appeared in the study: imagery, focusing, anxiety control, positive self-talk, and goal setting. One distinction which is to be made among the student athletes and the elite pent athletes is that the elite pent athlete may have regarded their competitions as their only lifestyles. If this is correct, this would put emphasis on commitment to competition and focusing on greater detail in preparation.

**RECOMMENDATIONS FOR FURTHER RESEARCH**

 Anyone who is desires to continue research on this subject is encouraged to do so. We recommend, and believe that it would be most beneficial for new researchers to focus on both male and female student athletes in their future study. Try to avoid athletes restricted to one sports. Different sports require more thought and energy, therefore results may vary, allowing for an increase in general dimensions. Additionally, male and female athletes do not think the same and do not have the same strengths or weaknesses. Our study was limited on that we did not study any female student athletes.

 Furthermore, we find that further research should encompass a greater sample size. This increased sample size should also be observed over a greater period of time. Perhaps during the Winter sports seasons where participants may be observed without the beginning or ending of the school year interferences.

 Researchers must identify their purpose, and select their sample. Once this is completed, researchers must then decide if interview questions will follow the open-ended structure or differ. Each participant should be given the adequate time to define responses, and the opportunity to change or clarify any statements. As with this study, and the previous elite pent athlete study, all data should preferably be hierarchically content analyzed, and broken into sub-themes, higher order themes, and general dimensions. The results will be great quantity. Consider which information is best believed to be represented for the purpose of any future study.

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**APPENDICES**

Appendix A CSUSB Parent Consent Form

Dear Parent/Guardian:

# Purpose

Masters students from California State University, San Bernardino, are conducting a study called Student Athletes and Their Preparation for Success in Competition: Comparing Against Elite Athletes*.* We would like to involve your child in our study.

# Procedures

This study will include an interview/questionnaire of your child’s mental preparation strategies and behaviors in competition level Your child will be interviewed for approximately 30-45 minutes during the end of Spring, Summer basketball. Your child will not be separated from peers or the teachers.

# Confidentiality

All information will remain completely confidential. No all children will remain anonymous, as no individual identities will be used. You may remove your child from the study at any time.

# Consent

PARTICIPATION IS VOLUNTARY**.** I understand that I can choose not to have my child participate in this study, or to withdraw my child from participating at any time.

I will discuss this research study with my child and explain the procedures that will take place.

I will be given a copy of this consent form to keep.

|  |
| --- |
| I give my consent to allow my child to participate: |
|  |
|  |  |  |
| Print Name |  |  |
|  |  |  |
|  |  |   |
| Signature of Parent/Guardian |  | Date |

Appendix B Interview/Questionnaire

 **[CSUSB- Student Athlete Questionnaire] (condensed format)**

**Directions:** You will be read each of the following questions. Answer all questions in detail to the best of your ability. You will have the opportunity to change or clarify all answers.

What strategies to you use to ensure you are working with your teammates?

Answer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What mental preparation strategies and behaviors do you adopt in the days before an important competition/game? Day of competition? Day after competition?

Answer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What routines do you follow to prepare yourself?

Answer:

Answer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How do you try to attempt to control your heart rate and breathing before and during the event?

Answer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How do you get focused and cope with distractions?

Answer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How do you react emotionally during competition?

Answer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What are your strengths and weaknesses?

Answer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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How do you analyze your performance?

Answer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Appendix C Elite Modern Pent Athletes Result Chart (Bertollo et al.)

Sub-themes, higher-order themes, and general dimensions related to mental preparation strategies and behaviors before event

|  |  |  |
| --- | --- | --- |
| SUB-THEMES | HIGHER-ORDER THEMES (a/c) | GENERAL DIMENSIONS |
| Dedication during trainingHigh level trainingCommitment during training | Attitude during training (12/38) |  Attitudes during training |
|  |  |  |
| Competition simulation during trainingCompetition feelings during trainingTechnique improvement during trainin | Competition simulation (5/7)Technique improvement (5/6) |  Behaviors during training |
|  |  |  |
| Cultivating personal rehearsalRelaxing activities | Behaviors outside training (8/11) |  Behaviors outside training |
|  |  |  |
| Visual mental rehearsal Kinesthetic mental rehearsalEmotional rehearsalRemembering an eventRemembering a positive eventVisualizing successful eventsSelf-talk | Visual mental rehearsal (8/12)Kinesthetic mental rehearsal (2/2)Emotional rehearsal (2/2)Remembering events (4/4)Visualization of successful events (3/3)Self-talk (2/2) |  Mental practice |
|  |  |  |
| Technical improvementObtaining a performance scoreAchieving goals (Olympics, medals) | Performance goals (11/14)Achievement goals (8/10) |  Goal setting |
|  |  |  |
| Seeking technical feelingsSeeking competitive feelingsKeeping records of personal feelings | Seeking optimal feelings (8/9)Keeping records of feelings (6/8) |  Seeking optimal feelings |

Note: a = number of athletes providing raw data themes into higher-order themes; c = number of raw data themes falling into higher-order themes

|  |  |  |
| --- | --- | --- |
| SUB-THEMES | HIGHER-ORDER THEMES (a/c) | GENERAL DIMENSIONS |
| Focusing on techniqueKeeping calmDecreasing worryEmotional detachmentMaintaining relaxationDecreasing tensionMaintaining tensionIncreasing tensionIncreasing relaxation or ten. | Focusing on technique (8/24)Reappraisal (10/14)Emotional detachment (9/12)Attn of emotional symptom (8/15)Intensification of emo. symptom 4/8Intensifying relaxation or tension 3/5 |  Emotional control |
|  |  |  |
| Anticipating competition tasksRehearsing optimal executionInsecurityStrong opponentFatigueSelf-talk | Anticipation of the comp. 11/17Self-talk (2/6) |  Mental practice |
|  |  |  |
| Consistent warm-upCompetition focus & seclusionBodily check-upMuscular relaxationBreathingBehavioral strategies | Warm-up and seclusion (10/10)Bodily check- up (7/10)Relaxation for shooting (6/10)Behavioral strategies (6/10) |  Pre-competitive routines |

|  |  |  |
| --- | --- | --- |
| SUB-THEMES | HIGHER-ORDER THEMES (a/c) | GENERAL DIMENSIONS |
| Shooting strategiesFencing strategiesSwimming strategiesRiding strategiesRunning strategiesCompetition like trainingAdaptation to the situationAdaptation to the opponent | Technical strategies (14/16)Competition like training (11/20)Adaptation to situation and opponent (10/14) |  Technical strategies |
|  |  |  |
| Initiated automatic executionSpontaneous automatic execution | Automatic execution (14/19) |  Automatic execution |
|  |  |  |
| Aware dysfunctional emotion is overThought stoppingSelf-talkSelf-control | Aware dysfunctional emotion is over (10/26)Thought stopping (7/7)Self-talk (6/10)Self-control (4/4) |  Emotional strategies |
|  |  |  |
| Focusing attention on external cuesFocusing attention on internal cuesManaging attentionFocusing attention on techniquesFocusing on each event singularly | Focusing attention (8/17)Managing attention (5/9)Focusing attention on techniques (4/5)Focusing on each event singularly (4/4) |  Attentional strategies |
|  |  |  |
| Diverting attention awayThinking about the next executionAnalyzing mistakesSeeking the coach’s assistance | Detachment from mistakes (913)Analyzing mistakes (4/5)Seeking the coach’s assistance (4/5) |  Reaction to mistakes |

Sub-themes, higher-order themes, and general dimensions related to mental preparation strategies and behaviors before event

Note: a = number of athletes providing raw data themes into higher-order themes; c = number of raw data themes falling into higher-order themes

|  |  |  |
| --- | --- | --- |
| SUB-THEMES | HIGHER-ORDER THEMES (a/c) | GENERAL DIMENSIONS |
| Expecting mistakesFocusing on avoiding mistakesReacting negatively to mistakesWorrying about making mistakesWorrying about being injuredPerceived technical problemsExpecting underperformance outcomes | Focusing on mistakes (14/51)Perceiving technical problems (12/21)Expecting underperformance outcomes 14/33 |  Negative expectations |
|  |  |  |
| Muscle tremblingMuscle tensionStomach tensionWeaknessFatigue Enhanced heart rate | Dysfunctional bodily symptoms (14/33) |  Dysfunctional bodily symptoms |
|  |  |  |
| Negative thoughtsDistracting thoughtsFluctuating attentionThinking about the execution | Focusing difficulties (14/28)Thinking about the execution (2/2) |  Attentional difficulties |
|  |  |  |
| Lack of controlLoss of controlChoking  | Lack of control (7/8)Loss of control (6/14)Choking (2/2) |  Coping difficulties |