UNITED STATES SPORTS ACADEMY

EXAMINING EXTRINSIC REWARDS AND PARTICIPATION MOTIVATION IN MALE YOUTH SOCCER

A dissertation submitted to
the faculty of the United States Sports Academy
in partial fulfillment of
the requirements for the degree of

Doctor of Education

In

Sport Management

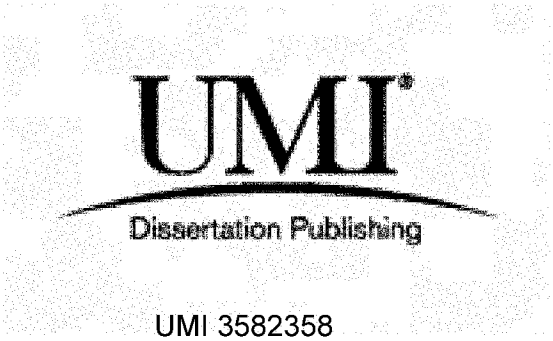
by

Jude A. Niba

Chair: Dr. Arthur Ogden

Daphne, Alabama

January 2015



ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

UNITED STATES SPORTS ACADEMY

Approval
of a dissertation submitted by

Jude A. Niba

Arthur G. Ogden, Ph. D.
Chair, Dissertation Committee

January 2015
Date

Fred J. Comartie, Ed. D.
Member, Dissertation Committee

Jan, 2015
Date

Tim Foley, Ed. D.
Member, Dissertation Committee

JAN 2015
Date

Stephen L. Butler, Ed. D.
Dean of Academic Affairs

January 2015
Date

DEDICATION

This dissertation is dedicated to my friends and family who have supported me through my endeavors, including this work.

ACKNOWLEDGEMENTS

Despite all the hurdles and challenges I have had through these years in undertaking a career in sports, the Academy has been a significant influence in facilitating my goal by giving me the opportunity to pursue this advance degree. I extent my appreciation to Dr. Arthur Ogden, Dr. Fred Cromartie, Dr. William Steffen and Dr. Tim Foley who have continuously supported and inspired me in fulfilling all requirements for completion. In addition, my parents John and Margaret Niba have guided me thoroughly through all the years pursuing this doctorate program and supported me with knowledge and feedback on the dissertation. My entire family has also been helpful by exercising patience and providing financial assistance to advance my studies until completion. I hope this dissertation will provide new knowledge on participation motivation in sports and open up more avenues for future research.

TABLE OF CONTENTS

Page

TITLE PAGE i
DEDICATION ii
ACKNOWLEDGMENTS iii
TABLE OF CONTENT iv
LIST OF TABLES v
LIST OF FIGURES vii
ABSTRACT viii

CHAPTER

I. INTRODUCTION 1
Statement of the Problem 4
Research Questions 6
Definition of Terms 7
Scope of the Study 15
Delimitations 16
Limitations 17
Assumptions 19
Significance of the Study 20

II. REVIEW OF LITERATURE 22
Introduction 22
Motivation Orientations 23
Extrinsic Motivation in Sports 26
Extrinsic Rewards, P M and Success in Sport 28
Conflicting Research 30
Summary 30

III. METHODS 32
Research Method and Design Appropriateness 32
Research Questions and Hypothesis 32
Population 33
Sampling Design/Participant Selection 33
Instrumentation 34
Procedure 35
Data Analysis 37

IV. RESULTS 39
Descriptive Statistics 39

Survey Reliability.....43
ANOVA.....49
Multivariate Regressions.....53

V. CONCLUSION, DISCUSSION, RECOMMENDATION.....56
Conclusions.....56
Discussion.....59
Recommendation.....61

REFERENCES.....62

APPENDICES.....68
Appendix A: Written Consent.....69
Appendix B: Practice Questionnaire.....70
Appendix C: Thank You Note.....71
Appendix D: USSA IRB Approval.....72
Appendix E: Participation Motivation Questionnaire (PMQ).....73
Appendix F: Online Registration.....75

LIST OF TABLES

3.1 Mean, Variance & SD for P M Items in the Modified PMQ 38

4.1 Frequency Tables for Ability and Participation 39

4.2 Inter-Item Correlation Matrix for all Subscales 45

4.3 Rotated Component Matrix for all Subscales 46

4.4 Nonparametric Correlations 47

4.5 Estimated Marginal Means for Participation Motivation (P M) 48

4.6 E M Means adjusted for Age, Grade Participation and Ability 49

4.7 One Way ANOVA by Ability and Participation 50

4.8 One Way ANOVA for Participation, Age and Grade level 52

4.9 Regression Analysis 54

LIST OF FIGURES

4.1 Histogram Scholarship 40

4.2 Histogram Exposure Opportunities 41

4.3 Histogram Fame 41

4.4 Histogram Money 42

4.5 Histogram Trophies 42

4.6 Histogram Travel 43

4.7 Histogram Grade 43

4.8 Histogram Age 44

4.9 Histogram Ability 44

4.10 Multivariate Regressions according to Ability 55

5.1 G Graph Showing Extrinsic Rewards According to Importance 59

ABSTRACT

Jude A. Niba, Doctor of Education in Sport Management, Emphasis Coaching, United States Sports Academy, Daphne January 2015. *Examining Extrinsic Rewards and Participation Motivation in Male Youth Soccer Chair*: Dr. Arthur Ogden.

This study purposely examined the types of extrinsic rewards in male youth soccer programs and measures those that are most preferred by players to influence their participation motivation. It also checked if young soccer players skew towards programs that provide more reward opportunities. For this reason, 1000 teenage soccer players were randomized in an online survey administered by a community-based organization. 800 chose programs that provided extrinsic rewards and identified fame, trophies, travel, scholarship, exposure opportunities and money as the six main rewards that influenced their decision to join soccer programs.

A Participation Motivation Questionnaire (PMQ) was then modified using the identified factors and issued to 400 participants between ages 14-18 years, randomly selected from 20 Las Vegas soccer clubs in another survey to rank extrinsic rewards according to importance. Data was collected and entered into the SPSS 17.0 software for analysis. Descriptive statistics were used to calculate frequencies, percentages, mean, and standard deviation. Cronbach alpha was applied to measure internal consistencies based on the demographics and attitudes towards participation motivation. One way ANOVA sought to determine the extent to which the identified extrinsic rewards affected participation motivation, and regression analysis examined the relationships across all factors.

Results from data analysis revealed that, exposure opportunities constituted the most important extrinsic reward that influenced young male soccer players' decision to join soccer programs. Scholarship, travel, fame, money and trophies followed suit. One-way ANOVA showed that race had a significant effect on scholarship, exposure opportunities, and fame. Multivariate regressions revealed that young players that are more motivated by scholarship, fame and travel tended to have higher ability levels. These effects were held even after adjusting for grade and age.

Results from the online survey also concluded that more young players tend to be attracted to soccer programs that provide extrinsic reward opportunities. Thus, extrinsic rewards should be considered and included in programs to enhance motivation.

CHAPTER I

INTRODUCTION

In the United States, approximately 41 million youngsters are actively involved in agency-sponsored youth sport programs (e.g., Little League Baseball) and another 6–7 million participate in interscholastic athletics Ewing and Seefeldt, (2002). The sport environment is developmentally significant because it provides relevant socialization opportunities and places adaptive demands on participants that parallel those in other important life settings Larson 2000; Ryan and Deci 2000; Scanlan, (2002). Sports participation that includes active involvement, retention and commitment are determined by intrinsic and extrinsic motives, creating opportunities for recreation, skill development and achievement. In addition, situational and environmental factors, including parents and coaches predispose young players to enter particular goal states which over time mature into ego and mastery orientations. These motivational orientations create highly competitive environments that affect teenage soccer players' decisions such as playing for reward or for fun.

Research on sport participation and retention has not been carried out by many independent social scientists as well as organizations such as Sport Participation Research Initiative (SPRI) in Canada, the Australian Sports Commission (ASC), Sport England, US Soccer, National Soccer Coaching Association of America (NSCAA) and College Athletic Associations in the US. Most of these studies focus mostly on intrinsic motivational orientations and the influence on participation. Prior research in sports participation maintains that younger athletes join soccer programs for fun, challenge,

fitness, friendship, recreation and for mastery purposes contrary to achievement orientations such as extrinsic rewards. However, examining the effects of extrinsic rewards per se on participation motivation is lacking in empirical studies.

In reality, every soccer program provides some form of extrinsic motivation ranging from awards, travel, scholarship opportunities, agency representation, endorsements, to employment contracts that attract and encourage participation. Although young players are intrinsically motivated, they tend to skew towards programs that provide more extrinsic reward opportunities. For instance, in 2005, Community Youth Inter Alia, a non-profit youth organization, offered a soccer program for teenage players of ages 14 -18 years in the Las Vegas Metropolitan area. The program was divided into two sections. The first was Project Alpha, which consisted of a year-long recreational program for players to play for fun, fitness, skill development, challenge and friendship. The second was Project Omega, a competitive league that provided opportunities to advance players' careers and offered opportunities such as try-outs, scouting, scholarships, marketing opportunities and agency representation. Interested participants were to register online for a free recruitment clinic to recruit 100 qualified candidates. Numbers showed that out of the 1000 players that registered online, only 200 chose Project Alpha (recreation). Although their reasons were not measured, they were recorded. The 800 players that chose project Omega (competition) were asked to state their reasons for preferring extrinsic rewarding programs in a sentence prior to submitting their online forms. Most of their statements were categorized under travel, exposure opportunity, money, fame, scholarship, and trophies. These factors coincided with the items listed in the Participation Motivation Questionnaire which was later modified to

measure and rank their reasons according to importance. Notwithstanding, 80% of the sample population felt they needed to compete under the premise of some form of tangible and intangible reward, making it evident they preferred programs that provided extrinsic motivation.

In substance, effective sports programs provide both intrinsic and extrinsic motivation to accommodate participants. Thus, extrinsic rewards reinforce intrinsic motivation (Gill & Williams, 2008). With extrinsic motives being a strong predictive index of soccer participation, younger soccer players from 14-18 years tend to be attracted to programs that provide more extrinsic reward opportunities. For example, during the 2009 season of the Las Vegas recreational adult soccer league, two competing teams Citala FC and Africa United FC were recruiting players at the same time. Citala FC had sponsorship and guaranteed game bonuses, travel and monetary opportunities for their players. Africa United FC au contraire was sponsored by the players with no financial incentive or reward opportunities. As a result, most players left Africa United FC to play for Citala FC. Although their reasons were not assessed, it was evident that those players were motivated by the opportunities provided by Citala FC. It can be argued that Citala FC played to compete while Africa United FC played for fun, but the league was designed by the City of Las Vegas to compete for a trophy and prize. The above examples reinforce the need to measure the determinants of extrinsic rewards such as trophies, scholarships, employment contracts, endorsements, travel etc. in order to understand, quantify and categorize the reasons why young players skew towards extrinsically rewarding programs.

In this study, 400 (n=400) participants will be selected from 20 soccer programs randomly sample within the Las Vegas area. Subjects shall comprise of males of all races between ages of 14-18 years. Participation Motivation Questionnaire will be issued to measure extrinsic factors that influence their motivation to participate in soccer according to importance. Internal consistencies will be checked using with the Cronbach Alpha. One-way ANOVA computations will be applied to test hypothesis and regression analysis to examine the difference in ranking across all factors using the SPSS 17.0 program.

Statement of the Problem

Initially, younger soccer players (6 to 10 years) are intrinsically motivated but become extrinsically motivated as they grow older (Topley, 2010). Mesmerized by the fame, fortune, endorsements and the huge income streams of players who win trophies, and sign lucrative professional contracts, success is seen behind such prisms. In most cases, the tipping point becomes either to achieve success or to look for other attractive alternatives. At this adolescent stage, intrinsically motivated soccer players start pursuing extrinsic rewards and opportunities by joining organizations such as the Olympic Development Program (ODP) for exposure, high school programs for scholarship, as well as sports marketing agencies for sponsorship and employment contracts. This behavioral pattern becomes trendier as they move from one ability level to another. Their intrinsic motivation may waver insignificantly depending on several other variables but the value for extrinsic rewards increases exponentially.

Furthermore, parents and coaching create achievement-oriented motivational climates that define success down the corridors of rewards and accomplishments. Such

climates reinforce the motivational patterns of the players by establishing standards of competence based on a winning and an achievement mentality. Behavioral patterns of this sort are also fortified by the lifestyles and careers of soccer icons such as David Beckham, Samuel Eto'o, Lionel Messi and Cristiano Ronaldo, who have achieved greatness, money and clout following a similar route. For example, Cristiano Ronaldo from Portugal makes $44 million with $23 million in salary and $21 million in endorsements. David Beckham from England makes $47.2 million, $5.2 million in salary and $42 million in endorsements. Lionel Messi from Argentina makes $41.3 million in total earnings, with $20.3 million in salary and $21 million in endorsements. Finally, Samuel Eto'o from Cameroon earns $16.4 million with $13.4 million in salary and $3 million in endorsements Budenhausen, (2013). These icons have created a trend where young soccer players put more emphasis in achieving similar successes. Although this behavior stems from a combination of situational and environmental factors, teenage athletes are getting more and more motivated to getting some type of tangible reward from playing soccer. Their incentive value of success, competence and accomplishments is often measured in terms of rewards such as the amount of money in contracts, endorsements, social recognition, and trophies won. With increasing age, participation, commitment and retention become synonymous, as young athletes' motivational orientations may change from intrinsic to extrinsic patterns in search for the accompanying rewards for involving in soccer.

Another issue is that some young talented players resolve to discontinue or drop out because of lack of the necessary extrinsic motivational incentives such as agency representation, scholarship opportunity, endorsement, etc. to move from one level to

another. In spite of their talents, some drop out because they do not see the essence of putting dire effort unto physically risky and time-consuming activities for recreational purposes only. For instance, some parents prefer their children to pursue educational careers instead of playing soccer because of the risk involved and the low chances of succeeding. Their decisions become final, especially when the child incurs an injury that affects his or her daily activities. However, such decisions may change if there is a clear career plan for success and also when some tangible rewards exist.

In this sequence, extrinsic rewards become a vital requisite for participation motivation in youth soccer. Thus, it is necessary to examine the determinants and categorize them according to importance. Information from this study is aimed at supporting the participation research by helping sports marketing researchers understand the importance of extrinsic rewards and strongly consider their impact when designing sports programs. It also provide information to governing bodies to understand the expectations, realities and demands of young players from the grassroots so they can vector resources to target for their needs.

Research Questions

The research questions for the study were:

Investigating the reasons for achievement-motivated behaviors may be obvious, but what aspects of these rewards do young soccer players value most? For instance, are they more interested in the fame, travel, trophy, scholarship, money and/or exposure opportunity? Are young players more motivated to joining soccer programs that are extrinsically rewarding? Or should soccer programs be designed with emphasis on

extrinsic rewards in order to ensure higher participation and retention rates? Assuming that young soccer players are attracted to programs offering more extrinsic reward this study purposely examines the types of extrinsic rewards and measures those that are most preferred by teenage male soccer players to influence their participation motivation.

Definition of Terms

The following terms were operationally and expertly defined for the purposes of this study:

The terms considered intricate to this study were operationally defined in an alphabetical attempt. These definitions were supported by references that validate the viewpoints of the research. For instance, the term ego orientation motivation was addressed and examined in relation to youth decision making. Extrinsic rewards including all variables such as exposure opportunities, fame, travel, trophies, money and scholarship explained vis a vis their effect on youth participation motivation in soccer. Intrinsic reward and all its attributes were contextually examined in relation to participation motivation in youth soccer. Motivational orientation as well as participation motivation was defined in relation to the dependent variable. Finally, success and how young players perceive success was analyzed.

Ego Orientation

Ego orientation is a motivational goal that involves participation in a sporting activity for competition. On the other hand, task oriented goals are geared towards mastery. The primary motivation for action in pursuing ego oriented goals is to be better than others. The ego oriented goal functions as an extrinsic motivational force to achieve

desired outcomes Ego orientation motivation in this study relates an individual player's achievement goals, set in comparison with those of others and how he perceives success. For instance, young players may see success in terms financial accomplishments, fame, trophies, scholarship, exposure opportunities and travel. But the driving force is to demonstrate a superior and higher ability compared to others rather than demonstrating one's ability irrespective of how it compares to others (Steinberg, Grieve, & Glass, 2001). The Task and Ego Orientation in Sport Questionnaire (TEOSQ) (Duda 1989) is a reliable tool used to measure if a player's definition of success in a sporting context falls under task or ego goal orientation.

Extrinsic Rewards

Extrinsic rewards are the tangible and non-tangible benefits of involving in sports. Examples of extrinsic rewards include fame (social recognition), scholarships, money (employment contracts, endorsements, match bonuses, appearances), travel, trophies (prizes), selection to play at higher levels (exposure, scouting opportunities, agency representation) etc. Extrinsic rewards are the outcome of extrinsic motivation which is the drive, desire or decision to participate in an activity with the expectations of gaining some external benefits. For instance when an athlete comes to practice because of practice bonuses, his motivation is said to be externally regulated. Meaning that, he works with the intention of obtaining the desired benefit. As a consequence, his level of motivation is regulated by the reward and how badly he wants it (Gagne & Deci, 2005).

Exposure opportunities

Exposure opportunities according to the Participation Motivation Questionnaire represent the resolve to play sports at higher levels. That is, to be scouted or selected into the Olympic Development Program (ODP), College teams, national team, soccer academies etc. For instance, the ODP was initiated 1977 to scout youth players in various age groups to represent the National team in international competition. The program also provides high-level training to benefit and develop players at all ability levels. National Camps and Interregional events are organized throughout the year at various locations in the United States and supervised by the National Team Coach or a National Staff to observe, train, and scout players.

According to US Soccer, about 100,000 players between the ages of 13 and 18 participate in ODP every year for exposure opportunities. At these events college coaches, professional scouts and soccer agents attend to recruit players into soccer academies, colleges and clubs. This study assumes that exposure opportunities or the drive to play at higher levels represent a strong motive for participation and that programs such as the ODP and other scouting events have been created to satisfy that motivation.

Money

Money has always been used as a tangible motivational tool used to encourage participation, retention and commitment. As an extrinsic reward, it comes in various forms such as employment contracts, endorsements, game bonuses, appearances etc. Employment contracts, for example, include but not limited to agency representation, negotiating professional contracts, officially affiliating with a team and players union,

receiving financial compensation for services, buyouts, and retirement bonuses. Endorsements are monies or payments received when a player uses his fame to help a company sell or enhance the image of the company, products, or brands (Mullin, Hardy, & Sutton, 2007). This includes but not limited to public speeches and commercials. Match and training bonuses are financial incentives give to players when they participate in training or a match. Money is considered a powerful tangible motivational tool among adolescent players because it does not only improve their livelihood but also act as a measure of success. Considering the trend where individual success is measured according to their dollar net worth, money stands out as a strong external regulator that affect participation motivation in youth soccer. More so, money is used as a measure of individual talent in the sense that the highest paid players are considered the best. This stigma encourages young soccer players to go for the money in order to be labeled the best.

Fame

Fame (status) is the social recognition, and the respect earned from playing soccer. According to Jay Jessup, "Fame is very big and very visible professional success. It is the key to the good side of life's velvet ropes. For those who win it, society will grant them wealth, power, access, recognition, and other tools to live an extraordinary life." Illustrated in this study as a non-tangible reward with tangible aspects as well, fame significantly influences young players' drive to get involved. Among adolescents, being famous in middle and high school is highly attractive, and playing soccer can easily get one into the desired status. More so, star players such as David Beckham, Cristiano Ronaldo, Lionel Messi and Samuel Eto'o enjoy privileges that influence motivation

orientation of youth players. They tend to join soccer programs that can take them to such social heights.

Travel

Travel is the experience, and places visited when playing soccer. It offers the advantage for young players to see the world outside their community and socio-economic class. For example Arsenal football academy in England organizes annual summer camps where young players from all over the world can participate. These camps primarily aim at scouting players and also encourage the travel aspect in soccer. However, players whose parents cannot afford the international travels can participate in local and national tournaments and camps organized seasonally by US Youth Soccer. "Travelling with a team provides an opportunity to engage with other people from other places," says Margaret MacNeill, a professor in the Faculty of Physical Education and Health at the University of Toronto. Travel is used as a categorical variable to measure of participation motivation because it represents an extrinsic reward that comes with involvement. Presumably, young soccer players would prefer joining teams that have opportunities for travel. In addition, parents also encourage travel programs for their children if they can afford it. In substance, per the PMQ, travel is a highly recognized item that influences participation motivation in sports.

Trophies

Trophies are awards, prizes or evidence of merit gained from a specific achievement. It is a tangible reward that satisfies a player's achievement. In soccer trophies can come in form of medals, such as the Olympic Medal, Cups (World Cup), personal statues, paintings, golden boots, golden ball, including awards such as best

player, highest goal scorer, best goalkeeper etc. Trophies are powerful determinants of participation motivation because the serve as living proof of achievement, identity and has priceless value. A strong reason for young players to continue playing soccer is to win trophies and some aim at winning the World Cup. Winning trophies is a powerful motivation source for youth participation in soccer and constitutes an important extrinsic reward.

Scholarship

Scholarship is a facet of exposure because it involves selection/scouting to play in a college team. It constitutes grants or payments earned to support a soccer player's college education, awarded based on playing achievement and ability. In this study, it is separated from exposure opportunities because young players target this aspect as their primary source of motivation. Although researchers such as Medic, N., Mack, D., Wilson, P & Starkes, J. (2007) found a negative effect of athletic scholarship on motivation, scholarship significantly influences young players' motivation to participation in soccer. Considering the high cost of education, low incomes and other fringe benefits, young players are motivated to play soccer because they want to gain free access to expensive universities and reduce or eliminate tuition costs. It was also used as an independent variable in this study because it is represented on the PMQ as a powerful extrinsic reward.

Intrinsic Rewards

Intrinsic rewards refers to the satisfaction gained to participate in soccer for fun, challenge, satisfaction, mastery, fitness, friendship and other benefits that are non-tangible. Intrinsic motivation is the drive to play soccer for reasons that are not extrinsic.

According to Deci, L., Koestner, R., & Ryan, M (1999) meta analyses of the effect of extrinsic rewards on intrinsic motivation, both can be used interchangeably to reinforce the other. Notwithstanding, most researchers have concluded that there is a negative effect of extrinsic rewards on intrinsic motivation Hatch, S.,Thomsen, D.,Waldron, J (2013). However, this study assumes that every teenage soccer player has some level of intrinsic motivation gained from years of experience. As teenagers they become influenced by the ego motivational climate created by parents, coaches and peers, as well as the materialist sports trends to start seeking for tangible benefits from participation Kavussanu, M., & Roberts, C. (1996). These extrinsic benefits are expected to be accomplished while maintaining their intrinsic motivation to participate in the sport. In essence, in order to measure the importance of extrinsic rewards on participation motivation it is vital to understand the value intrinsic rewards.

Motivational Orientation

Motive is a psychological phenomenon generated as a result of interest, need or desire of an individual. Motivation is the direction and intensity of behavior, which may be influenced by both personal characteristics and environmental factors. Motivational orientation defines the source of the drive for an individual to participate in soccer. Mastery and ego motivation orientations are two principal constructs that characterize a player's goal state. This study agrees with Ommundsen, Y., & Pedersen, H. (1999) study on the role of achievement goal orientations and perceived ability upon somatic and cognitive indices of sport competition trait anxiety that, mastery climates increases mastery goal orientations and vice versa. According to Aiden Topley's (2010) study on participation motivation in male and female soccer players, motivation orientation is

unstable and changes from mastery to ego as young athletes advance into late adolescence ages. This study also recognizes the age differences in participation motivation and seeks to understand its significance.

Participation Motivation

Participation motivation refers to the extrinsic and intrinsic reasons that attract young players to join soccer programs. Although their motives fall under mastery and ego orientations, their goals are dependent on a combination of personal and situational factors. Some teenage players play for recreation and others for competition. Some play for fitness and others to earn a college scholarship. Their goals are also influenced by current situations as well as motivational climates created by, trends, their parents, peers and coaches. A player from a low income family might be encouraged to plays for the money, scholarship. In order to understand and quantify their motives according to importance, the Participation Motivation Questionnaire (PMQ) created by Gill, Gross, and Huddleston (1983) was modified to measure only extrinsic motivation.

Success

Every player strives for success despite their motivation orientation. However, success is perceived by young athletes differently, so it is necessary to analyze and understand what it means in the eyes of the participants of this study. Success according to this study is considered achievement, compensation, recognition and reward earned as a result of playing soccer. Walling, D., & Duda, L. (1995) in their study of goals and their beliefs about success in and perceptions of the purpose of physical activity revealed that high mastery or task oriented players identified success with intrinsic interest and vice

versa. Success in an ego oriented motivational climate is based on achieving extrinsic rewards which constitutes the main theme of this research.

Scope of the Study

This study will examine extrinsic rewards and the impact on participation motivation among male youth soccer players within the Las Vegas Metropolitan area. Subjects will consist of 400 players between the ages of 14-18 years old (N=16) were selected by randomly sampling 20 male intramural soccer programs. A sample size of 400 was chosen because it gives a statistical accuracy of ±5% or 0.05 precision levels is which very cost effective. In addition, all subjects must attend high school and participate in club soccer programs. The demographic data prescribed for this study must coincide with that used by US Youth Soccer Region VI to categorize competitive ages. That is, U -14 and U-18s. More so, subjects must attend high school in order to be qualified to complete a questionnaire and answer questions with sound mind. Subjects' confidentiality and permission are highly considered from parents, coaches or guardians prior to involvement. They must as well qualify as human subjects by the Institutional Review Board (IRB) in compliance with 45CFR46 or the Belmont agreement.

The Participation Motivation Questionnaire is the survey instrument to be used to collect data. However, it would be modified to solicit response for extrinsic motives for participation only, using three-point Likert-type questions. Validity of the questionnaire will be established through a pretest pilot work conducted with ten young players randomly sampled from two club soccer teams. The staff used to conduct the survey shall consist of the club coaches who are certified soccer under US Soccer Federation or an

equivalent organization with at least National D coaching license and must comply with the rules and regulations of US Youth Soccer. The pilot work will be conducted by the research coordinator and the coaches of the teams. The research crew shall meet in advance to plan how to administer the questionnaires and supervise their completion. All investigators must be approved by the Institutional Review Board and participants must qualify as human subjects under Code of Federal Regulations (45 CFR 46).

Delimitations

The delimitations for the study were:

Existing research explains that extrinsic rewards can strengthen or weaken the intrinsic motivation of an athlete. This study, however, examines only the decision or motive to participate or join soccer programs and not the effects on intrinsic motivation. Most importantly, only male soccer players were probed because findings from Sirard, Pfeiffer, and Pate's (2006) study of motivational factors associated with sport participation in over 1600 middle school children indicated that participation motivation for females are different from that of males. Girls tend to be more socially oriented in their motives while boys are more competitive.

The construct was limited to 6 items (Money, fame, exposure, travel, trophies and scholarship). Sport equipment is an important extrinsic reward according to Furam-Mandic, Kondic, Tasak, Rausavljevic and Kondri in their 2012 study on Sports Students' Motivation for Participating in Table Tennis. This item was not included because it is not present in the PMQ and for the fact that sport equipment accompanies participation for both intrinsic and extrinsic reasons.

The race and ability attributes on participation motivation were measured because significant effects might contaminate results. The effect of age and grade level on motivation orientation was also crossed examined in order to strengthen the construct. According to Kim, Williams, and Gill (2003), U.S. middle school students are more intrinsically motivated than their Korean counterparts. It was also suggested that participants from Asian countries were more interdependent whereas North Americans were independent-oriented. Yan and McCullagh (2004) also found that American youth were motivated primarily by competition and the need to improve; Chinese youth were more involved for social affiliation and wellness; and Chinese American youth participated because of travel, equipment use, and having fun. However, nationality and race issues constituted some delimitation but remain presumably insignificant to distort findings.

The sample population may not represent other youth populations such as those that play intramural or recreational soccer. However, the outcome will be generalized across all populations irrespective of those who fall under the recreation category.

Limitations

The limitations for the study were:

This study identifies both extrinsic and intrinsic rewards as motivators for participation in intramural soccer. And the prime factors of extrinsic rewards are categorized under fame, travel, trophies, scholarships, exposure opportunities and money. Measuring the impact of extrinsic reward on participation motivation is not without limitations. Subjects whose participation orientations fall between extrinsic and intrinsic

motives are underscored for the purposes of internal consistencies. Although extrinsic participation motives for individual players may be numerous or vary, they can all be categorized under the six variables and ranked according to importance. This is why the investigation considers measures to reduce possible limitations that arise as a result of faulty procedures.

The study will be geographically limited to the Las Vegas Metropolitan area, which constitute less than 10% of the youth soccer population within US Soccer Region IV.

The impact of extrinsic rewards on participation motivation on aspects of culture and sexual orientation was not examined in this study. It was assumed that although there might be some differences in participation motivation across several demographics and psychographics, the standard of deviation would be so insignificance to distort validity and reliability of results.

Subjects considering their age and grade level are unfamiliar with participating in this type of survey which might lead to faulty procedures such as dishonest responses, answering without thinking, hurrying to finish etc. These types of responses are often unavoidable and can significantly distort results especially when the degree to which subjects understand the questions is difficult to measure.

Assumptions

The assumptions for the study were:

In investigating the impact of extrinsic rewards on sports participation motivation among youth male soccer athletes all players are presumably intrinsically motivated due to their playing experiences. According to this study, young soccer players are assumedly attracted to programs offering more extrinsic rewards and seek to understand the components they are most and least attracted to. This is why the pilot work will be conducted during soccer practice sessions. Success in sports according to this study is regarded in form of achievements such as fame, fortune, selections, trophies, employment and endorsements.

Furthermore, the survey instrumentation which is the Participation Motivation Questionnaire is assumed to be the most valid, and reliable tool to achieve accurate measurement. It is also assumed that all subjects are in compliance with the rules and regulations of US Soccer Federation and abide with all instructions as well as terms and conditions of the survey. These modalities will help instructors to guarantee internal validity in their measurements and provide accurate and reliable results.

Subjects were qualified soccer players who could read and understand the content of the questionnaire and responded in an open and honest manner. In addition, all secondary data sources and past research literature was considered reliable and valid; and the sample population was considered a representative of a larger population.

Significance of the Study

In an assessment of the causative factors that motivate players towards participation in sports activities, Khan, M., Salahuddin, K., & Muhamed, S. (2011) found that children participate in sports and physical activities for clearly identifiable reasons, including skill acquisition and mastery, achievement and status, competition, energy release, enjoyment, challenge, friendship or affiliation, and physical fitness. Evaluating these motives is necessary to enhance the volume of participation, retention, as well as commitment, making sports programs more interesting and productive. Adults, on the other hand, include skill development, achievement, social recognition, success and economic benefits to the reasons for participation. Intrinsic benefits are fundamental to individual motivation to participate in any sporting activity. However, extrinsic benefits are strong motivational indices that can ensure retention and commitment. Without something tangible or of value a lot of sport participants would not see the essence to deploy maximum and continuous effort. He or she will lag off with the reasoning that after all there is nothing at stake or to lose. The phrase " no money, no football" has become common among young players who watch their age mates competing at elite levels such as the World Cup and the Olympics, bringing home trophies, money and fame. Retention becomes critical when the sport participants play in order to earn a living or uses soccer as the way out of poverty. In less developed countries such as Chile says Sotto Christobal, a UEFA Licensed Coach in the Irish Football Association, if you ask teenagers why they play football (soccer), their responses are "I WANT TO FEED MY FAMILY". This implies that participation motivation among youths across cultures may be different with many seeking financial opportunities.

In this bid, sports organizers must understand these motives and arrange programs that promptly serve the need, interest, desire and choices of participants. In addition, this research aims at providing information to governing bodies to broaden their understanding of extrinsic participation motivation for adolescents so they can deploy resources to target their interests and needs. For example, the Olympic Development Program (ODP) has become popular among young athletes because of the accompanying benefits such as travel, trophies, and exposure opportunities.

CHAPTER II

REVIEW OF LITERATURE

Introduction

Understanding participation motivation in youth soccer has been widely researched by social scientists who have laid much emphasis on intrinsic motives. Many others have empirically compared intrinsic to extrinsic participation motivation in soccer in youth, adults, males and females but under minded extrinsic rewards per se. This research gathers existing literature from journal articles, theories and thesis on participation motivation and extrinsic rewards to understand the effects among male youth soccer athletes. Attributes such as motivation, motivational orientations, participation motivation, as well as extrinsic rewards are examined separately in relation to youth soccer. Research that contradicts the hypothesis of this study will equally be examined, while literature on extrinsic rewards and participation motivation is extracted.

Motivation in Sport

Motivation is the intensity and direction of behavior determined by both personal and environmental factors. Ng, R (2011) is their research on understanding sport participation motivation and barriers in adolescents 11-17 concluded that youth motives across sports, age and gender emphasize that environmental factors significantly influence participation motivation in some physical activities. Operant behavioral approaches to understanding motivation also established that reinforcement is a key to behavior change. According to Marlot & Suarez, (2004), reinforcement is any stimulus, event or condition whose presentation immediately follows a response and increase the frequency of that response. There are tangible reinforcing incentives such as trophies,

certificates, scholarships, employment contracts, endorsements, etc. as well as non-tangible rewards such as praise from coaches and peers, and cheers from crowds and teammates. This study focuses on the tangible rewards, claiming that behaviors change in response to reinforcement.

Motivational Orientations

Extending the work of Murray (1939), Atkinson's theory of Achievement Motivation is an interaction model that takes a behavioral approach laying emphasis on personality and situational factors in defining the need to achieve. In (1964, 1974), Atkinson used two personality constructs to categorized achievement motivation behavior. These consist of the motive to achieve success and the motive to avoid failure. Soccer players with elevated motivation to achieve success without worrying about failure are high achievers and their incentive value of success is strong. Therefore, their participation motivation is to achieve success. These athletes are more likely to be extrinsically motivated to participate in soccer and attracted to programs that offer extrinsic rewards. Atkinson also emphasizes that situational factors such as task difficulty or the probability to achieve success, and the incentive value for success affects players' motivation. In most instances, coaches, parents, fans and the media create motivational climates that prioritize success. These climates sustain environments where incentive value of success is high and based on extrinsic rewards such as money, fame, travel, etc. As a result, young soccer players view success through the prism of extrinsic rewards and become motivated to achieve success by engaging in programs that offer those opportunities.

Nicholl's Achievement Goal Theory (1989) is another behavioral approach to the motivation orientation literature. According to this theory, athletes are categorized under task and ego motivational orientation. Task –oriented individuals perform behaviors for mastery purposes, while ego-involved players are driven to outperform others (Nicholls, 1989). In youth soccer, a task-oriented player is motivated to play because of the desire to learn and master the sport and will most likely join teams that offer more playing time. On the other hand, an ego-involved player participates as long as he is winning or consistently outperforming others. These categories of players tend to be more extrinsically motivated and are interested in achieving success by skewing towards teams or programs that encourage dominance, competition, as well as achievement.

Competitive and individualistic reward structures also influence motivational orientations. Competitive reward structures encourage people to compare their performance with that of others, fostering ego involvement which over time promotes an ego orientation. On the other hand, individualistic reward structures lay emphasis on personal improvement and learning through effort leading towards task goal orientation (Ames, 1984; Nicholls, 1989). Therefore, players with mastery motivational climates are rewarded for effort, learning and improvement, while those within performance-based environment reward people for winning and outperforming others. Performance-based players play for success and are more likely to join teams that offer extrinsic rewards.

The Cognitive Evaluation Theory by Deci & Ryan (1985) is a cognitive approach to understanding motivation based on the Self-determination theory (2000). The cognitive evaluation theory postulates that the psychological need to feel autonomous,

socially related and competent makes people to be intrinsically motivated to participate in sports (Deci & Ryan, 1985). These needs facilitate the adoption of behaviors and activities that provide for their fulfillment. Deci & Ryan also believed that participation motivation falls under intrinsic and extrinsic motives. In their distinction, intrinsic motivation is the main source of energy that drives human behavior, and its presence facilitates behavioral participation.

In contrast, motives that are based on extrinsic factors and rewards create a condition that may or may not facilitate adherence depending on the situation. Sporting activities such as soccer that have both informational and control rewarding aspects affect motivational orientations. Extrinsic motivation is mostly intentional, controlled by external forces and highly valued and internalized among youth soccer players. This means that the controlling reward aspect of soccer is dominant, trendy and has a significant impact on motivational orientations. In essence, highly salient controlling aspect of tangible rewards in soccer (money, fame, travel) strongly impacts players' participation. Thus, those rewards become the predictive index for self-determination. This perception relates to the hypothesis of the study in the reasoning that because rewards for participation (trophies, money, fame, travel, endorsements) are highly controlling, young soccer players develop extrinsic motivational tendencies that vectors their attraction towards programs offering reward opportunities.

Extrinsic Motivation in Sport

People are extrinsically motivated when they perform an activity in order to obtain some external reward. When coaches or parents make reinforcements contingent

on winning and outperforming others, they create an ego-oriented motivational climate which is a consonant of extrinsic motivation. The Self-determination Theory (SDT; Deci & Ryan, 2002) posits that extrinsic motivation is intentional and controlled by external forces, but its strength varies relative to the degree to which the external force is valued or internalized. This is why the research on extrinsic motivation was extended by separating it into external regulation, introjected regulation, identified regulation and integrated regulation (Gill & Williams, 2008).

External regulation is a classic sense of extrinsic motivation where behavior is performed to satisfy an external demand or controlled by external forces such as rewards. For example, a player might go for training to get training bonus or his scholarship depends on it. Introjected regulation constitutes an internalized contingency where a player feels compelled to participate. This form of motivation is ego-oriented and stems from pride, self-representation or guilt avoidance. To illustrate, a player might participate in a game to avoid the guilt of losing. Identified regulation is the extrinsic motivation whereby a player participates out of choice but also as a means to an end. For example, a player chooses to partake in every pre-season practice game in order to be physically and mentally prepared for the season (William, 2010). Finally, the integration regulation component internalizes and assimilates intrinsic motivation onto extrinsic motivation in a bid to achieving goals that are extrinsic in nature. For example, elite players must maintain high levels of intrinsic motivation in order to successfully meet up with the challenges, expectations and rewards. In the sport participation literature, the various forms of extrinsic motivation examined above have been used to quantify data.

Although most of these studies measure the effects of extrinsic rewards on intrinsic motivation in 2010, Aiden Topley specifically probed participation motivation of young male and female soccer players. He hypothesized that participation motivation changes from intrinsic to extrinsic with increasing age. In addition, rewards are central to competitive sports; athletes receive publicity, awards, and money, among other things, and college-level athletes obtain scholarships for their talents. Extrinsic rewards, when used correctly, can be beneficial to athletes. However, athletes in highly competitive levels of sport may experience decreases in their intrinsic motivation because of the increasing use of extrinsic rewards instigated by the media, coaches, and parents (Hatch, S., Thomsen D. & Waldron, J, 2013).

In the sports world, competitive athletics from youth onward is dominated by extrinsic reinforcements. These reinforcements or rewards are either tangible (money, contracts, endorsements, scholarships, trophies, travel), and intangible (praise, fame, recognition, status). The incentive value of success is highly placed on extrinsic rewards. In 2011, Mladenovic & Marjanovic explored some differences between sport motivation among young football (soccer) players in Russia and Montenegro by testing extrinsic rewards by identification, introjection and external relation. Their research included 178 young football players aged 12 to 15 years using the Sport Motivation Scale. The main purpose was to determine if there are any development-related differences in the level of internalization of extrinsic motivation in young athletes of different ages. Results indicated that adolescent football players are primarily influenced by their coaches and parents. The players aged 14 are more mature about the duties to football and on the value of extrinsic rewards than the 13 year olds. In addition, Russian players are more

cautious of the value of extrinsic rewards than their Serbian counterparts. This means that the value of extrinsic rewards among soccer players change with age, confirming Aiden Topley's conclusion.

Extrinsic Rewards, Participation Motivation and Success in Sport

Participation motivation seeks to understand the reasons why athletes get involved in sports that are intrinsic, extrinsic or both. Using the Participation Motivation Questionnaire (PMQ), Gill, Gross, and Huddleston (1983) found that the most important reasons why young people participate in sports were to improve skills, have fun, learn new skills, be challenged, and be physically fit (Gill & Williams (2004). On the other hand, teenage athletes are becoming more oriented towards rewards such as travel, trophies, money, fame, contracts and endorsements. In 2012, Mueller's Recreational Sport Participation Scale postulated that sport promoters continuously seek to create recreational programs that meet needs of participants in order increasing mass participation. Although these events generate economic activities, participants must be motivated intrinsically and/or extrinsically in order to fully engage. In 1998, White, Duda, & Keller also studied the relationship between goal orientation and perceived purposes of sport among 102 youth sport participants with mean ages of 11.5 years. They assumed that examining the perceived consequences of sport would enhance social attitudes, values and young athletes' views on involvement. Results indicated that task oriented athletes are more likely to be intrinsically motivated while the ego-involved skew towards extrinsic motivation. Findings also posited that a task-oriented youth

athlete would be more likely to derive enjoyment from sport participation and less likely to drop out.

Van-Yperen & Duda, in 1999 defined success in their research on goal orientations, beliefs about success, and performance improvement among youth elite Dutch soccer Players with mean ages of 16.5 years. The study hypothesized that athletes' definition of success in relation to achievement motivation is classified under task and ego orientations. Within the context of some Dutch elite soccer players, task orientation is linked to the belief that effort, team play, and parental support contribute to achievement in soccer, while ego-oriented players believe that innate ability is the determinant for success and competence. Thus, the ego-involved players believe that innate ability determines success and deserves more extrinsic rewards.

In sum, our study intentionally eliminated female soccer players because their participation motivation was assumed to be different than males. In 2006, Beaudoin, C. confirmed this assertion when he measured competitive orientations and sport motivation of 118 professional women's football players of ages 18 to 45 in an Internet Survey. Findings showed higher extrinsic motivation among younger female players, although the professional players were more intrinsically motivated. This conclusion correlates with Aiden Topley's 2010 research on participation motivation between young men and women's soccer players. He concluded that teenage male soccer players are more extrinsically motivated with age than females, meaning that their participation motivation differs across gender as they mature.

Conflicting Research

Notwithstanding, many researchers have found that extrinsic rewards have little or no impact on participation motivation. In a meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation, it was found that tangible rewards tended to be more detrimental for children than college students, and verbal rewards tended to be less enhancing for children than college students (Deci, Koestner & Ryan, 1999). Anderson, D., & Lorenz, F. (1988) in the longitudinal analysis study on the prediction of contemporary participation from children's gender, past participation, and attitudes claimed that children at the ages of 7 and 8 years old perceived extrinsic rewards for task performance as bribery, leading to declining intrinsic motivation in accomplishing tasks. The study found that sex, past participation, and the interactions of past intrinsic satisfaction with extrinsic rewards constituted predictive indices of present-day participation in team sports but show no differences between males and females. Khan, Salahuddin, & Muhamed in 2011 also assessed the causative factors that motivated 225 student players towards participation in cricket, football, volleyball and tennis in six male colleges. Findings revealed that the athletes were more intrinsically motivated with health and fitness, fun, and relief of mental tension being the main motivating factors for participation.

Summary

Behavioral approaches such as Atkinson's theory of Achievement Motivation, the Nicholl's Achievement Goal Theory, as well as cognitive models like the Cognitive Evaluation Theory by Deci & Ryan and the Self-determination Theory constitute

compounding empirical works that form the basis of understanding participation motivation in sports. Although these concepts can be applied across all demographics and psychographics, many studies have revealed findings that vary. Other theories akin to participation motivation include the Sport Commitment Model, the Theory of Planned Behavior, the Theory of Reasoned Action, Harter's Competence Motivation Theory and White's Effectance Motivation Theory of 1959 are not examined in this study but provide vital information to support this construct.

CHAPTER III

METHODS

Research Method and Design Appropriateness

This study implemented a descriptive correlation study with a sample of adolescent club soccer players. All subjects completed a Participation Motivation Questionnaire (PMQ) to measure the components of extrinsic motivation such as fame, trophies, travel, scholarship, exposure (scouting opportunities in ODP, soccer academies, colleges, and the national team), and money (game bonuses, pay to play stipends, employment contracts and endorsements). A modified questionnaire was created by extracting questions from the PMQ that pertains only to extrinsic motivation.

Research Questions and Hypothesis

It was hypothesized that fame, travel, trophies, scholarship, exposure opportunities, and money constituted the most important extrinsic factors that drive participation orientations among adolescent soccer players. This study also claimed that young players were more motivated to join soccer programs that are extrinsically rewarding. Notwithstanding, the most significant extrinsic determining factor according to importance is exposure opportunities. This conclusion, including the results from the online survey reinforces the claim that teenage soccer players are more likely to be attracted to programs that offer opportunities to be selected or scouted to play at higher levels such as the national team, college team as well as renowned soccer academies. Statistical test will be performed to see if the null hypothesis can be retained.

Population

Participants consisted of 400 soccer players from ages 14-18 years of all races, playing intramural soccer in the Clark County Las Vegas. According to Clark County School District student Data Services report in 2013, the total number of students enrolled was 311,429. 33% are Caucasians, 44% Hispanics, 13% Blacks, 9% Asians and 1% Indians. In order to qualify for the study, all subject must attend middle or high school and be enlisted in a soccer club or program. They must as well qualify as human subjects under the 45 CFR 46 of the Institutional Review Board also known as the Belmont Report. The effects of ability, grade level and age will be considered and measured to see their effect on participation motivation variables. Grade level is also important because participants must understand the language of the survey and answer all questions without influence from their parents or coaches. Participants will be excluded from the research if they do not meet the above eligibility criteria.

Sampling Design/Participant Selection

Participants were selected (N=400) from 20 active soccer programs, which were randomly sampled in the Las Vegas Metropolitan area. All races (Caucasians, Blacks, Hispanics, Asians and Indians), were represented. The Taro Yamane method was used to calculate sample size. A sample size of 400 with a 95% confidence level means that if the survey is reissued 100 times, the answer to any question would not vary more or less than +/- 4.9 % in 95 of the 100 cases. This method however has a 95% confidence level and .05 precision levels.

$$n = \frac{N}{1+N(e)2}$$

N = 13,999

n= N/1+13,999 (.05)2

n=13,999/1+13,999(.05)2

n= 400

Participants' mean age is 16 years, intermediate ability level, and between 6th and 12th grade. Each club will be issued by the research administrator 20 surveys to be completed by qualified subjects 30 minutes before practice. 400 PMQs will be handed to the 20 clubs on separate occasions. At the beginning of the questionnaire, demographic information will be required for each player including, age, race, ability level and grade level. Each of these categories will be a self-reported measure for the player except for length of playing time which is considered insignificant to affect results.

Instrumentation

A modified version of the Gill, Gross & Huddleston's (1983) Participation Motivation Questionnaire (PMQ) will be issued to each player to assess the extrinsic rewards preferences that influence their participation motivation according to importance. The extrinsic reward items included fame, travel, trophies, scholarship, exposure opportunities, and money. These items will be selected partly from the extrinsic motivation factors in the PMQ, and to a larger extent from the results of the CYI online survey, and treated to suit the purpose of this study. For example, item 23 of the PMQ "want to go to a higher level," will be changed to exposure (scouting) opportunities,

which include the selection into ODP, soccer academy, national team, college team, professional team, etc. See appendix F. These sub-variables will not be tested because their effect was assumed to be insignificant to influence or contaminate results. The items will be ranked on a three-point Likert-scale based on "very important," "somewhat important" and "not at all important." Cronbach alpha will be applied to demonstrate internal consistency of the modified items of each construct. Internal validity and reliability values for these constructs will be examined using the inter-item correlation matrix. One–way ANOVAs and pairwise comparisons will measure differences in responses. And regressions will check the relationship among variables.

Procedure

One week prior to administering the survey, a pretest with ten young players handpicked from both club and non-club soccer was conducted to test the validity of the measurement. Out of the ten subjects, 2 were white 4 Hispanics, 2 blacks, 1 Asian and 1 native Indian. There was one elite player, 7 intermediate and 2 beginners. 80% attended high school and 20% were in middle school. The aim was to see if the administrators could successfully administer the survey and subjects understood the language of the survey and could successfully administer the PMQs within 30 minutes before practice. The practice was successful but results were not analyzed.

During the actual process, the following procedure was followed:

i. The coaches and the research coordinator scheduled a meeting one hour prior to and plan on how to distribute the handouts. The questionnaires were designed in hard copies. The 20 clubs received 20 questionnaires each to be completed

30 minutes before practice. The entire process took five days because four teams were visited per day.

ii. Written permission was granted by the coach or by the parents of players of the surveying team if present after being approved by the Internal Review Board (IRB) with all the subjects' terms and conditions met before questionnaires were issued. All participants were qualified as human subjects under Code of Federal Regulations (45 CFR 46).

iii. Coaches of the surveying teams selected players at random during training sessions and administered the test. The survey administrator used 10 minutes to illustrate and explain to the selected participants the instructions on how the questionnaires should be completed. The questionnaires were completed and handed in 20 minutes.

iv. Data collected was handed to the researcher and coded for entry into the SPSS 17.0 program. Descriptive statistics were used to assess the differences between variables. Chi square testing was performed to analyze correlations between variables. Reliability was measured using the Cronbach Alpha test. Finally, one-way ANOVA analysis was carried out to test the differences among subjects. Regression analyses were carried out to measure the relationship values among variables.

Data Analysis

This study examines the extrinsic reward preferences on participation motivation among male soccer players between the ages of 14 -18 years old. Fame, travel, trophies, scholarship, exposure opportunities, and money were identified as important types of extrinsic rewards. It was hypothesized that exposure opportunities constituted the strongest factor and that young players are likely to skew towards programs that provide these opportunities. Following this claim, in 2013, 1000 young soccer players from 14 to 18 years registered online to join either a recreational (Project Alpha) or a competitive soccer (Project Omega) program in Las Vegas, Nevada. See appendix G. Although their reasons were not quantified they fell under six categories (Scholarships, exposure opportunities, fame, money, travel and trophies) which corresponded with items on the Participation Motivation Questionnaire (PMQ).

Furthermore, 400 participants were surveyed using a modified PMQ measure the above items. Based on 100% response rate, data was collected and analyzed using the SPSS 17.0. Descriptive statistical analyses were conducted for all variables showing means, variances, standard deviations, frequencies and percentages to compare the demographics and attitudes towards participation motivation in youth soccer. Histograms illustrated the frequencies for scholarship, exposure opportunities, fame, travel, money and trophies in relation to age, grade, ability and race.

Table 3.1: Modified PMQ Showing all Items and Frequencies of Responses.

Items	Very Important (3)	Somewhat Important (2)	Not at all Important (1)
Fame	200	100	100
Travel	80	100	220
Trophies	20	100	280
Scholarship	220	100	80
Exposure op	250	100	50
Money	150	100	150

The survey reliability was also checked using the Cronbach's alpha. A factor analysis with varimax rotation was conducted to test whether the items fell neatly on one scale. Alpha values were maintained at $p < .05$ and Inter-Item Correlation Matrix showed the different values. Correlations were measured using non-parametric testing (Kendall Tau) because data is ordinal and did not show bivariate normality. Multivariate ANOVA compared the different motivations to see if responses were insignificantly different from each other, while taking into account shared variance within individuals. Differences in responses called for post hoc pairwise comparisons from a multivariate ANOVA. A one-way ANOVA adjusted for age, race, ability and grade level. Finally, multivariate regressions were conducted using ability to see if any of the variables were associated with ability.

CHAPTER IV

RESULTS

Descriptive Statistics

A total of 400 subjects participated in the survey. 35.5% were Caucasians, 26.7 % Hispanics, 20 % Blacks, 14.5% Asians and 2.8% Indians. Age and grade level frequencies shown in the histograms reported M=3.45; SD = 1.13 and grade level M=9.38; SD = 1.76. This tells us that the majority of players was 16 years old and fell between 9th and 11th grades. Table 4.1 and figures 4.8-4.9 show that within the population, 10% were beginners, 80% intermediate and 9.7% advance with M=2.1 and SD=.30.

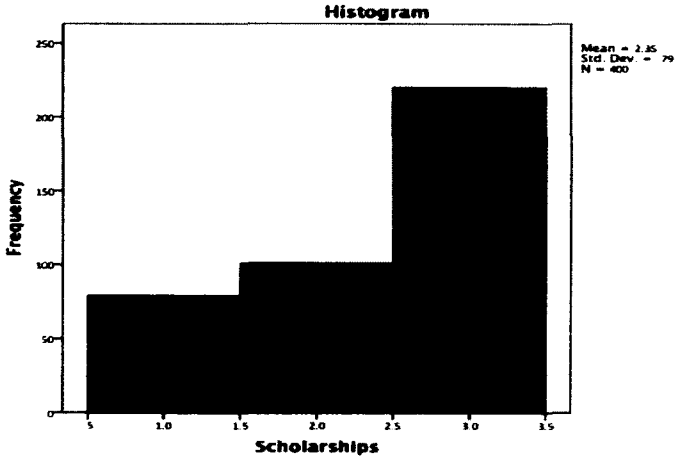
Table 4.1 Frequency Tables Showing Descriptive Data for Ability and Participation

Ability					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Beginner	40	10.0	10.0	10.0
	Intermediate	321	80.0	80.3	90.3
	Advanced	39	9.7	9.8	100.0
	Total	400	99.8	100.0	
Missing	System	1	.2		
Total		401	100.0		
Race					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Caucasian	143	35.7	35.8	35.8
	Hispanics	107	26.7	26.8	62.5
	Blacks	81	20.2	20.3	82.8
	Asians	58	14.5	14.5	97.3
	Indians	11	2.7	2.8	100.0
	Total	400	99.8	100.0	
Missing	System	1	.2		
Total		401	100.0		

Descriptive statistics for dependent variables was calculated with a 95% confidence interval and explained using histograms. Frequencies for participants show a mean value M = 2.22; SD = 1.16, indicating a valid representation of 35.7% for Caucasians, 26.7% for Hispanics, 20.3% for Blacks, 14.5% for Asians, and 2.7% for Indians, per table 4.1. This shows that Caucasians were the most represented in the survey. Descriptive figures for scholarship were M=2.35; SD .79; exposure opportunities M=2.49; SD=.70; fame M= 2.25; SD = .83; money M = 1.99; SD = .86; trophies M = 1.27; SD = .45; travel M = 2.35; SD = .79, grade M = 9.3; SD = 1.8; age M = 3.45; SD = 1.13, and ability M= 2.11; SD=.305. See figures 4.1-4.9.

Looking at the histogram for scholarship frequencies, one can see that out of 400 participants 220 thought scholarships was the most important extrinsic reward that motivated youth soccer players. 100 subjects reported somewhat important and 80 said not at all important. See figure 4.1

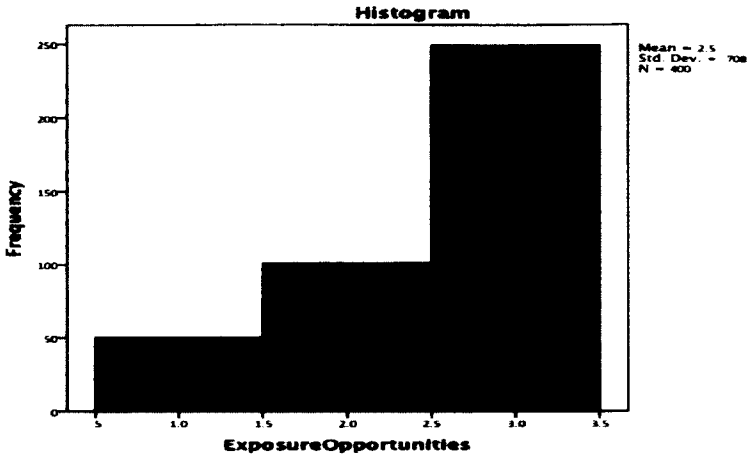
Figure 4.1: Scholarships



The histogram for exposure opportunities indicated that with M = 2.5; SD = .708, 250 participants out of 400 checked exposure opportunities as the main motivation for playing soccer. 100 saw it as somewhat important and 50 said it was not at all important.

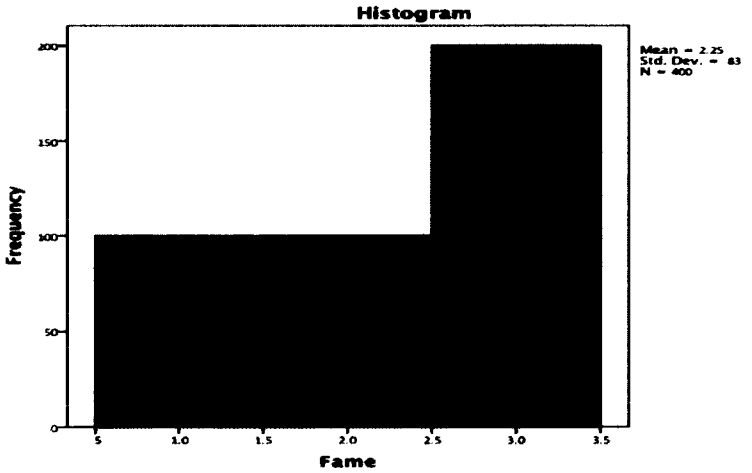
This explains why the distribution is asymmetrical or highly skewed to the left, indicating asymmetry. See figure 4.2

Figure 4.2: Exposure Opportunities



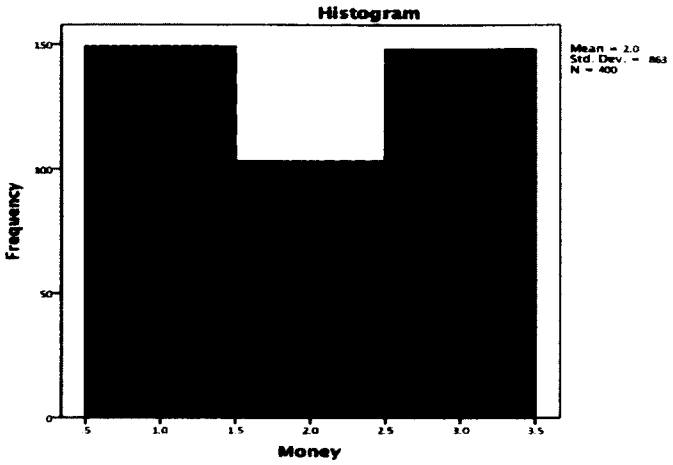
With fame, distribution was slightly skewed to the left. The mean value M = 2.25; SD = .83 explains that 200 subjects saw fame as very important, 100 somewhat and 100 said not important. This is illustrated in figure 4.3 below.

Figure 4.3: Fame



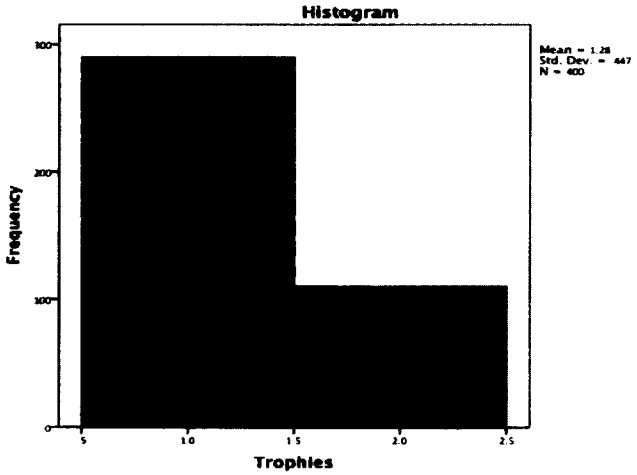
Money, with M= 2.0; SD = .86, show a bimodal distribution. This means that 150 players claimed money as very important, 100 said somewhat and 150 said not at all important as shown in figure 4.4

Figure 4.4: Money



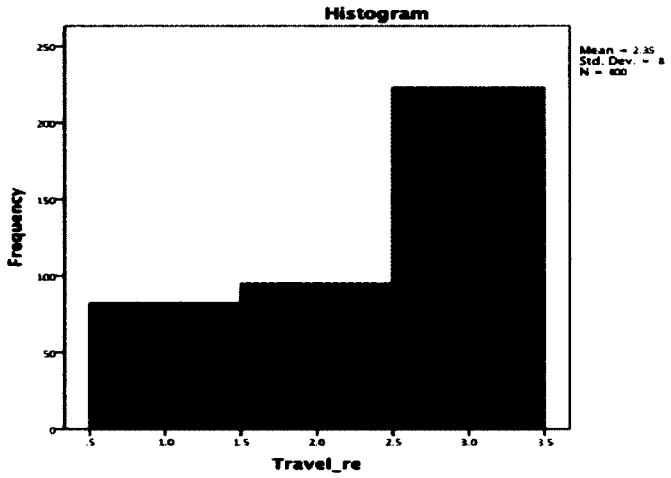
Trophies had a mean M = 1.28; SD = .45 showing a distribution skewing to the right. As seen in the histogram below, 280 players reported trophies as not all important and 100 thought that it was somewhat important.

Figure 4.4: Trophies



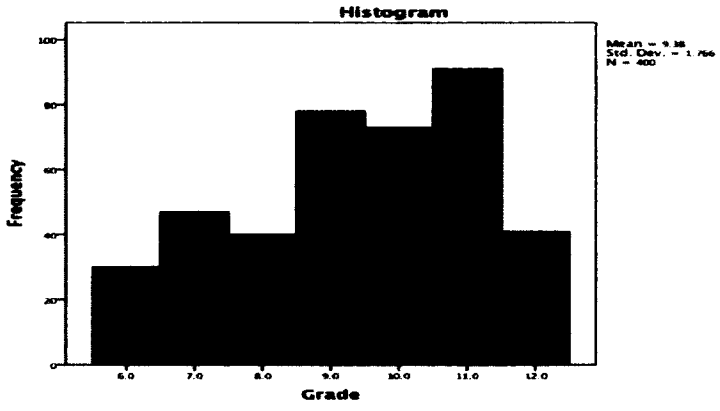
Travel had a mean value M = 2.35; SD = .8 and distribution skewed to the left showing that 80 players said it was very important, 100 somewhat, and 220 not at all important. See figure 4.6

Figure 4.6: Travel



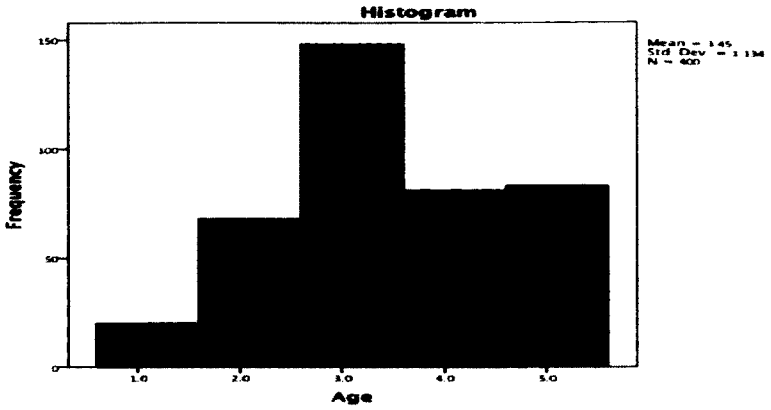
Histogram for grade showed a multimodal distribution with mean values M= 9.8; SD = 1.77 indicating that a majority of players were in 9th and 11th grades.

Figure 4.7: Grade



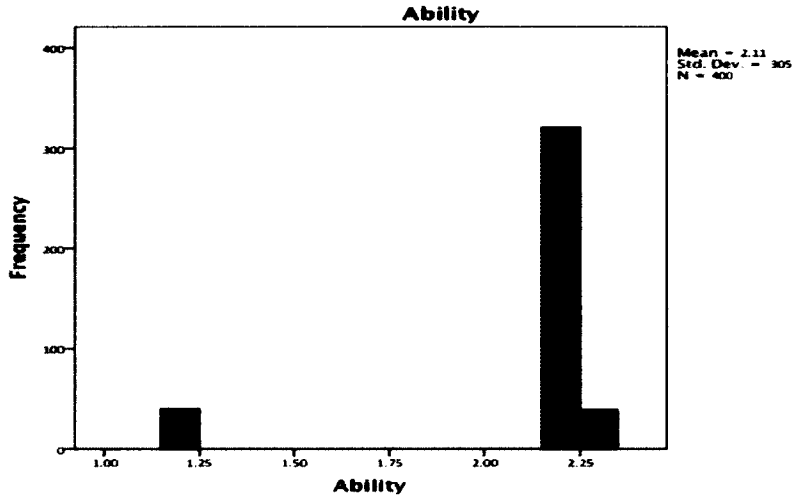
Frequencies for age showed that the vast majority of players were of median age 16 years. This can be seen in the age histogram below.

Figure 4.8: Age



Ability frequencies show no distribution, as majority 80% were intermediate leveled, 10% were beginners and 10% advance.

Figure 4.9: Ability



Survey Reliability

Prior to analyzing data, each subscale of the PMQ was tested for reliability using the Cronbach's alpha method. According to Nunnaly (1978), α level of more than .70 is acceptable. Using the means, standard deviations, total sample population (N) and the total number of items (6), the Cronbach's alpha value was .11 which is below the

required standard (.70). The Inter-Item Correlation Matrix was then applied to see if all the items of the modified PMQ measured the same construct. These results showed that items cannot be group in one scale but can be treated individually or in smaller groups. For instance scholarship is strongly correlated (α =1.000) but very weak with all the other items. Alpha values for exposure opportunities show α = .049, fame α = .098, money α =.012, trophies α =.020 and travel α =.053. This pattern of correlation is consistent with all the other items in the scale with weighted mean n=12.725, variance V = 3.734 and SD 1.93 for all 6 items.

Table 4.2: Inter-Item Correlation Matrix for all Subscales

Inter-Item Correlation Matrix						
	Scholarships	Exposure Opp	Fame	Money	Trophies	Travel
Scholarships	1.000	.049	.098	.012	.002	.053
Exposure Opp	.049	1.000	-.007	.059	.018	.035
Fame	.098	-.007	1.000	-.080	-.030	.120
Money	.012	.059	-.080	1.000	-.011	-.013
Trophies	.002	.018	-.030	-.011	1.000	-.061
Travel	.053	.035	.120	-.013	-.061	1.000

In essence, scholarship, travel and fame can be grouped, exposure opportunities and money are also correlated but trophies stand alone. The caveat is that subscales grouped together could be more reliable. The exact values are illustrated in table 4.3 in the rotated component matrix section.

Table 4.3: Rotated Component Matrix for Subscales

Rotated Component Matrix[a]			
	Component		
	1	2	3
Scholarships	.595		
Exposure Opportunities		.674	
Fame	.683		
Money		.706	
Trophies			.873
Travel	.518		-.418
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 6 iterations.			

Based on this criterion, all sub scales of the PMQ demonstrated low internal consistency (α = .11) requiring a set of bivariate nonparametric correlations to test the strength and dependence between variables. Non-parametric correlations were applied to measure the correlation coefficients between variables using the Kendall Tau test because the data is ordinal, showing no bivariate normality. Correlations were significant at the 0.05 and 0.01 level (2-tailed). There was a small negative correlation between travel and fame r = .012; and a small positive correlation between scholarship and fame r=.095. See table 4.4.

Table 4.4: Nonparametric Correlations

Correlations										
			Scholarships	ExposOpp	Fame	Money	Trophies	Travel	Grade	Age
Kendall's tau_b	Scholarships	CorrelationCoef	1.000	.038	.095*	.012	.014	.066	.000	-.009
		Sig. (2-tailed)	.	.405	.036	.787	.774	.147	.992	.838
		N	400	400	400	400	400	400	400	400
	Exposure Opp	CorrelationCoef	.038	1.000	-.002	.041	.023	.035	.058	-.081
		Sig. (2-tailed)	.405	.	.973	.364	.634	.441	.174	.066
		N	400	400	400	400	400	400	400	400
	Fame	CorrelationCoef	.095*	-.002	1.000	-.066	-.025	.114*	.050	.044
		Sig. (2-tailed)	.036	.973	.	.139	.598	.012	.232	.312
		N	400	400	400	400	400	400	400	400
	Money	CorrelationCoef	.012	.041	-.066	1.000	-.011	-.005	.008	-.040
		Sig. (2-tailed)	.787	.364	.139	.	.823	.906	.853	.354
		N	400	400	400	400	400	400	400	400
	Trophies	CorrelationCoef	.014	.023	-.025	-.011	1.000	-.059	-.079	-.058
		Sig. (2-tailed)	.774	.634	.598	.823	.	.214	.072	.203
		N	400	400	400	400	400	400	400	400
	Travel	CorrelationCoef	.066	.035	.114*	-.005	-.059	1.000	-.018	.023
		Sig. (2-tailed)	.147	.441	.012	.906	.214	.	.666	.604
		N	400	400	400	400	400	400	400	400
	Grade	CorrelationCoef	.000	.058	.050	.008	-.079	-.018	1.000	.163**
		Sig. (2-tailed)	.992	.174	.232	.853	.072	.666	.	.000
		N	400	400	400	400	400	400	400	400
	Age	CorrelationCoef	-.009	-.081	.044	-.040	-.058	.023	.163**	1.000
		Sig. (2-tailed)	.838	.066	.312	.354	.203	.604	.000	.
		N	400	400	400	400	400	400	400	400

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Repeated measure ANOVA was used to compare the different motivations to see if responses were related to each other. It checked for any differences in motivations, taking into account shared variance (errors) per question within individual responses. In table 4.4, showing test within subjects, *P* value of less than 0.05 indicates that there is a difference between at least one of the two types of motivation. As a result, pairwise comparisons were conducted to test the mean difference between motivations. Looking at the estimated marginal means illustrated in table 4.5, the overall means for each category are scholarship M= 2.35; exposure opportunities M=2.49; fame M=2.25; money M=1.99, travel M=2.35; and trophies M=1.27. Table 4.5 also shows that non-overlapping confidence intervals in the lower and upper bound values indicate a significant difference between variables.

Table 4.5: Estimated Marginal Means for Participation Motivation

Estimates				
Measure : MEASURE_1				
			95% Confidence Interval	
Motivation	Mean	Std. Error	Lower Bound	Upper Bound
1Scholarship	2.353	.040	2.275	2.430
2Exposure	2.498	.035	2.428	2.567
3Fame	2.250	.042	2.168	2.332
4Money	1.998	.043	1.913	2.082
5Travel	2.353	.040	2.274	2.431
6Trophies	1.275	.022	1.231	1.319

When mean values were adjusted for all the other variables such as age grade, race and ability, *P* value for exposure opportunities remained the highest (2.478), while *P* values for scholarship was 2.079; fame, 2.141, money, 1.989, travel, 2.300; and trophies, 1.355. This supports the hypothesis that exposure opportunities are the most important

extrinsic rewards that influence participation motivation in young soccer players. See table 4.6

Table 4.6: Estimated Marginal Means Adjusted for Age, Grade, Participation and Ability

Estimates				
Measure : MEASURE_1				
Motivation	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1Scholarship	2.079[a,b]	.083	1.917	2.242
2Esposure	2.478[a,b]	.078	2.325	2.630
3Fame	2.141[a,b]	.092	1.961	2.322
4Money	1.989[a,b]	.097	1.799	2.178
5Travel	2.300[a,b]	.088	2.127	2.472
6Trophies	1.355[a,b]	.049	1.257	1.452
a. Covariates appearing in the model are evaluated at the following values: Age = 3.448, Grade = 9.385. b. Based on modified population marginal mean.				

ANOVA

One-way ANOVAs were used to test the effect of ability and race on each participation motivation variable. This was achieved by using descriptive statistics to calculating the means and standard deviations for each ability level and for each participant according to race shown in table 4.8. For ability there are some significant differences looking at the *P*-values as illustrated in table 4.7.

Table 4.7: One Way ANOVA by Ability

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Scholarships	Between Groups	6.426	2	3.213	5.252	.006
	Within Groups	242.871	397	.612		
	Total	249.298	399			
ExposureOpportunities	Between Groups	1.398	2	.699	1.398	.248
	Within Groups	198.599	397	.500		
	Total	199.998	399			
Fame	Between Groups	4.109	2	2.055	3.011	.050
	Within Groups	270.891	397	.682		
	Total	275.000	399			
Money	Between Groups	1.375	2	.687	.923	.398
	Within Groups	295.623	397	.745		
	Total	296.998	399			
Trophies	Between Groups	.955	2	.477	2.405	.092
	Within Groups	78.795	397	.198		
	Total	79.750	399			
Travel_re	Between Groups	4.514	2	2.257	3.573	.029
	Within Groups	250.784	397	.632		
	Total	255.297	399			
Age	Between Groups	1.758	2	.879	.683	.506
	Within Groups	510.940	397	1.287		
	Total	512.697	399			
Grade	Between Groups	.603	2	.302	.096	.908
	Within Groups	1244.107	397	3.134		
	Total	1244.710	399			

Hence, *P* value less than .05 means that the variable is statistically significant indicating that there is a significant effect of ability on that variable. For example, looking at the above table, the *P*-value for scholarship (0.006) indicates that scholarship is significantly related to ability. Therefore ability has a significant effect on scholarship (0.006), fame (0.50) and travel (0.29).

Post hoc tests on multiple comparisons were also conducted to compare all three ability levels on each variable. That is, for scholarship, beginners were compared to intermediate and advance. The *P*-value for beginners and intermediate was .006, beginners and advance 0.556. Intermediate was compared with beginners and advance. The *P value* for intermediate /beginners was 0.006; and intermediate/advanced equaled 0.056. When advance was compared with beginners and intermediate, *P* value for advance/beginners was .556, and advance/intermediate 0.050. Multiple comparisons were conducted for each variable across the board to see the significance of each ability level on the others as illustrated in table 4.7. Ability had a significant effect on scholarship, fame, and travel with *P* values of .006, .050, and .029 respectively.

One-way ANOVA for the effect of race and also showed some significant differences looking at the *P* values as shown in table 4.8 below.

Table 4.8: One Way ANOVA by Participation

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Scholarships	Between Groups	26.457	4	6.614	11.724	.000
	Within Groups	222.841	395	.564		
	Total	249.297	399			
ExposureOpportunities	Between Groups	7.012	4	1.753	3.588	.007
	Within Groups	192.986	395	.489		
	Total	199.997	399			
Fame	Between Groups	8.393	4	2.098	3.109	.015
	Within Groups	266.607	395	.675		
	Total	275.000	399			
Money	Between Groups	3.954	4	.989	1.333	.257
	Within Groups	293.043	395	.742		
	Total	296.998	399			
Trophies	Between Groups	1.006	4	.251	1.261	.285
	Within Groups	78.744	395	.199		
	Total	79.750	399			
Travel_re	Between Groups	5.499	4	1.375	2.174	.071
	Within Groups	249.799	395	.632		
	Total	255.297	399			
Age	Between Groups	26.773	4	6.693	5.441	.000
	Within Groups	485.924	395	1.230		
	Total	512.697	399			
Grade	Between Groups	41.825	4	10.456	3.434	.009
	Within Groups	1202.885	395	3.045		
	Total	1244.710	399			

The mean difference is significant below the 0.05 level. *P* values for race and scholarship = .000, exposure opportunities= .007, fame= .015, money=.257, trophies= .285, travel=.071, age=.000, and grade = .009. This indicates that race had a significant effect on all variables except for money, trophies and travel.

Post hoc multiple comparisons figures compared all races with each variable. With this test, each race was compared to all other participants to see the level of significance for each variable. For example Caucasians were compared to Hispanics, Black, Asians and Indians to see the effect on scholarship, exposure opportunities, fame, travel, trophies and money. When Caucasians were compared to Hispanics for their effect on scholarships, the level of significance was .210. Caucasians/blacks: P value=0.001, Caucasian/Asians: *P* value =.000, Caucasians/Indians; *P* value = .96. These computations were conducted for each variable for participants all across the board. Results showed that race had a significant effect on scholarships, exposure opportunities, and fame, with *P* values of 0.000, .007, and .015 respectively.

Multivariate Regressions

Multivariate regressions were conducted using ability to see the degree to which variables were associated with ability. One-way ANOVAs were used to test the effect of ability on participation motivation. Using descriptive statistics illustrated in table 4.9, ability had a significant effect on scholarship, fame, and travel with *P* value .002. This means that beginners were less likely to be motivated by scholarships, fame, and travel compared to intermediate or advanced players. I also found that, *P* value .007 shows that players who were more motivated by scholarship, fame and travel tended to have higher levels of ability, and stayed the same even after adjusting for the effects of grade and age.

Table 4.9: Regression Analysis

Descriptive Statistics			
	Mean	Std. Deviation	N
Scholarships	2.353	.7904	400
ExposureOpportunities	2.498	.7080	400
Fame	2.250	.8302	400
Money	1.997	.8628	400
Travel_re	2.352	.7999	400
Trophies	1.275	.4471	400

Table 4.9 shows the highest mean values ascribed for all items in the construct before adjusting for age, grade, and ability. The descriptive statistics were used to calculate the analysis of variance for all variables.

ANOVA[c]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.885	6	.314	3.503	.002[a]
	Residual	35.247	393	.090		
	Total	37.132	399			
2	Regression	1.941	8	.243	2.696	.007[b]
	Residual	35.191	391	.090		
	Total	37.132	399			

a. Predictors: (Constant), Travel_re, Money, Scholarships, Trophies, ExposureOpportunities, Fame

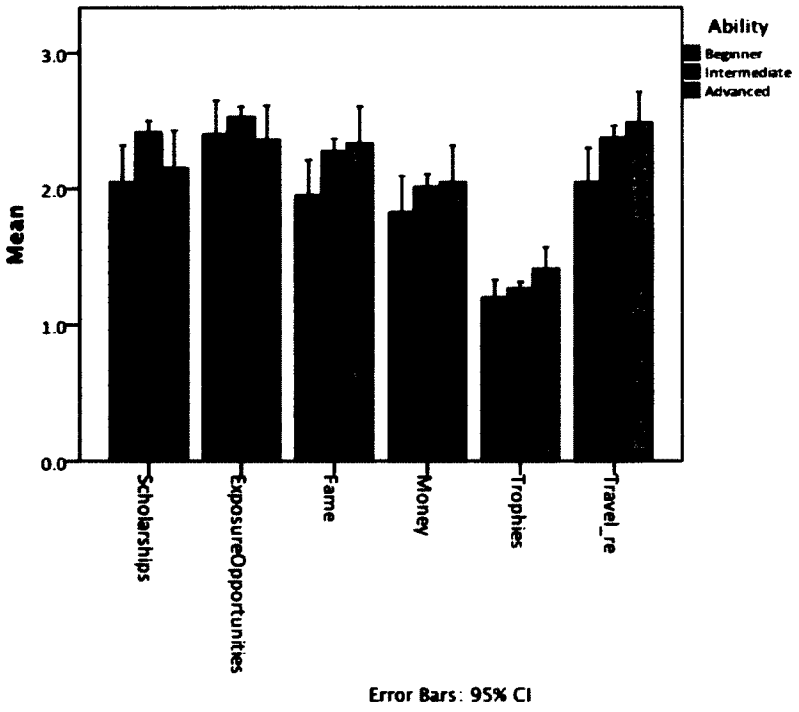
b. Predictors: (Constant), Travel_re, Money, Scholarships, Trophies, ExposureOpportunities, Fame, Age, Grade

c. Dependent Variable: Ability

Figure 4.10 below further explains regressions for ability levels in association with other variables. Looking at the chart, scholarship bar show that there were more players with intermediate ability than advanced and beginners. The same goes with

exposure opportunities except that beginners were more represented than advance leveled players. For fame, money, trophies and travel, advance leveled players were more represented, followed by intermediate and beginners. This reinforces the fact that beginners were less likely to be motivated by scholarships, fame, and travel compared to intermediate or advanced players.

Figure 4.10: Multivariate regressions according to ability levels



CHAPTER IV

CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS

Conclusions

In the greatest extent, results from the surveys were consistent with the problem statement, literature review and findings. The online survey served as some sort of randomization as it helped sample participants, making sure that the study targeted the desired population. It also substantiates the findings of the claim that young soccer players tend to skew towards programs that offer extrinsic reward opportunities with figures showing that 800 out 1000 participants favored project Omega (competition). The literature review presented previous research and theories that are consistent with findings. However, there were too many contractor studies adding to the fact that a wide majority of scholarly work concentrated on relationships between intrinsic and extrinsic rewards.

As predicted by the null hypothesis, the estimated mean values for all variables adjusted for age, grade, participation and ability show that exposure opportunities, travel, scholarship, fame, money and trophies were the most preferred extrinsic rewards according to importance. Notwithstanding, frequencies for race showed that more Caucasians were represented in the survey than were actually enrolled as compared to Hispanics. However, actual student enrolment population distribution in Clark County School District at the time the survey was conducted (2013) was 33% Caucasians, 44% Hispanics, 13% Blacks, 9% Asians and 1% Indians. It may be due to the fact that not all participants were enrolled as students in the Clark County School District.

Survey reliability was checked and Cronbach's alpha was .11 which too low according to the required standard value of .70. This was blamed on the fact that the survey was modified, data was ordinal and the items did not fall neatly under one scale. Exploratory factor analysis suggested three factors: One with scholarship travel and fame; a second with exposure opportunities and money; and a third with trophies. A set of bivariate nonparametric correlations were conducted to see if the items measured the same construct. Findings revealed a small negative correlation between travel and fame, and a small positive correlation between scholarships and fame. Pairwise comparisons from a multivariate ANOVA showed that exposure opportunities was the strongest motivation for playing soccer, even after adjust for age, participation, ability and grades. After testing the effect of participation on motivation, it was found that race had a significant effect on scholarships, exposure opportunities, and fame. Blacks were more likely to be motivated by scholarship than all of the other participants. Asians were significantly less motivated by scholarship than all of the other participants (except Indians). Hispanics were more motivated by exposure opportunities than Caucasians and Asians. Asians were less motivated by exposure opportunities than Hispanics and Blacks. Indians were less motivated by fame than all of the other participants except for Asians. Asians were less likely to be motivated by fame than Blacks.

However, validity of measurement procedures in this investigation subjected it to some limitations with the reasoning that, if the participants retook the survey, different results could be obtained. In addition, the survey was completed on separate occasions and was not checked for similarities in measurement procedures. However, had all

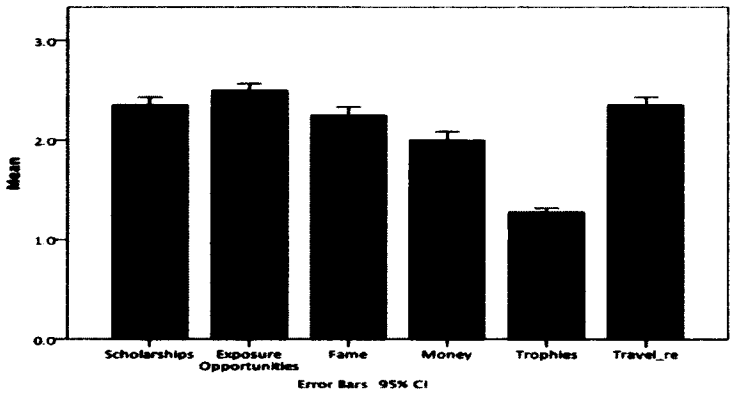
participants came together and completed the survey at the same time this issue would not be contemplated. Furthermore, there were some measurement issues

Considering the modification of the PMQ items, some participants did not understand the meaning of exposure opportunities. According to the original PMQ, it means "wanting to play at higher levels" but operationally, it was translated as scouting into ODP, college, soccer academies and national team selection. There were quandaries concerning the money item where questions came up on the operational definition. Some participants assumed that money constituted game incentives such as match bonuses or pay to play stipends. The research coordinator, however, operationally defined money to include game bonuses, pay to play stipends, employment contracts, and endorsements. Furam-Mandic, G., Kondric, M., Tusak, M. & Kondric, L. (2010), in their study on motivations mentioned equipment, which is also an important extrinsic reward item that was not included in the modified PMQ. The analysis of response frequency to particular levels on the Likert scale, as well as the average results and standard deviations of the questionnaire items, supported the hypothesis that, among the extrinsic motives for engaging in soccer, the highest mean values were ascribed to exposure opportunities as the main predictive index of extrinsic rewards in participation motivation as seen in table 4.6 above. Furthermore, results from the online survey reinforce the claim that young soccer players tend to skew towards programs that provide more extrinsic rewards opportunities.

Discussion

Using the PMQ, this study found that exposure opportunities constituted the most important extrinsic reward item that affected young male soccer players' participation motivation followed by travel, scholarship, fame, money and trophies.

Figure 5.1: G Graph Showing Extrinsic Rewards According to Importance



It was also discovered from the online survey that male players between the ages of 14-18 preferred soccer programs that provided more extrinsic reward opportunities. Deci, L., Koestner, R., & Ryan, M, (1999), Ryan, E. L., & Deci, R. M. (2000,) including many other researchers focus on the effects extrinsic rewards on intrinsic motivation. However, results suggest important differences in the participation motivation literature, creating the need for more research beyond the youth population. According to Topley (2010, participation motivation of young male soccer players can become more extrinsic as they grow older. On the other hand, Hatch, S., Thomsen, D., Waldron, J (2013), found that extrinsic rewards do not guarantee intrinsic motivation.

Notwithstanding, this research sees extrinsic rewards as reinforcement, which can be included into programs in address a myriad issues. Firstly, providing extrinsic reward opportunities can enhance and sustain participation rates. This is because the need for

exposure becomes quintessential for continuous participation. Secondly, extrinsic rewards opportunities may encourage commitment in sports. Garcia-Mas (2010) found a clear pattern of the influence of motivation in sport enjoyment and commitment by outlining the positive contributions of intrinsic and extrinsic motivation to enjoyment and commitment. He posits that extrinsic motivation has higher contribution to enjoyment whereas intrinsic motivation contributes to commitment. However, these motivations can be used interchangeably to enhance sports commitment in the sense that enjoyment leads to commitment and vice versa.

Finally, the rewards especially exposure opportunities and money dictate the essence of participation and create a clear career path to success for young athletes. Exposure opportunities are often accompanied by marketing opportunities as well selection into clubs and academies. Young players are attracted to these benefits as a guarantee of career and proof of success in life. This success-oriented sports environment is maintained by fans, parents, and coaches and glamorized by the media. In addition, the careers and biographies of successful soccer icons encourage adolescent players to see success in form of rewards. For example, top soccer athletes such as David Beckham, Samuel Etoo, Lionel Messi and Cristiano Ronaldo who started from humble beginnings to end up as multi-millionaires by passing through sports programs at prestigious soccer academies that helped defined a clear career path for their success. For teenage players, soccer academies constitute an incentive value of success in life and career and would prefer participating in programs that provide similar advantages.

Recommendations

In sum, findings from this study can be used by researchers and sports marketers to look further into the value of extrinsic rewards on participation motivation. More so, it is necessary for academy managers and program directors to know when and how to optimally utilize this form of motivation to meet the needs of their clients. It is true that extrinsic rewards do not guarantee intrinsic motivation according to Hatch, S., Thomsen, D., Waldron, J (2013), but according to this study, the effect is significant. Thus, the conclusion calls for further research on how to systematically apply extrinsic rewards to improve overall motivation in sports.

Furthermore, sports involvement has become achievement-oriented with money and clout attached to it. This trend has been underscored by researchers who focus more on intrinsic reasons to justify participation motivation. In reality, extrinsic rewards have a very strong psychological effect of young soccer players' drive as they tend to seek success down these avenues. In substance, this study maintains that, besides intrinsic motives, marketing forces such as money, fame, travel, trophies, scholarships and exposure opportunities also dictate young male soccer players' decision to engage in soccer. Examining the extrinsic motives for participation gives researchers and sport marketers insight when developing soccer programs. In response, they should consider exploring the extrinsic motivating factors and systematically balance them up with intrinsic components to design programs that are congruent with the trends and meet up with the expectations and values of young soccer players.

REFERENCES

Anderman, L., & Anderman, E. (1999). Social predictors of changes in children's achievement goal orientations. *Contemporary Educational Psychology, 24* (1), 21–37.

Budenhausen, K (2013) Tiger Woods is back on top of the world's highest-paid athletes. *Forbes.* Retrieved March 21, 2014 from http://www.forbes.com/pictures/mli45mmlg/98-brandon-roy-5/

Carpenter, P. & Scanlan, T. (1998).Changes Over Time in the Determinants of Sport Commitment.*Pediatric Exercise Science, 10*, 356-365. Retrieved February 13, 2014 from http://journals.humankinetics.com/AcuCustom/Sitename/Documents/DocumentItem/12481.pdf

Carr, S. (2006). An examination of multiple goals in children's physical education: Motivational effects of goal profiles and the role of perceived climate in multiple goal development. *Journal of Sports Sciences, 24* (3), 281–297.

Chi, L. (2004). *Achievement goal theory. Sport psychology: Theory, applications, and issues* (2nd ed.), Milton, Australia: Wiley. PP. 152-174

Clark County School District Student Data Services Report (2013). http://ccsd.net/district/open-book/pdf/fast-facts.pdf

Conroy, E., Elliot, J., & Hofer, M. (2003). A 2 X 2 achievement goals questionnaire for sport: Evidence for factorial invariance, temporal stability, and external validity. *Journal of Sport & Exercise Psychology, 25* (4), 456–476.

Conroy, E., Kaye, P., & Coatsworth, D. (2006). Coaching climates and the destructive effects of mastery-avoidance achievement goals on situational motivation. *Journal of Sport & Exercise Psychology, 28* (1), 69–92.

Csikszentmihalyi, M., & Larson, W. (1984). *Being adolescent.* New York: Basic Books.

Cumming, P., Smith, E., Smoll, L., Standage, M., & Grossbard, R. (2008). Development and validation of the achievement goal scale for youth sports. *Psychology of Sport and Exercise, 9* (5), 686–703.

Cumming, P., Smoll, L., Smith, E., & Grossbard, R. (2007). Is winning everything? The relative contributions of motivational climate and won-lost percentage in youth sports. *Journal of Applied Sport Psychology, 19* (3), 322–336.

Deci, L., Koestner, R., & Ryan, M (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin, 125*(6), 627-668

Duda, L. (1989). Relationship between task and ego orientation and the perceived purpose of sport among high school athletes. *Journal of Sport & Exercise Psychology, 11* (3), 318–335.

Duda, L., & Whitehead, J. (1998). *Measurement of goal perspectives in the physical domain. Advances in sport and exercise psychology measurement.* Morgantown, WV: Fitness Information Technology. pp. 21–48.

Dwyer, J (1992). Internal structure of Participation Motivation Questionnaire completed by undergraduates. *Psychological Reports, 70*, 283-290.

Elliot, J., & McGregor, A. (2001). A 2 X 2 achievement goal framework. *Journal of Personality and Social Psychology, 80* (3), 501–519.

Ewing, E., & Seefeldt, V. (2002). *Patterns of participation in American agency-sponsored youth sports*. Dubuque, IA: Kendall/Hunt.

Frankl, D. (2007). Cash for goals in youth soccer: Adults gone wild. California State University, Los Angeles. Retrieved May 6, 2014 from http://www.kidsfirstsoccer.com/PDF/Youth-Soccer-Cash-4-Goals-1-7-2010.pdf

Fry, D., & Duda, L. (1997). A developmental examination of children's understanding of effort and ability in the physical and academic domains. *Research Quarterly for Exercise and Sport, 68* (4), 331–344.

Furam-Mandic, G., Kondric, M., Tusak, M. & Kondric Lija. (2010). Sports students' motivation for participating in table tennis. *International Journal of Table Tennis Sciences,* 6, 44-47.

Gagne´, M., & Deci, E. L. (2005). Self-determination theory and work motivation. Journal of Organizational Behavior, *26*, 331–362

Gill, D., Gross, B., & Huddleston, S. (1983). Participation motivation in youth sports. *International Journal of Sport Psychology 14,* 1-14

Gill, D & Williams, L. (2008). *Psychological dynamics of sport and exercise*, 3rd ed. Champagne, IL: Human Kinetics. P 133

Grolnick, W. (2003). *The psychology of parental control.* New York, NY: Laurence Erlbaum Associate Inc. P 134-137

Harackiewicz, J., Barron, K., Pintrich, P., Elliot, A., & Thrash, T. (2002). Revision of achievement goal theory: Necessary and illuminating. *Journal of Educational Psychology*, *94* (3), 638–645.

Harwood, C., & Swain, A. (2002). The development and activation of achievement goals within tennis: II. A player, parent, and coach intervention. *The Sport Psychologist, 16* (2), 111–137.

Hatch, S.,Thomsen, D.,Waldron, J (2013). Extrinsic Rewards and motivation. University of Northern Iowa, Cedar Falls, IA http://www.appliedsportpsych.org/resource-center/resources-for-coaches/extrinsic-rewards-and-motivation/

Heyman, D., Gee, L., & Giles, W. (2003). Preschool children's reasoning about ability. *Child Development, 74* (2), 516–534.

Jones, G., Mackay, S. & Peters, D. (2006). Participation motivation in martial artists in the west midlands of England. *Journal of Sports Science and Medicine, 5*, 28-34

Kaplan, A. & Maehr, L. (2007). The contributions and prospects of goal orientation theory. *Educational Psychology Review, 19,* 141–184.

Kavussanu, M., & Roberts, C. (1996). Motivation in physical activity contexts: The relationship of perceived motivational climate to intrinsic motivation and self-efficacy. *Journal of Sport & Exercise Psychology, 18* (3), 264–280.

Larson, W. (2000). Toward a psychology of positive youth development. *The American Psychologist, 55*(1), 170–183

Medic, N., Mack, D., Wilson, P & Starkes, J. (2007). The effects of athletic scholarship on motivation. *Journal of Sport Behavior, 30* (2), 292-305

Mladenovic, M., & Marjanovic, A. (2011). Some differences in sport motivation of young football players from Russia, Serbia and Montenegro. *Sportlogia, 7*(2), 246-260.

Morgan, K., Sproule, J., Weigand, D., & Carpenter, P. (2005). A computer-based observational assessment of the teaching behaviours that influence motivational climate in physical education. *Physical Education and Sport Psychology, 10* (1), 83-105.

Motiv, E. (2009). 33:173–183 123 sport questionnaire-2 in a sample of female athletes. *Journal of Sports Sciences, 18*, 275–290.

Mullin, B., Hardy, S. & Sutton, W. (2007). *Sport Marketing*. 3rd ed. Chelsea, MI: Sheridan Books, P 246.

Ng, R. (2011). Understanding sport participation motivation and barriers in adolescent 11-17: An introduction of rowing activity in schools. *Asian Journal of Physical Education & Recreation, 17*(2), 66-74. Retrieved October 15, 2013 from http://proxy.ussa.edu:2063/ehost/pdfviewer/pdfviewer?sid=85a15c96-107c-421a-8fe6-d548b3fe8042%40sessionmgr114&vid=4&hid=122

Nicholls, G. (1978). The development of the concepts of effort and ability, perception of academic attainment, and the understanding that difficulty tasks require more ability. *Child Development, 49(*3), 800–814.

Nicholls, G., & Miller, T. (1983). The differentiation of concepts of difficulty and ability. *Child Development, 54* (4), 951–959.

Nunnaly, J. (1978). *Psychometric theory*. New York, NY: McGraw-Hill

Ommundsen, Y., & Pedersen, H. (1999). The role of achievement goal orientations and perceived ability upon somatic and cognitive indices of sport competition trait anxiety: A study of young athletes. *Scandinavian Journal of Medicine and Science in Sports, 9*(6), 333–343.

Papaioannou, A., Marsh, H. W., & Theodorakis, Y. (2004). A multilevel approach to motivational climate in physical education and sport settings: An individual or a group level construct? *Journal of Sport & Exercise Psychology, 26*(1), 90–118.

Pintrich, P. R. (2000). Multiple goals, multiple pathways: The role of goal orientation in learning and achievement. *Journal of Educational Psychology, 92* (3), 544–555.

Reel, S (2009). Examining Sport Commitment and Intentions to Participate in Intramural Sports: Application of the Sport Commitment Model and the Theory of Planned Behaviour in a Campus Recreational Sport Setting. Retrieved March 13, 2014 from https://dr.library.brocku.ca/bitstream/handle/10464/2855/Brock_Jess_Sarah_2009.pdf?sequence=1

Roberts, C., Treasure, C., & Balague, G. (1998). Achievement goals in sport: The development and validation of the perception of success questionnaire. *Journal of Sports Sciences, 16*(4), 337–347.

Ryan, E. L., & Deci, R. M. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *The American Psychologist, 55* (1), 68–78.

Seifriz, J., Duda, L., & Chi, L. (1992). The relationship of perceived motivational climate to intrinsic motivation and beliefs about success in basketball. *Journal of Sport & Exercise Psychology, 14*, 375–391.

Singer, D., & Willett, B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence*. New York: Oxford University Press.

Smith, E., Cumming, P., & Smoll, L. (2008). Development and validation of the Motivational Climate Scale for Youth Sports. *Journal of Applied Sport Psychology, 20* (1), 116–136.

Smith, E., Smoll, L., & Cumming, S. P. (2007). Effects of a motivational climate intervention for coaches on young athletes' sport performance anxiety. *Journal of Sport & Exercise Psychology*, *29*(1), 39–59.

Smith, E., Smoll, L., Cumming, P., & Grossbard, R. (2006). Measurement of multidimensional sport performance anxiety in children and adults: The Sport Anxiety Scale-2. *Journal of Sport & Exercise Psychology, 28*, 479–501.

Solomon, A. & Boone, J. (1993). The impact of student goal orientation in physical education classes. *Research Quarterly for Exercise and Sport*, *64*(4), 418–424.

Spray, M. (2000). Predicting participation in non-compulsory physical education: Do goal perspectives matter? *Perceptual and Motor Skills*, *90* (3), 1207–1215.

Tenenbaum, G. & Eklund, R (2007). *Handbook of sport psychology* (3rd ed). Hoboken, NJ: Wiley. PP.3-30

Steinberg, G., Grieve, G., & Glass, B. (2001). Achievement goals across the lifespan. *Journal of Sport Behavior, 24* (3), 298-306.

Topley, A. (2010). Participation motivation in male and female soccer players. *Academia. Edu.* Retrieved May 6, 2014 from https://www.academia.edu/425084/Participation_Motivation_in_Young_Male_and_Female_Soccer_Players

Vealey, S., & Campbell, J. L. (1988). Achievement goals of adolescent figure skaters: Impact on self-confidence, anxiety, and performance. *Journal of Adolescent Research,* 3 (2), 227–243.

Walling, D., & Duda, L. (1995). Goals and their associations to beliefs about success in and perceptions of the purpose of physical education. *Journal of Teaching in Physical Education, 14* (2), 140–156.

White, A., & Zellner, S. (1996). The relationship between goal orientation, beliefs about the causes of sport success, and trait anxiety among high school, intercollegiate, and recreational sport participants. *The Sport Psychologist, 10* (1), 58–72

APPENDICES

Appendix A: Written Consent

Dear Practitioner or Administrator:

I am a graduate student seeking a doctoral degree from the United States Sports Academy (USSA). My specific area of concentration is in Sports Coaching.

The purpose of this electronic survey is to gather information about the demographic characteristics of medical offices that provide sports medicine services, as well as information about the informatics needs of such practices. Practices throughout the United States have been solicited for participation. The survey and associated research have been approved by the Institutional Review Board of the USSA.

Your practice has been selected to participate in a two part, test/retest survey that assesses the reliability of the instrument. 1 to 2 weeks after completing the first survey, if you oblige, we will e-mail a link to a second survey.

The survey will take approximately 15 minutes to complete. All of your responses will be kept confidential. Electronic submission of this survey indicates voluntary consent to participate. If someone else in your organization is better suited to respond, please forward accordingly. Additionally, if you know others who you believe could contribute valuable information to this effort, please do not hesitate to forward this survey link:

Appendix B: Practice Questionnaire (Modified PMQ)

Instructions: Participation Motivation Questionnaire (PMQ): The PMQ is a useful psychometric instrument to measure individual's reasons or motivations for participating in sporting activities. It was modified in this context to measure only extrinsic motivation by extracting all the intrinsic motivation items such as fun, challenge etc. and replaced with six variables (fame, travel, Trophies, Scholarship, exposure opportunities and money). The answer will help the researcher to know the most and least important factors that motivate young soccer players to participate in the soccer. The result will be used to help design programs that suit players' needs. To complete, please ask them to circle the answer they believe best applies to them.

Check One: 1- Very Important 2- Somewhat Important and 3- Not at all Important

General Information			
Name:	Age:	Ability Level:	Date:
School:		Grade Level:	
Items (Reasons)	Very Important (3)	Somewhat Important (2)	Not at all Important (1)
Fame			
Travel			
Trophies			
Scholarship			
Exposure Opportunities			
Money			

Appendix C: Thank You Note

Respondents, thank you for taking the time to respond to this survey. Your participation is greatly appreciated and the information will serve only the intended purpose.
Sincerely,

Jude Niba

Janiba@students.ussa.edu

Appendix D: USSA Internal Review Board (IRB) Approval

THE UNITED STATES SPORTS ACADEMY
ENVIRONMENTAL HEALTH AND SAFETY COMMITTEE
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS/PARTICIPANTS RESEARCH

APPLICATION FOR IRB AS HUMAN SUBJECTS/PARTICIPATION RESEARCH

Updated 11/2010

Part A. Contact Information, agreements and signatures

Date: June 23 2014

Title of Study:

Name/Credentials of Principal Investigator:
Print

Principal Investigator Signature: Date:

Address:

Phone: Cell:

Fax: Email:

Name of Faculty Advisor of Dissertation/Thesis Committee Chair:

Institution:

Department: Position:

Tel: Fax:

Email:

List all project personnel including co-investigators, and anyone else who has contact with subjects/participants or identifiable data from subjects/participants:

Name: Email:
Name: Email:

Part B. Checklist of items to include with your submission

Applications must provide all information requested, i.e., complete answers must be contained in the application, along with all signatures. Attach all referenced documents and support material with application.

Include the following items with your submission where applicable.

Check all relevant items below and include one copy of al checked items.

Check	Item
1.	This application
2.	Application must have original PI signature
3.	Consent and assent forms, fact or information sheets; include phone and verbal consent scripts. HIPAA authorization addendum to consent form.
4.	All recruitment materials including scripts, flyers, and advertising, letters, emails, focus group, scripts used to guide phone or in-person interviews etc.
5.	Complete copy of Methods with complete copy of List of Equipment utilized. Questionnaire & Survey
6.	Document of reviews from any other committees (e.g. Research Dissertation Committee of Thesis Committee or local review committees in Academic Affairs).
7.	Complete copy of Research Design/Dissertation/Thesis Proposal. Chapters I, II, and III with all Appendices as it is applicable.
8.	Copy of Approval Sheet with Committee Signature & Comment

NOTE: Applications will be returned if these instructions are not followed.

Primary Investigator: I will personally conduct or supervise this research study. I will ensure that this research study is performed in compliance with all applicable laws, regulations and institutions/University policies regarding human subject's research. I will obtain IRB approval before making any changes or additions to this project. I will inform the IRB of any other changes in the information provided in this application. I will provide progress report to the IRB at least annually or as requested. I will report promptly to the IRB all unanticipated problems or serious adverse events involving risks to human subjects. I will follow the IRB approved consent process for human subjects. I will ensure that all collaborators, students and employees assisting in this research are informed about these obligations. All information given in this form is accurate and complete.

Principal Investigator's Signature **Date**

Appendix E: Participation Motivation Questionnaire (PMQ)

REASONS	Very Important	Somewhat Important	Not at all Important
I want to improve my skills	1	2	3
I want to be with my friends	1	2	3
I like to win	1	2	3
I want to get rid of energy	1	2	3
I like to travel	1	2	3
I want to stay in shape	1	2	3
I like the excitement	1	2	3
I like the teamwork	1	2	3
My parents or close friends want me to play	1	2	3
I want to learn new skills	1	2	3
I like to meet new friends	1	2	3
I like to do something I'm good at	1	2	3
I want to release tension	1	2	3
I like the rewards	1	2	3
I like to get exercise	1	2	3
I like to have something to do	1	2	3
I like the action	1	2	3
I like the team spirit	1	2	3
I like to get out of the house	1	2	3
I like to compete	1	2	3
I like to feel important	1	2	3
I like being on a team	1	2	3
I want to go on to a higher level	1	2	3
I want to be physically fit	1	2	3
I want to be popular	1	2	3
I like the challenge	1	2	3
I like the coaches or instructors	1	2	3
I want to gain status or recognition	1	2	3
I like to have fun	1	2	3
I like to use the equipment or facilities	1	2	3

(Adapted from Gill, D.L., Gross, J.B., and Huddleston, S. 1983)

Appendix F: CYI Online Registration Form

Community Youth Inter Alia Youth Soccer 2013

www.cinteralia.org/forms

Project Alpha

Recreational Participants Only

NB* Please read carefully before completing form

This registration is for young players between the ages of 14 and 18 years who want to join the program. Activities are limited to playing for fun, challenge, satisfaction, mastery, fitness, friendship. Parents are allowed to assist with completion but must allow the player to choose preferred program. Players must select one program only

Project Omega

Competitive Participants Only

This registration is for participants between the ages of 14 and 18 years who want to join the program. Activities include but not limited to travel, scouting opportunities (agency representation), scholarships, bonuses, stipends and contracts, endorsements, tournaments, and sundry.

Venue: Desert Breeze Community Center 8275 Spring Mountain Rd., Las Vegas, NV 89117 Spring Mountain & Durango MAP (702) 455-8334, CCParks@ClarkCountyNV.gov . Program schedule will be sent through email.

Project Alpha Select | **Please check one** | **Project Omega Select**

Registration Information

Name: First: **Middle:** **Last:** **Address:**

Apt/Suite: **City:** **State:** **Zip:**

Date of Birth: *(Day/Month/Year)* **Age:** **Email**

Health Physical Required

Doctor's Name: **Phone #:** **Health Insurance Agency:**

ARBITRATION: Any dispute concerning the interpretation of this agreement or arising from this program and report, except one for fee payment, shall be resolved informally between the parties or by arbitration conducted in accordance with the rules of a recognized arbitration association except that the parties shall select an arbitrator who is familiar with this industry. The arbitrator shall conduct summary judgment motions and enforce full discovery rights as a court would as provided in civil proceedings by legal code.
CONFIDENTIAL REPORT: Reports are solely for member's own information, and no third party shall benefit directly or indirectly from the information except authorized by member or guardian.
ATTORNEYS FEES: The prevailing party in any dispute arising out of this agreement, the member shall be awarded all attorneys' fees, arbitrator fees and other costs.
SEVERABILITY: Members agree that should a Court of Competence Jurisdiction determine and declare that any portion of this agreement is void, voidable or unenforceable, the remaining provisions and portions shall remain in full force and effect.
DISPUTE: Members understands and agrees that any claim for injuries, shall be borne by the member who shall be responsible for their own health insurance coverage. Members further agrees that, with the exception of emergency conditions, all injuries and complains should be reported within 24 hours but compensation or health care shall not be borne by the organization.
SCOPE OF SERVICE: The scope of this service and report is limited to training, counseling and managing as stated above. Any additional service shall be at members own costs and membership can be cancelled at any time.
CONTRACT TERMS: The organization's employee's liability for mistakes or omissions based on training, counseling and management reports is limited to a refund of the fee paid for entire service for that month. This liability limitation is binding on members and member's spouses, heirs, principals, assigns and anyone else who may otherwise claim through member. However, CYI is not compelled to retain memberships and shall turn down or cancel membership as deemed necessary. Members shall assume the risk of all losses greater than the fee paid for the programs. This agreement is binding under the Nevada State Laws.
* By signing below, you acknowledge that you have read and agreed to the scope of this service and agreed to all the terms and conditions of this contract. You also agree to pay the fees listed above.

Reset Form | Submit Form

TABLES

TABLE 2.1: DESCRIPTIVE STATISTICS FOR PARTICIPATION MOTIVATION ITEMS IN THE MODIFIED PMQ

Descriptive				
			Statistic	Std. Error
Scholarships	Mean		2.353	.0395
	95% Confidence Interval for Mean	Lower Bound	2.275	
		Upper Bound	2.430	
	5% Trimmed Mean		2.392	
	Median		3.000	
	Variance		.625	
	Std. Deviation		.7904	
	Minimum		1.0	
	Maximum		3.0	
	Range		2.0	
	Interquartile Range		1.0	
	Skewness		-.715	.122
	Kurtosis		-1.038	.243
ExposureOpportunities	Mean		2.498	.0354
	95% Confidence Interval for Mean	Lower Bound	2.428	
		Upper Bound	2.567	
	5% Trimmed Mean		2.553	
	Median		3.000	
	Variance		.501	
	Std. Deviation		.7080	
	Minimum		1.0	
	Maximum		3.0	
	Range		2.0	
	Interquartile Range		1.0	
	Skewness		-1.056	.122
	Kurtosis		-.253	.243
Fame	Mean		2.250	.0415
	95% Confidence Interval for Mean	Lower Bound	2.168	
		Upper Bound	2.332	
	5% Trimmed Mean		2.278	

	Median		2.500	
	Variance		.689	
	Std. Deviation		.8302	
	Minimum		1.0	
	Maximum		3.0	
	Range		2.0	
	Interquartile Range		1.8	
	Skewness		-.495	.122
	Kurtosis		-1.374	.243
Money	Mean		1.998	.0431
	95% Confidence Interval for Mean	Lower Bound	1.913	
		Upper Bound	2.082	
	5% Trimmed Mean		1.997	
	Median		2.000	
	Variance		.744	
	Std. Deviation		.8628	
	Minimum		1.0	
	Maximum		3.0	
	Range		2.0	
	Interquartile Range		2.0	
	Skewness		.005	.122
	Kurtosis		-1.659	.243
Trophies	Mean		1.275	.0224
	95% Confidence Interval for Mean	Lower Bound	1.231	
		Upper Bound	1.319	
	5% Trimmed Mean		1.250	
	Median		1.000	
	Variance		.200	
	Std. Deviation		.4471	
	Minimum		1.0	
	Maximum		2.0	
	Range		1.0	
	Interquartile Range		1.0	
	Skewness		1.012	.122
	Kurtosis		-.982	.243
Travel_re	Mean		2.353	.0400
	95% Confidence Interval for Mean	Lower Bound	2.274	
		Upper Bound	2.431	

	5% Trimmed Mean		2.392	
	Median		3.000	
	Variance		.640	
	Std. Deviation		.7999	
	Minimum		1.0	
	Maximum		3.0	
	Range		2.0	
	Interquartile Range		1.0	
	Skewness		-.721	.122
	Kurtosis		-1.065	.243
Grade	Mean		9.385	.0883
	95% Confidence Interval for Mean	Lower Bound	9.211	
		Upper Bound	9.559	
	5% Trimmed Mean		9.428	
	Median		10.000	
	Variance		3.120	
	Std. Deviation		1.7662	
	Minimum		6.0	
	Maximum		12.0	
	Range		6.0	
	Interquartile Range		3.0	
	Skewness		-.356	.122
	Kurtosis		-.891	.243
Age	Mean		3.448	.0567
	95% Confidence Interval for Mean	Lower Bound	3.336	
		Upper Bound	3.559	
	5% Trimmed Mean		3.486	
	Median		3.100	
	Variance		1.285	
	Std. Deviation		1.1336	
	Minimum		1.1	
	Maximum		5.1	
	Range		4.0	
	Interquartile Range		1.0	
	Skewness		-.059	.122
	Kurtosis		-.762	.243

TABLE 2.2: PARTICIPATION FREQUENCIES AND PERCENTAGES FOR ALL DEPENDENT VARIABLES

Percentiles								
		Percentiles						
		5	10	25	50	75	90	95
Weighted Average(Definition 1)	Scholarships	1.000	1.000	2.000	3.000	3.000	3.000	3.000
	ExposureOpportunities	1.000	1.000	2.000	3.000	3.000	3.000	3.000
	Fame	1.000	1.000	1.250	2.500	3.000	3.000	3.000
	Money	1.000	1.000	1.000	2.000	3.000	3.000	3.000
	Trophies	1.000	1.000	1.000	1.000	2.000	2.000	2.000
	Travel_re	1.000	1.000	2.000	3.000	3.000	3.000	3.000
	Grade	6.000	7.000	8.000	10.000	11.000	12.000	12.000
	Age	1.150	2.100	3.100	3.100	4.100	5.100	5.100
Tukey's Hinges	Scholarships			2.000	3.000	3.000		
	ExposureOpportunities			2.000	3.000	3.000		
	Fame			1.500	2.500	3.000		
	Money			1.000	2.000	3.000		
	Trophies			1.000	1.000	2.000		
	Travel_re			2.000	3.000	3.000		
	Grade			8.000	10.000	11.000		
	Age			3.100	3.100	4.100		

TABLE 4.1: FREQUENCY SHOWING DESCRIPTIVE DATA FOR ABILITY AND PARTICIPANTION

Ability					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Beginner	40	10.0	10.0	10.0
	Intermediate	321	80.0	80.3	90.3
	Advanced	39	9.7	9.8	100.0
	Total	400	99.8	100.0	
Missing	System	1	.2		
Total		401	100.0		

Race					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Caucasian	143	35.7	35.8	35.8
	Hispanics	107	26.7	26.8	62.5
	Blacks	81	20.2	20.3	82.8
	Asians	58	14.5	14.5	97.3
	Indians	11	2.7	2.8	100.0
	Total	400	99.8	100.0	
Missing	System	1	.2		
Total		401	100.0		

TABLE 4.2: INTER-ITEM CORRELATION MATRIX FOR ALL SUBSCALES

Case Processing Summary			
		N	%
Cases	Valid	400	99.8
	Excluded[a]	1	.2
	Total	401	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.107	.090	6

Item Statistics			
	Mean	Std. Deviation	N
Scholarships	2.353	.7904	400
ExposureOpportunities	2.498	.7080	400
Fame	2.250	.8302	400
Money	1.998	.8628	400
Trophies	1.275	.4471	400
Travel_re	2.353	.7999	400

Inter-Item Correlation Matrix						
	Scholarships	ExposureOpportunities	Fame	Money	Trophies	Travel_re
Scholarships	1.000	.049	.098	.012	.002	.053
ExposureOpportunities	.049	1.000	-.007	.059	.018	.035
Fame	.098	-.007	1.000	-.080	-.030	.120
Money	.012	.059	-.080	1.000	-.011	-.013
Trophies	.002	.018	-.030	-.011	1.000	-.061
Travel_re	.053	.035	.120	-.013	-.061	1.000

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
12.725	3.734	1.9323	6

TABLE 4.3: ROTATED COMPONENT MATRIX FOR ALL SUBSCALES

Communalities		
	Initial	Extraction
Scholarships	1.000	.462
ExposureOpportunities	1.000	.520
Fame	1.000	.534
Money	1.000	.594
Trophies	1.000	.763
Travel_re	1.000	.447
Extraction Method: Principal Component Analysis.		

Total Variance Explained									
	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.212	20.196	20.196	1.212	20.196	20.196	1.193	19.882	19.882
2	1.088	18.129	38.325	1.088	18.129	38.325	1.088	18.134	38.016
3	1.020	17.004	55.329	1.020	17.004	55.329	1.039	17.313	55.329
4	.938	15.628	70.957						
5	.900	14.997	85.954						
6	.843	14.046	100.000						
Extraction Method: Principal Component Analysis.									

Component Matrix[a]			
	Component		
	1	2	3
Scholarships	.481	.337	.341
Exposure Opportunities		.701	
Fame	.690		
Money		.663	-.321
Trophies			.834
Travel_re	.615		
Extraction Method: Principal Component Analysis.			
a. 3 components extracted.			

Rotated Component Matrix[a]			
	Component		
	1	2	3
Scholarships	.595		
ExposureOpportunities		.674	
Fame	.683		

Money		.706	
Trophies			.873
Travel_re	.518		-.418

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Component Transformation Matrix

Component	1	2	3
1	.947	-.083	-.309
2	.108	.992	.063
3	.301	-.093	.949

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

TABLE 4.7: ONE WAY ANOVA BY PARTICIPATION AND ABILITY

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Scholarships	Between Groups	26.457	4	6.614	11.724	.000
	Within Groups	222.841	395	.564		
	Total	249.297	399			
ExposureOpportunities	Between Groups	7.012	4	1.753	3.588	.007
	Within Groups	192.986	395	.489		
	Total	199.997	399			
Fame	Between Groups	8.393	4	2.098	3.109	.015
	Within Groups	266.607	395	.675		
	Total	275.000	399			
Money	Between Groups	3.954	4	.989	1.333	.257
	Within Groups	293.043	395	.742		
	Total	296.998	399			
Trophies	Between Groups	1.006	4	.251	1.261	.285
	Within Groups	78.744	395	.199		
	Total	79.750	399			
Travel_re	Between Groups	5.499	4	1.375	2.174	.071
	Within Groups	249.799	395	.632		
	Total	255.297	399			
Age	Between Groups	26.773	4	6.693	5.441	.000
	Within Groups	485.924	395	1.230		
	Total	512.697	399			
Grade	Between Groups	41.825	4	10.456	3.434	.009
	Within Groups	1202.885	395	3.045		

	Total	1244.710	399			

TABLE 4.8: ONE WAY ANOVA DESCRIPTIVES BY PARTICIPATION, AGE, AND GRADE LEVEL

Multiple Comparisons							
LSD							
						95% Confidence Interval	
Dependent Variable	(I) Race	(J) Race	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Scholarships	Caucasian	Hispanics	.1206	.0960	.210	-.068	.309
		Blacks	-.3615*	.1045	.001	-.567	-.156
		Asians	.4778*	.1169	.000	.248	.708
		Indians	.3916	.2350	.096	-.070	.854
	Hispanics	Caucasian	-.1206	.0960	.210	-.309	.068
		Blacks	-.4821*	.1106	.000	-.700	-.265
		Asians	.3572*	.1225	.004	.116	.598
		Indians	.2710	.2378	.255	-.197	.739
	Blacks	Caucasian	.3615*	.1045	.001	.156	.567
		Hispanics	.4821*	.1106	.000	.265	.700
		Asians	.8393*	.1292	.000	.585	1.093
		Indians	.7531*	.2414	.002	.279	1.228
	Asians	Caucasian	-.4778*	.1169	.000	-.708	-.248
		Hispanics	-.3572*	.1225	.004	-.598	-.116
		Blacks	-.8393*	.1292	.000	-1.093	-.585
		Indians	-.0862	.2470	.727	-.572	.399
	Indians	Caucasian	-.3916	.2350	.096	-.854	.070
		Hispanics	-.2710	.2378	.255	-.739	.197
		Blacks	-.7531*	.2414	.002	-1.228	-.279
		Asians	.0862	.2470	.727	-.399	.572
ExposureOpportunities	Caucasian	Hispanics	-.2089*	.0893	.020	-.385	-.033
		Blacks	-.1660	.0972	.088	-.357	.025
		Asians	.1680	.1088	.124	-.046	.382
		Indians	-.2098	.2187	.338	-.640	.220
	Hispanics	Caucasian	.2089*	.0893	.020	.033	.385
		Blacks	.0429	.1029	.677	-.159	.245
		Asians	.3769*	.1140	.001	.153	.601
		Indians	-.0008	.2213	.997	-.436	.434
	Blacks	Caucasian	.1660	.0972	.088	-.025	.357
		Hispanics	-.0429	.1029	.677	-.245	.159
		Asians	.3340*	.1202	.006	.098	.570
		Indians	-.0438	.2246	.846	-.485	.398
	Asians	Caucasian	-.1680	.1088	.124	-.382	.046

		Hispanics	-.3769*	.1140	.001	-.601	-.153
		Blacks	-.3340*	.1202	.006	-.570	-.098
		Indians	-.3777	.2299	.101	-.830	.074
	Indians	Caucasian	.2098	.2187	.338	-.220	.640
		Hispanics	.0008	.2213	.997	-.434	.436
		Blacks	.0438	.2246	.846	-.398	.485
		Asians	.3777	.2299	.101	-.074	.830
Fame	Caucasian	Hispanics	-.1430	.1050	.174	-.349	.063
		Blacks	-.1923	.1142	.093	-.417	.032
		Asians	.0993	.1279	.438	-.152	.351
		Indians	.5664*	.2571	.028	.061	1.072
	Hispanics	Caucasian	.1430	.1050	.174	-.063	.349
		Blacks	-.0493	.1210	.684	-.287	.189
		Asians	.2423	.1340	.071	-.021	.506
		Indians	.7094*	.2601	.007	.198	1.221
	Blacks	Caucasian	.1923	.1142	.093	-.032	.417
		Hispanics	.0493	.1210	.684	-.189	.287
		Asians	.2916*	.1413	.040	.014	.569
		Indians	.7587*	.2640	.004	.240	1.278
	Asians	Caucasian	-.0993	.1279	.438	-.351	.152
		Hispanics	-.2423	.1340	.071	-.506	.021
		Blacks	-.2916*	.1413	.040	-.569	-.014
		Indians	.4671	.2702	.085	-.064	.998
	Indians	Caucasian	-.5664*	.2571	.028	-1.072	-.061
		Hispanics	-.7094*	.2601	.007	-1.221	-.198
		Blacks	-.7587*	.2640	.004	-1.278	-.240
		Asians	-.4671	.2702	.085	-.998	.064
Money	Caucasian	Hispanics	-.2311*	.1101	.036	-.448	-.015
		Blacks	-.0292	.1198	.808	-.265	.206
		Asians	-.0909	.1341	.498	-.355	.173
		Indians	-.2727	.2695	.312	-.803	.257
	Hispanics	Caucasian	.2311*	.1101	.036	.015	.448
		Blacks	.2019	.1269	.112	-.047	.451
		Asians	.1402	.1404	.319	-.136	.416
		Indians	-.0416	.2727	.879	-.578	.495
	Blacks	Caucasian	.0292	.1198	.808	-.206	.265
		Hispanics	-.2019	.1269	.112	-.451	.047
		Asians	-.0617	.1482	.677	-.353	.230
		Indians	-.2435	.2768	.379	-.788	.301
	Asians	Caucasian	.0909	.1341	.498	-.173	.355
		Hispanics	-.1402	.1404	.319	-.416	.136
		Blacks	.0617	.1482	.677	-.230	.353
		Indians	-.1818	.2833	.521	-.739	.375
	Indians	Caucasian	.2727	.2695	.312	-.257	.803

		Hispanics	.0416	.2727	.879	-.495	.578
		Blacks	.2435	.2768	.379	-.301	.788
		Asians	.1818	.2833	.521	-.375	.739
Trophies	Caucasian	Hispanics	.0437	.0571	.444	-.068	.156
		Blacks	.0028	.0621	.965	-.119	.125
		Asians	.0453	.0695	.515	-.091	.182
		Indians	-.2587	.1397	.065	-.533	.016
	Hispanics	Caucasian	-.0437	.0571	.444	-.156	.068
		Blacks	-.0410	.0658	.534	-.170	.088
		Asians	.0016	.0728	.982	-.142	.145
		Indians	-.3025*	.1414	.033	-.580	-.025
	Blacks	Caucasian	-.0028	.0621	.965	-.125	.119
		Hispanics	.0410	.0658	.534	-.088	.170
		Asians	.0426	.0768	.580	-.108	.194
		Indians	-.2615	.1435	.069	-.544	.021
	Asians	Caucasian	-.0453	.0695	.515	-.182	.091
		Hispanics	-.0016	.0728	.982	-.145	.142
		Blacks	-.0426	.0768	.580	-.194	.108
		Indians	-.3041*	.1468	.039	-.593	-.015
	Indians	Caucasian	.2587	.1397	.065	-.016	.533
		Hispanics	.3025*	.1414	.033	.025	.580
		Blacks	.2615	.1435	.069	-.021	.544
		Asians	.3041*	.1468	.039	.015	.593
Travel_re	Caucasian	Hispanics	-.1711	.1016	.093	-.371	.029
		Blacks	-.3124*	.1106	.005	-.530	-.095
		Asians	-.0796	.1238	.521	-.323	.164
		Indians	-.0420	.2488	.866	-.531	.447
	Hispanics	Caucasian	.1711	.1016	.093	-.029	.371
		Blacks	-.1413	.1171	.228	-.372	.089
		Asians	.0915	.1297	.481	-.163	.346
		Indians	.1291	.2518	.608	-.366	.624
	Blacks	Caucasian	.3124*	.1106	.005	.095	.530
		Hispanics	.1413	.1171	.228	-.089	.372
		Asians	.2329	.1368	.089	-.036	.502
		Indians	.2705	.2555	.290	-.232	.773
	Asians	Caucasian	.0796	.1238	.521	-.164	.323
		Hispanics	-.0915	.1297	.481	-.346	.163
		Blacks	-.2329	.1368	.089	-.502	.036
		Indians	.0376	.2615	.886	-.477	.552
	Indians	Caucasian	.0420	.2488	.866	-.447	.531
		Hispanics	-.1291	.2518	.608	-.624	.366
		Blacks	-.2705	.2555	.290	-.773	.232
		Asians	-.0376	.2615	.886	-.552	.477
Age	Caucasian	Hispanics	-.1684	.1418	.236	-.447	.110

		Blacks	-.5828*	.1542	.000	-.886	-.280
		Asians	-.6230*	.1727	.000	-.962	-.284
		Indians	-.3706	.3470	.286	-1.053	.312
	Hispanics	Caucasian	.1684	.1418	.236	-.110	.447
		Blacks	-.4143*	.1634	.012	-.735	-.093
		Asians	-.4546*	.1809	.012	-.810	-.099
		Indians	-.2022	.3512	.565	-.893	.488
	Blacks	Caucasian	.5828*	.1542	.000	.280	.886
		Hispanics	.4143*	.1634	.012	.093	.735
		Asians	-.0402	.1908	.833	-.415	.335
		Indians	.2121	.3564	.552	-.489	.913
	Asians	Caucasian	.6230*	.1727	.000	.284	.962
		Hispanics	.4546*	.1809	.012	.099	.810
		Blacks	.0402	.1908	.833	-.335	.415
		Indians	.2524	.3648	.489	-.465	.969
	Indians	Caucasian	.3706	.3470	.286	-.312	1.053
		Hispanics	.2022	.3512	.565	-.488	.893
		Blacks	-.2121	.3564	.552	-.913	.489
		Asians	-.2524	.3648	.489	-.969	.465
Grade	Caucasian	Hispanics	-.7032*	.2231	.002	-1.142	-.265
		Blacks	-.6753*	.2427	.006	-1.152	-.198
		Asians	-.5555*	.2717	.042	-1.090	-.021
		Indians	-.0210	.5460	.969	-1.094	1.052
	Hispanics	Caucasian	.7032*	.2231	.002	.265	1.142
		Blacks	.0279	.2570	.914	-.477	.533
		Asians	.1478	.2845	.604	-.412	.707
		Indians	.6822	.5525	.218	-.404	1.769
	Blacks	Caucasian	.6753*	.2427	.006	.198	1.152
		Hispanics	-.0279	.2570	.914	-.533	.477
		Asians	.1198	.3002	.690	-.470	.710
		Indians	.6543	.5607	.244	-.448	1.757
	Asians	Caucasian	.5555*	.2717	.042	.021	1.090
		Hispanics	-.1478	.2845	.604	-.707	.412
		Blacks	-.1198	.3002	.690	-.710	.470
		Indians	.5345	.5739	.352	-.594	1.663
	Indians	Caucasian	.0210	.5460	.969	-1.052	1.094
		Hispanics	-.6822	.5525	.218	-1.769	.404
		Blacks	-.6543	.5607	.244	-1.757	.448
		Asians	-.5345	.5739	.352	-1.663	.594

*. The mean difference is significant at the 0.05 level.

TABLE 4.4: NONPARAMETRIC CORRELATIONS

Correlations										
			Scholarships	ExposureOpportunities	Fame	Money	Trophies	Travel_re	Grade	Age
Kendall's tau_b	Scholarships	Correlation Coeffic ient	1.000	.038	.095*	.012	.014	.066	.000	-.009
		Sig. (2-tailed)	.	.405	.036	.787	.774	.147	.992	.838
		N	400	400	400	400	400	400	400	400
	ExposureOpportunities	Correlation Coeffic ient	.038	1.000	-.002	.041	.023	.035	.058	-.081
		Sig. (2-tailed)	.405	.	.973	.364	.634	.441	.174	.066
		N	400	400	400	400	400	400	400	400
	Fame	Correlation Coeffic ient	.095*	-.002	1.000	-.066	-.025	.114*	.050	.044
		Sig. (2-tailed)	.036	.973	.	.139	.598	.012	.232	.312
		N	400	400	400	400	400	400	400	400
	Money	Correlation Coeffic ient	.012	.041	-.066	1.000	-.011	-.005	.008	-.040
		Sig. (2-tailed)	.787	.364	.139	.	.823	.906	.853	.354
		N	400	400	400	400	400	400	400	400
	Trophies	Correlation Coeffic ient	.014	.023	-.025	-.011	1.000	-.059	-.079	-.058
		Sig. (2-tailed)	.774	.634	.598	.823	.	.214	.072	.203
		N	400	400	400	400	400	400	400	400
	Travel_re	Correlation Coeffic ient	.066	.035	.114*	-.005	-.059	1.000	-.018	.023
		Sig. (2-	.147	.441	.01	.906	.214	.	.666	.60

		tailed)			2					4
		N	400	400	400	400	400	400	400	400
	Grade	Correlation Coeffic ient	.000	.058	.050	.008	-.079	-.018	1.000	.163**
		Sig. (2-tailed)	.992	.174	.232	.853	.072	.666	.	.000
		N	400	400	400	400	400	400	400	400
	Age	Correlation Coeffic ient	-.009	-.081	.044	-.040	-.058	.023	.163**	1.000
		Sig. (2-tailed)	.838	.066	.312	.354	.203	.604	.000	.
		N	400	400	400	400	400	400	400	400

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

TABLE 2.9: GENERAL LINEAR MODELS

Within-Subjects Factors	
Measure : MEASURE_1	
Motivation	Dependent Variable
1	Scholarships
2	ExposureOpportunities
3	Fame
4	Money
5	Travel_re
6	Trophies

Multivariate Tests[b]						
Effect		Value	F	Hypothesis df	Error df	Sig.
Motivation	Pillai's Trace	.765	257.371[a]	5.000	395.000	.000
	Wilks' Lambda	.235	257.371[a]	5.000	395.000	.000
	Hotelling's Trace	3.258	257.371[a]	5.000	395.000	.000
	Roy's Largest Root	3.258	257.371[a]	5.000	395.000	.000

a. Exact statistic
b. Design: Intercept
Within Subjects Design: Motivation

Mauchly's Test of Sphericity[b]							
Measure : MEASURE_1							
Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[a]		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
Motivation	.772	102.618	14	.000	.918	.930	.200

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
b. Design: Intercept
Within Subjects Design: Motivation

Tests of Within-Subjects Effects						
Measure : MEASURE_1						
Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Motivation	Sphericity Assumed	398.618	5	79.724	143.540	.000
	Greenhouse-Geisser	398.618	4.592	86.816	143.540	.000
	Huynh-Feldt	398.618	4.652	85.696	143.540	.000

	Lower-bound	398.618	1.000	398.618	143.540	.000
Error(Motivation)	Sphericity Assumed	1108.048	1995	.555		
	Greenhouse-Geisser	1108.048	1832.016	.605		
	Huynh-Feldt	1108.048	1855.965	.597		
	Lower-bound	1108.048	399.000	2.777		

Tests of Within-Subjects Contrasts						
Measure : MEASURE_1						
Source	Motivation	Type III Sum of Squares	df	Mean Square	F	Sig.
Motivation	Linear	210.889	1	210.889	477.873	.000
	Quadratic	65.279	1	65.279	133.671	.000
	Cubic	25.125	1	25.125	49.195	.000
	Order 4	84.182	1	84.182	152.431	.000
	Order 5	13.143	1	13.143	16.755	.000
Error(Motivation)	Linear	176.082	399	.441		
	Quadratic	194.852	399	.488		
	Cubic	203.780	399	.511		
	Order 4	220.353	399	.552		
	Order 5	312.980	399	.784		

Tests of Between-Subjects Effects					
Measure : MEASURE_1 Transformed Variable : Average					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	10795.042	1	10795.042	17347.427	.000
Error	248.292	399	.622		

TABLE 4.5: ESTIMATED MARGINAL MEANS FOR PARTICIPATION MOTIVATION

Estimates				
Measure : MEASURE_1				
			95% Confidence Interval	
Motivation	Mean	Std. Error	Lower Bound	Upper Bound
1Scholarship	2.353	.040	2.275	2.430
2Exposure	2.498	.035	2.428	2.567
3Fame	2.250	.042	2.168	2.332
4Money	1.998	.043	1.913	2.082
5Travel	2.353	.040	2.274	2.431
6Trophies	1.275	.022	1.231	1.319

Pairwise Comparisons						
Measure : MEASURE_1						
					95% Confidence Interval for Difference[a]	
(I) Motivation	(J) Motivation	Mean Difference (I-J)	Std. Error	Sig.[a]	Lower Bound	Upper Bound
1Scholarship	2	-.145*	.052	.005	-.247	-.043
	3	.103	.054	.060	-.005	.210
	4	.355*	.058	.000	.241	.469
	5	.000	.055	1.000	-.108	.108
	6	1.078*	.045	.000	.988	1.167
2Exposure	1	.145*	.052	.005	.043	.247
	3	.248*	.055	.000	.140	.355
	4	.500*	.054	.000	.394	.606
	5	.145*	.052	.006	.042	.248
	6	1.223*	.042	.000	1.141	1.304
3Fame	1	-.103	.054	.060	-.210	.005
	2	-.248*	.055	.000	-.355	-.140
	4	.252*	.062	.000	.130	.375
	5	-.103	.054	.059	-.209	.004
	6	.975*	.048	.000	.881	1.069
4Money	1	-.355*	.058	.000	-.469	-.241
	2	-.500*	.054	.000	-.606	-.394
	3	-.252*	.062	.000	-.375	-.130
	5	-.355*	.059	.000	-.471	-.239
	6	.722*	.049	.000	.627	.818
5Travel	1	.000	.055	1.000	-.108	.108
	2	-.145*	.052	.006	-.248	-.042
	3	.103	.054	.059	-.004	.209
	4	.355*	.059	.000	.239	.471
	6	1.078*	.047	.000	.985	1.170

6Trophies	1	-1.078*	.045	.000	-1.167	-.988
	2	-1.223*	.042	.000	-1.304	-1.141
	3	-.975*	.048	.000	-1.069	-.881
	4	-.722*	.049	.000	-.818	-.627
	5	-1.078*	.047	.000	-1.170	-.985

Based on estimated marginal means

*. The mean difference is significant at the

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Multivariate Tests					
	Value	F	Hypothesis df	Error df	Sig.
Pillai's trace	.765	257.371[a]	5.000	395.000	.000
Wilks' lambda	.235	257.371[a]	5.000	395.000	.000
Hotelling's trace	3.258	257.371[a]	5.000	395.000	.000
Roy's largest root	3.258	257.371[a]	5.000	395.000	.000

Each F tests the multivariate effect of Motivation. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

TABLE 3.4: GENERAL LINEAR MODEL FOR SCHOLARSHIP, EXPOSURE OPPORTUNITIES, FAME, MONEY, TRAVEL AND TROPHIES BY PARTICIPATION, ABILITY, AGE AND GRADE LEVEL

Descriptive Statistics					
	Race	Ability	Mean	Std. Deviation	N
Scholarships	Caucasian	Beginner	2.174	.8341	23
		Intermediate	2.467	.7215	105
		Advanced	2.200	.8619	15
		Total	2.392	.7602	143
	Hispanics	Intermediate	2.286	.8516	105
		Advanced	1.500	.7071	2
		Total	2.271	.8531	107
	Blacks	Beginner	2.667	.5774	3
		Intermediate	2.800	.4932	75
		Advanced	1.667	1.1547	3
		Total	2.753	.5597	81
	Asians	Beginner	1.833	.8348	12
		Intermediate	1.774	.6688	31
		Advanced	2.267	.7988	15
		Total	1.914	.7559	58
	Indians	Beginner	1.000	.0000	2
		Intermediate	2.200	.4472	5
		Advanced	2.250	.9574	4
		Total	2.000	.7746	11
	Total	Beginner	2.050	.8458	40
		Intermediate	2.414	.7663	321
		Advanced	2.154	.8441	39
		Total	2.353	.7904	400
ExposureOpportunities	Caucasian	Beginner	2.609	.5830	23
		Intermediate	2.419	.7568	105
		Advanced	2.200	.7746	15
		Total	2.427	.7363	143
	Hispanics	Intermediate	2.629	.6241	105
		Advanced	3.000	.0000	2
		Total	2.636	.6203	107
	Blacks	Beginner	2.333	1.1547	3
		Intermediate	2.627	.6319	75
		Advanced	2.000	1.0000	3
		Total	2.593	.6667	81
	Asians	Beginner	1.917	.9003	12
		Intermediate	2.290	.7391	31
		Advanced	2.467	.8338	15
		Total	2.259	.8070	58

	Indians	Beginner	3.000	.0000	2
		Intermediate	2.600	.5477	5
		Advanced	2.500	.5774	4
		Total	2.636	.5045	11
	Total	Beginner	2.400	.7779	40
		Intermediate	2.526	.6893	321
		Advanced	2.359	.7776	39
		Total	2.498	.7080	400
Fame	Caucasian	Beginner	1.913	.7332	23
		Intermediate	2.238	.8381	105
		Advanced	2.400	.6325	15
		Total	2.203	.8098	143
	Hispanics	Intermediate	2.343	.8066	105
		Advanced	2.500	.7071	2
		Total	2.346	.8022	107
	Blacks	Beginner	2.333	1.1547	3
		Intermediate	2.373	.7845	75
		Advanced	3.000	.0000	3
		Total	2.395	.7855	81
	Asians	Beginner	2.083	.9003	12
		Intermediate	2.000	.8944	31
		Advanced	2.333	.9759	15
		Total	2.103	.9117	58
	Indians	Beginner	1.000	.0000	2
		Intermediate	2.000	1.0000	5
		Advanced	1.500	1.0000	4
		Total	1.636	.9244	11
	Total	Beginner	1.950	.8149	40
		Intermediate	2.277	.8260	321
		Advanced	2.333	.8377	39
		Total	2.250	.8302	400
Money	Caucasian	Beginner	1.870	.8689	23
		Intermediate	1.914	.8999	105
		Advanced	1.933	.8837	15
		Total	1.909	.8874	143
	Hispanics	Intermediate	2.133	.8887	105
		Advanced	2.500	.7071	2
		Total	2.140	.8843	107
	Blacks	Beginner	1.667	1.1547	3
		Intermediate	1.947	.7866	75
		Advanced	2.000	1.0000	3
		Total	1.938	.7960	81
	Asians	Beginner	1.917	.7930	12
		Intermediate	1.968	.8750	31

		Advanced	2.133	.7432	15
		Total	2.000	.8165	58
	Indians	Beginner	1.000	.0000	2
		Intermediate	2.800	.4472	5
		Advanced	2.000	1.1547	4
		Total	2.182	.9816	11
	Total	Beginner	1.825	.8439	40
		Intermediate	2.012	.8695	321
		Advanced	2.051	.8255	39
		Total	1.997	.8628	400
Travel_re	Caucasian	Beginner	1.826	.6503	23
		Intermediate	2.248	.8410	105
		Advanced	2.733	.4577	15
		Total	2.231	.8109	143
	Hispanics	Intermediate	2.410	.8168	105
		Advanced	2.000	1.4142	2
		Total	2.402	.8226	107
	Blacks	Beginner	2.000	1.0000	3
		Intermediate	2.547	.7406	75
		Advanced	3.000	.0000	3
		Total	2.543	.7425	81
	Asians	Beginner	2.583	.7930	12
		Intermediate	2.290	.7829	31
		Advanced	2.133	.7432	15
		Total	2.310	.7770	58
	Indians	Beginner	1.500	.7071	2
		Intermediate	2.200	.8367	5
		Advanced	2.750	.5000	4
		Total	2.273	.7862	11
	Total	Beginner	2.050	.7828	40
		Intermediate	2.374	.8084	321
		Advanced	2.487	.6833	39
		Total	2.352	.7999	400
Trophies	Caucasian	Beginner	1.261	.4490	23
		Intermediate	1.257	.4392	105
		Advanced	1.533	.5164	15
		Total	1.287	.4538	143
	Hispanics	Intermediate	1.238	.4280	105
		Advanced	1.500	.7071	2
		Total	1.243	.4309	107
	Blacks	Beginner	1.333	.5774	3
		Intermediate	1.280	.4520	75
		Advanced	1.333	.5774	3
		Total	1.284	.4537	81

	Asians	Beginner	1.000	.0000	12
		Intermediate	1.355	.4864	31
		Advanced	1.200	.4140	15
		Total	1.241	.4317	58
	Indians	Beginner	1.500	.7071	2
		Intermediate	1.400	.5477	5
		Advanced	1.750	.5000	4
		Total	1.545	.5222	11
	Total	Beginner	1.200	.4051	40
		Intermediate	1.268	.4436	321
		Advanced	1.410	.4983	39
		Total	1.275	.4471	400

Multivariate Tests[c]

Effect		Value	F	Hypothesis df	Error df	Sig.
Motivation	Pillai's Trace	.035	2.773[a]	5.000	380.000	.018
	Wilks' Lambda	.965	2.773[a]	5.000	380.000	.018
	Hotelling's Trace	.036	2.773[a]	5.000	380.000	.018
	Roy's Largest Root	.036	2.773[a]	5.000	380.000	.018
Motivation * Age	Pillai's Trace	.010	.785[a]	5.000	380.000	.561
	Wilks' Lambda	.990	.785[a]	5.000	380.000	.561
	Hotelling's Trace	.010	.785[a]	5.000	380.000	.561
	Roy's Largest Root	.010	.785[a]	5.000	380.000	.561
Motivation * Grade	Pillai's Trace	.014	1.040[a]	5.000	380.000	.393
	Wilks' Lambda	.986	1.040[a]	5.000	380.000	.393
	Hotelling's Trace	.014	1.040[a]	5.000	380.000	.393
	Roy's Largest Root	.014	1.040[a]	5.000	380.000	.393
Motivation * Race	Pillai's Trace	.076	1.492	20.000	1532.000	.074
	Wilks' Lambda	.925	1.496	20.000	1261.267	.074
	Hotelling's Trace	.079	1.497	20.000	1514.000	.073
	Roy's Largest Root	.048	3.671[b]	5.000	383.000	.003
Motivation * Ability	Pillai's Trace	.038	1.473	10.000	762.000	.145
	Wilks' Lambda	.962	1.469[a]	10.000	760.000	.146
	Hotelling's Trace	.039	1.465	10.000	758.000	.148
	Roy's Largest Root	.020	1.509[b]	5.000	381.000	.186
Motivation * Race * Ability	Pillai's Trace	.154	1.739	35.000	1920.000	.005
	Wilks' Lambda	.854	1.749	35.000	1600.945	.005
	Hotelling's Trace	.162	1.754	35.000	1892.000	.004

	Roy's Largest Root	.073	4.015[b]	7.000	384.000	.000

a. Exact statistic
b. The statistic is an upper bound on F that yields a lower bound on the significance level.
c. Design: Intercept + Age + Grade + Race + Ability + Race * Ability
Within Subjects Design: Motivation

Mauchly's Test of Sphericity[b]

Measure : MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[a]		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
Motivation	.752	108.805	14	.000	.910	.958	.200

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

• May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.
b. Design: Intercept + Age + Grade + Race + Ability + Race * Ability
Within Subjects Design: Motivation

Omnibus Test to follow up for differences in significance and esposure and then pairwise comparisons for follow up.

Tests of Within-Subjects Effects

Measure : MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Motivation	Sphericity Assumed	5.043	5	1.009	1.868	.097
	Greenhouse-Geisser	5.043	4.551	1.108	1.868	.104
	Huynh-Feldt	5.043	4.792	1.052	1.868	.100
	Lower-bound	5.043	1.000	5.043	1.868	.172
Motivation * Age	Sphericity Assumed	2.460	5	.492	.911	.473
	Greenhouse-Geisser	2.460	4.551	.541	.911	.466
	Huynh-Feldt	2.460	4.792	.513	.911	.469
	Lower-bound	2.460	1.000	2.460	.911	.340
Motivation * Grade	Sphericity Assumed	1.845	5	.369	.684	.636
	Greenhouse-Geisser	1.845	4.551	.405	.684	.622
	Huynh-Feldt	1.845	4.792	.385	.684	.630

	Lower-bound	1.845	1.000	1.845	.684	.409
Motivation * Race	Sphericity Assumed	16.629	20	.831	1.540	.059
	Greenhouse-Geisser	16.629	18.202	.914	1.540	.067
	Huynh-Feldt	16.629	19.167	.868	1.540	.063
	Lower-bound	16.629	4.000	4.157	1.540	.190
Motivation * Ability	Sphericity Assumed	6.956	10	.696	1.289	.231
	Greenhouse-Geisser	6.956	9.101	.764	1.289	.237
	Huynh-Feldt	6.956	9.583	.726	1.289	.234
	Lower-bound	6.956	2.000	3.478	1.289	.277
Motivation * Race * Ability	Sphericity Assumed	30.655	35	.876	1.622	.012
	Greenhouse-Geisser	30.655	31.854	.962	1.622	.016
	Huynh-Feldt	30.655	33.542	.914	1.622	.014
	Lower-bound	30.655	7.000	4.379	1.622	.127
Error(Motivation)	Sphericity Assumed	1036.456	1920	.540		
	Greenhouse-Geisser	1036.456	1747.415	.593		
	Huynh-Feldt	1036.456	1840.029	.563		
	Lower-bound	1036.456	384.000	2.699		

Tests of Within-Subjects Contrasts						
Measure : MEASURE_1						
Source	Motivation	Type III Sum of Squares	df	Mean Square	F	Sig.
Motivation	Linear	.692	1	.692	1.754	.186
	Quadratic	.696	1	.696	1.478	.225
	Cubic	.264	1	.264	.527	.468
	Order 4	3.232	1	3.232	5.761	.017
	Order 5	.158	1	.158	.205	.651
Motivation * Age	Linear	.111	1	.111	.282	.596
	Quadratic	.045	1	.045	.096	.757
	Cubic	.212	1	.212	.424	.515
	Order 4	.129	1	.129	.229	.632
	Order 5	1.962	1	1.962	2.543	.112
Motivation * Grade	Linear	1.263	1	1.263	3.200	.074
	Quadratic	.315	1	.315	.669	.414
	Cubic	.252	1	.252	.503	.478
	Order 4	.002	1	.002	.003	.955

	Order 5	.013	1	.013	.017	.898
Motivation * Race	Linear	1.889	4	.472	1.196	.312
	Quadratic	3.317	4	.829	1.762	.136
	Cubic	3.074	4	.769	1.534	.191
	Order 4	1.496	4	.374	.666	.616
	Order 5	6.854	4	1.713	2.220	.066
Motivation * Ability	Linear	2.304	2	1.152	2.918	.055
	Quadratic	.835	2	.418	.887	.413
	Cubic	2.601	2	1.301	2.596	.076
	Order 4	.451	2	.225	.402	.669
	Order 5	.765	2	.383	.496	.609
Motivation * Race * Ability	Linear	9.280	7	1.326	3.358	.002
	Quadratic	4.208	7	.601	1.277	.260
	Cubic	8.089	7	1.156	2.307	.026
	Order 4	3.125	7	.446	.796	.591
	Order 5	5.952	7	.850	1.102	.361
Error(Motivation)	Linear	151.599	384	.395		
	Quadratic	180.729	384	.471		
	Cubic	192.346	384	.501		
	Order 4	215.439	384	.561		
	Order 5	296.342	384	.772		

Tests of Between Subjects Effects -					
Measure : MEASURE_1 Transformed Variable : Average					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	256.395	1	256.395	453.466	.000
Age	.692	1	.692	1.224	.269
Grade	.019	1	.019	.034	.854
Race	2.861	4	.715	1.265	.283
Ability	6.294	2	3.147	5.566	.004
Race * Ability	3.818	7	.545	.965	.457
Error	217.118	384	.565		

TABLE 4.6: ESTIMATED MARGINAL MEANS ADJUSTED FOR AGE, GRADE, PARTICIPATION, AND ABILITY

Estimates				
Measure : MEASURE_1				
			95% Confidence Interval	
Motivation	Mean	Std. Error	Lower Bound	Upper Bound
1Scholarship	2.079[a,b]	.083	1.917	2.242
2Exposure	2.478[a,b]	.078	2.325	2.630
3Fame	2.141[a,b]	.092	1.961	2.322
4Money	1.989[a,b]	.097	1.799	2.178
5Travel	2.300[a,b]	.088	2.127	2.472
6Trophies	1.355[a,b]	.049	1.257	1.452

a. Covariates appearing in the model are evaluated at the following values: Age = 3.448, Grade = 9.385.
b. Based on modified population marginal mean.

Pairwise Comparisons						
Measure : MEASURE_1						
					95% Confidence Interval for Difference[b]	
(I) Motivation	(J) Motivation	Mean Difference (I-J)	Std. Error	Sig.[b]	Lower Bound	Upper Bound
1	2	-.399*,[a]	.113	.000	-.621	-.177
	3	-.062[a]	.120	.604	-.298	.173
	4	.091[a]	.126	.472	-.157	.338
	5	-.220[a]	.119	.064	-.454	.013
	6	.724*,[a]	.096	.000	.536	.913
2	1	.399*,[a]	.113	.000	.177	.621
	3	.336*,[a]	.121	.006	.099	.574
	4	.489*,[a]	.121	.000	.251	.727
	5	.178[a]	.114	.119	-.046	.402
	6	1.123*,[a]	.091	.000	.943	1.303
3	1	.062[a]	.120	.604	-.173	.298
	2	-.336*,[a]	.121	.006	-.574	-.099
	4	.153[a]	.139	.274	-.121	.427
	5	-.158[a]	.121	.192	-.396	.080
	6	.787*,[a]	.105	.000	.580	.993
4	1	-.091[a]	.126	.472	-.338	.157
	2	-.489*,[a]	.121	.000	-.727	-.251
	3	-.153[a]	.139	.274	-.427	.121
	5	-.311*,[a]	.132	.019	-.570	-.052
	6	.634*,[a]	.109	.000	.420	.848
5	1	.220[a]	.119	.064	-.013	.454
	2	-.178[a]	.114	.119	-.402	.046

	3	.158[a]	.121	.192	-.080	.396
	4	.311*,[a]	.132	.019	.052	.570
	6	.945*,[a]	.104	.000	.741	1.149
6	1	-.724*,[a]	.096	.000	-.913	-.536
	2	-1.123*,[a]	.091	.000	-1.303	-.943
	3	-.787*,[a]	.105	.000	-.993	-.580
	4	-.634*,[a]	.109	.000	-.848	-.420
	5	-.945*,[a]	.104	.000	-1.149	-.741

Based on estimated marginal means

*. The mean difference is significant at the

a. Based on modified population marginal mean.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Multivariate Tests					
	Value	F	Hypothesis df	Error df	Sig.
Pillai's trace	.341[a]	39.378[b]	5.000	380.000	.000
Wilks' lambda	.659[a]	39.378[b]	5.000	380.000	.000
Hotelling's trace	.518[a]	39.378[b]	5.000	380.000	.000
Roy's largest root	.518[a]	39.378[b]	5.000	380.000	.000

Each F tests the multivariate effect of Motivation. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Based on modified population marginal mean.

b. Exact statistic

TABLE 4.9: REGRESSION ANALYSIS

Variables Entered/Removed[b]			
Model	Variables Entered	Variables Removed	Method
1	Travel_re, Money, Scholarships, Trophies, ExposureOpportunities, Fame	.	Enter
2	Age, Grade[a]	.	Enter

a. All requested variables entered.
b. Dependent Variable: Ability

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.225[a]	.051	.036	.29948
2	.229[b]	.052	.033	.30000

a. Predictors: (Constant), Travel_re, Money, Scholarships, Trophies, ExposureOpportunities, Fame
b. Predictors: (Constant), Travel_re, Money, Scholarships, Trophies, ExposureOpportunities, Fame, Age, Grade

ANOVA[c]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.885	6	.314	3.503	.002[a]
	Residual	35.247	393	.090		
	Total	37.132	399			
2	Regression	1.941	8	.243	2.696	.007[b]
	Residual	35.191	391	.090		
	Total	37.132	399			

a. Predictors: (Constant), Travel_re, Money, Scholarships, Trophies, ExposureOpportunities, Fame
b. Predictors: (Constant), Travel_re, Money, Scholarships, Trophies, ExposureOpportunities, Fame, Age, Grade
c. Dependent Variable: Ability

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.681	.104		16.211	.000
	Scholarships	.038	.019	.099	1.996	.047
	ExposureOpportunities	.011	.021	.025	.508	.612

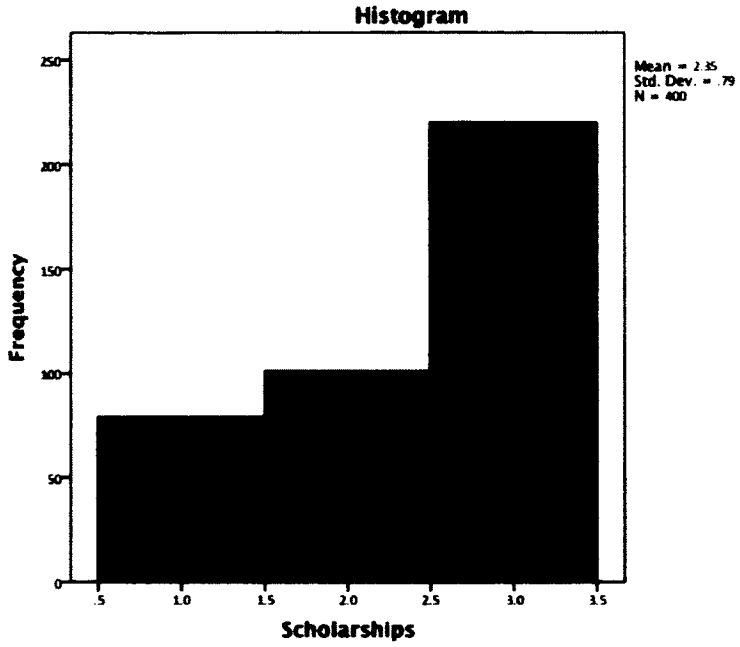
	Fame	.039	.018	.107	2.141	.033
	Money	.027	.017	.076	1.536	.125
	Trophies	.051	.034	.075	1.532	.126
	Travel_re	.044	.019	.116	2.345	.020
2	(Constant)	1.672	.136		12.275	.000
	Scholarships	.038	.019	.098	1.973	.049
	ExposureOpportunities	.009	.021	.021	.421	.674
	Fame	.039	.018	.106	2.118	.035
	Money	.026	.018	.074	1.496	.135
	Trophies	.052	.034	.076	1.536	.125
	Travel_re	.045	.019	.118	2.375	.018
	Grade	.005	.009	.028	.549	.583
	Age	-.009	.014	-.034	-.667	.505
a. Dependent Variable: Ability						

TABLE 3.1: MODIFIED PMQ SHOWING ALL ITEMS AND FREQUENCIES OF RESPONSES

Items	Very Important (3)	Somewhat Important (2)	Not at all Important (1)
Fame	200	100	100
Travel	80	100	220
Trophies	20	100	280
Scholarship	220	100	80
Exposure Opportunities	250	100	50
Money	150	100	150

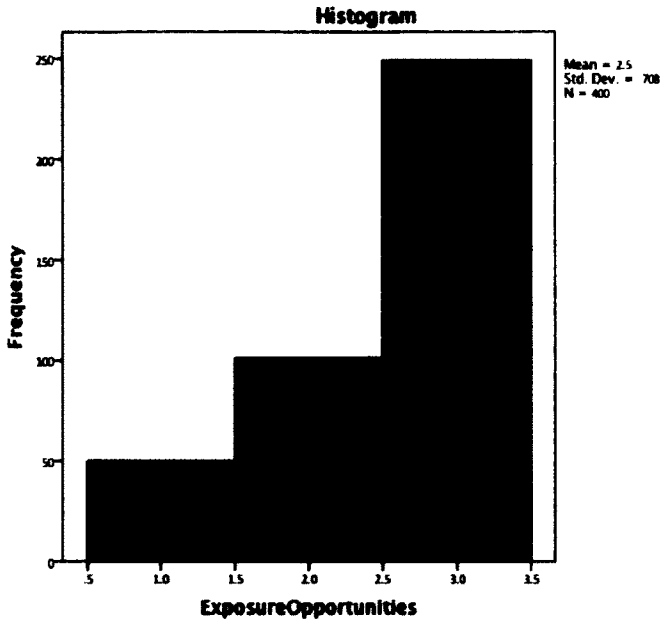
LIST OF FIGURES

FIGURE 4.1: SCHOLARSHIPS



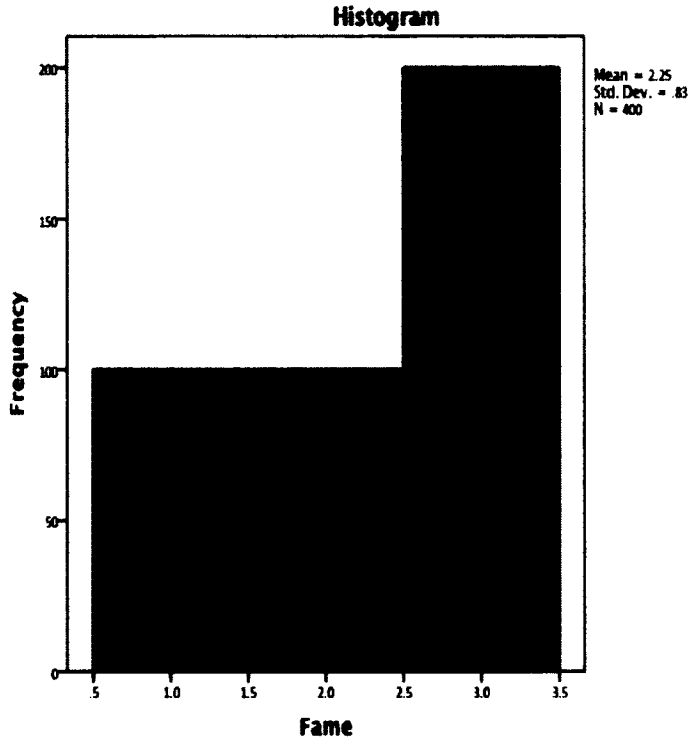
Descriptive figures for scholarship showed M=2.35; SD .79. 220 participants said scholarship was most important, 100 subjects reported somewhat important and 80 said not at all important.

FIGURE 4.2: EXPOSURE OPPORTUNITIES



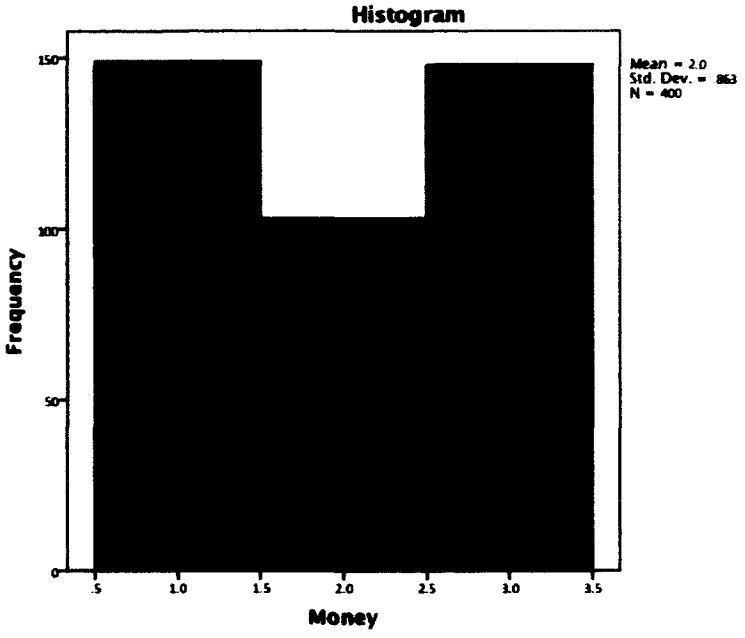
For exposure opportunities, M = 2.5; SD = .708 That is, 250 subjects checked most important, 100, somewhat important and 50 not at all important, skewing the distribution to the left, showing asymmetry

FIGURE 4.3: FAME



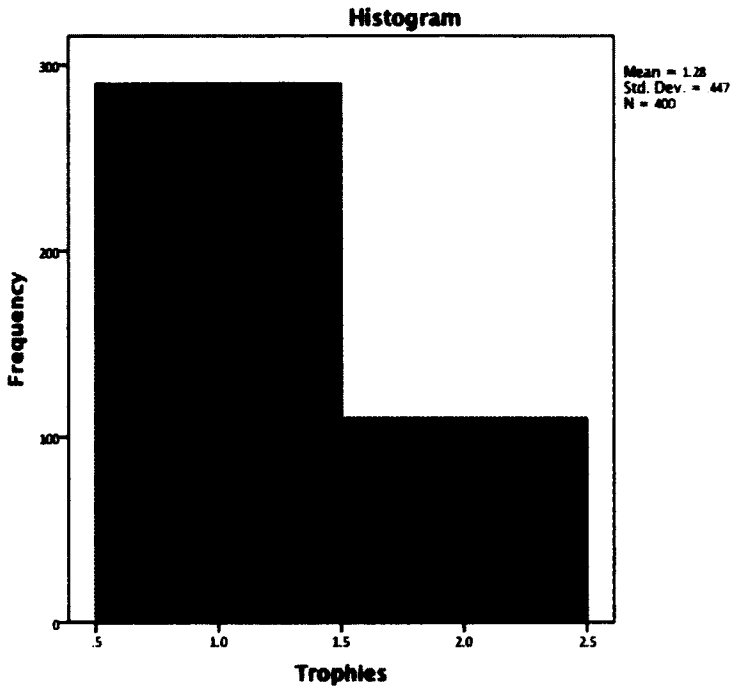
With fame, distribution was slightly skewed to the left. The mean value M = 2.25; SD = .83 explains that 200 subjects saw fame as very important, 100 somewhat and 100 said not important

FIGURE 4.4: MONEY



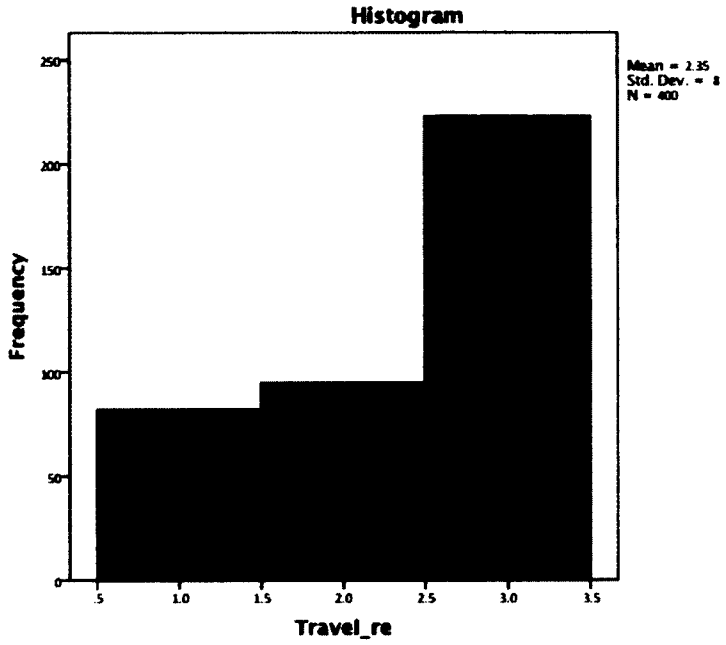
Money, M= 2.0; SD = .86, show a bi-modal distribution. This means that 150 players claim that money is very important, 100 said somewhat and 150 said not at all important.

FIGURE 4.5: TROPHIES



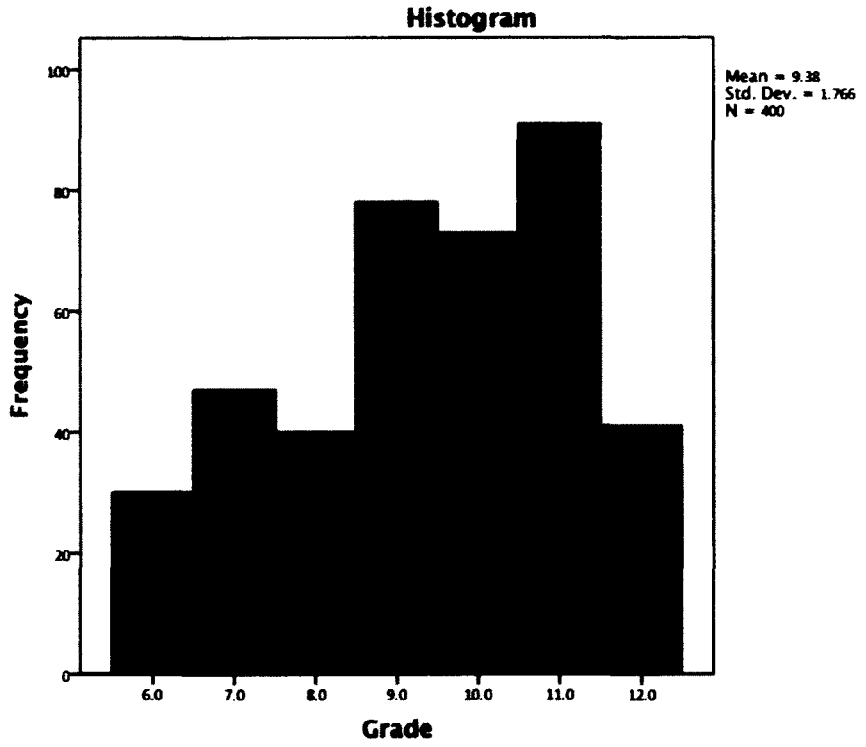
Trophies had a mean M = 1.28; SD = .45 showing a distribution skewing to the right. As seen in the histogram, 280 players deemed trophies as not all important and 100 thought that it was somewhat important

FIGURE 4.6: TRAVEL



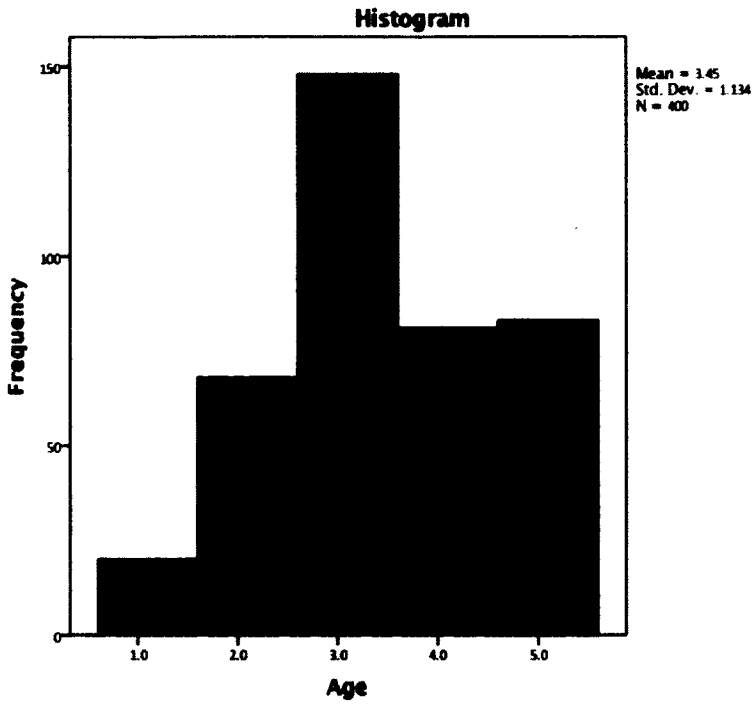
Travel had a mean value M = 2.35; SD = .8 and distribution skewed to the left showing that 80 players said it was very important, 100 somewhat, and 220 not at all important

FIGURE 4.7: GRADE



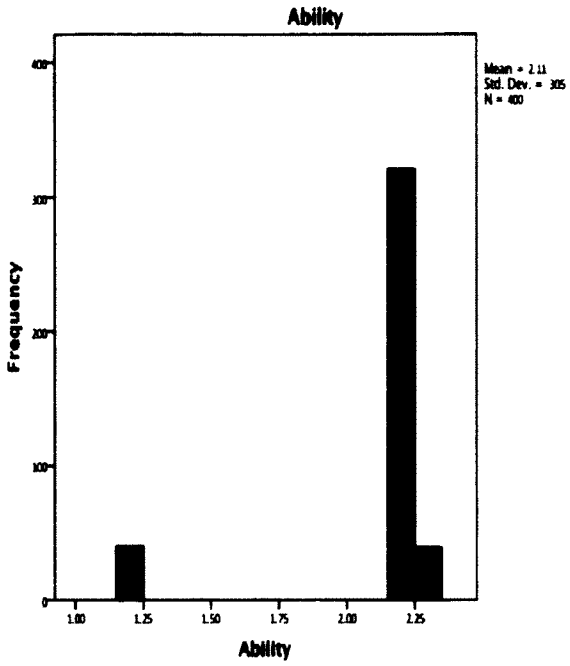
Histogram for grade showed a multimodal distribution with mean values M= 9.8; SD = 1.77 indicating that a majority of players were in 9^{th} and 11^{th} grades

FIGURE 4.8: AGE



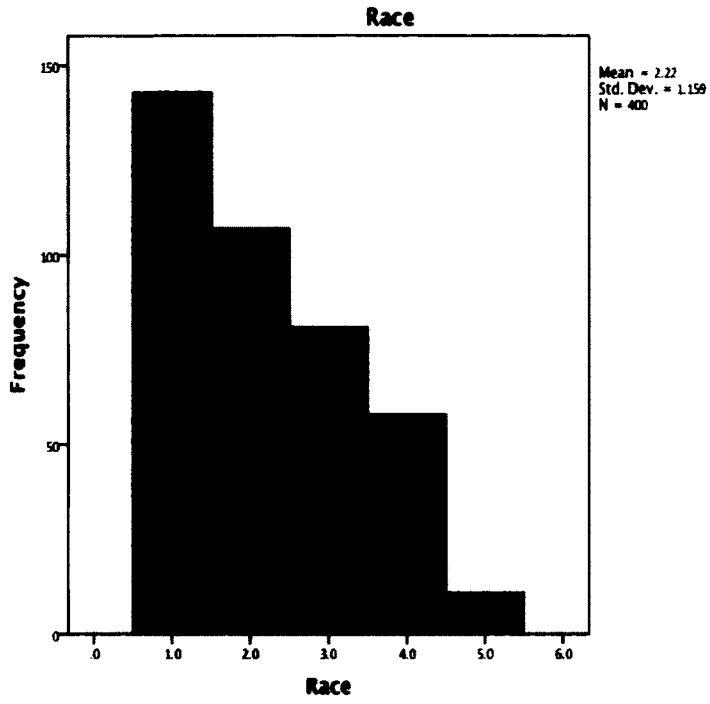
Frequencies for age showed that the vast majority of players were of median age 16 years

FIGURE 4.9: ABILITY



Ability frequencies show no distribution, as majority 80% were intermediate leveled, 10% were beginners and 10% advance

FIGURE 4.10: PARTICIPATION



Frequencies for race show a mean value M = 2.22; SD = 1.16, indicating a valid representation of 35.7% for Caucasians, 26.7% for Hispanics, 20.3% for Blacks, 14.5% for Asians, and 2.7% for Indians. This shows that Caucasians were the most represented in the survey although Hispanics are more enrolled in the school district.

FIGURE 3.0: PILOT PLOT FOR ESTMATED MARGINAL MEANS AND PARTICIPATION MOTIVATION

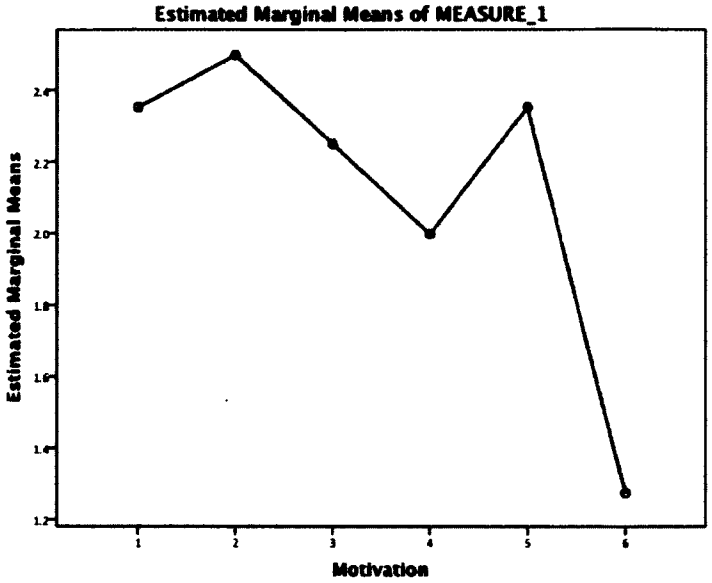
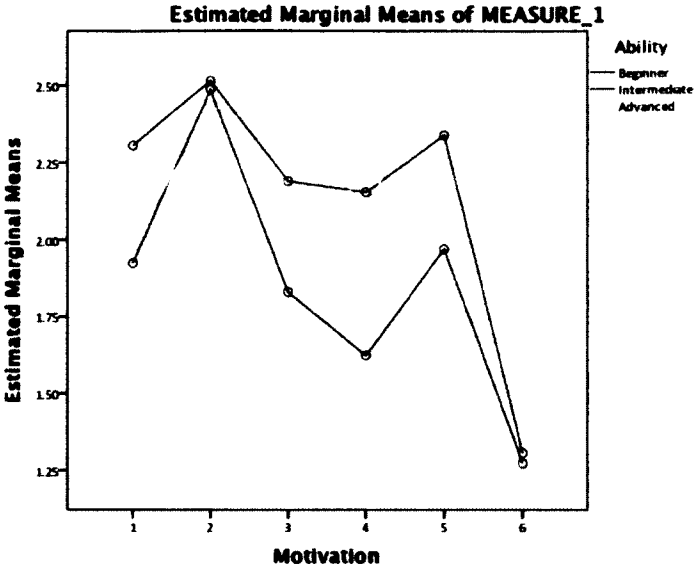
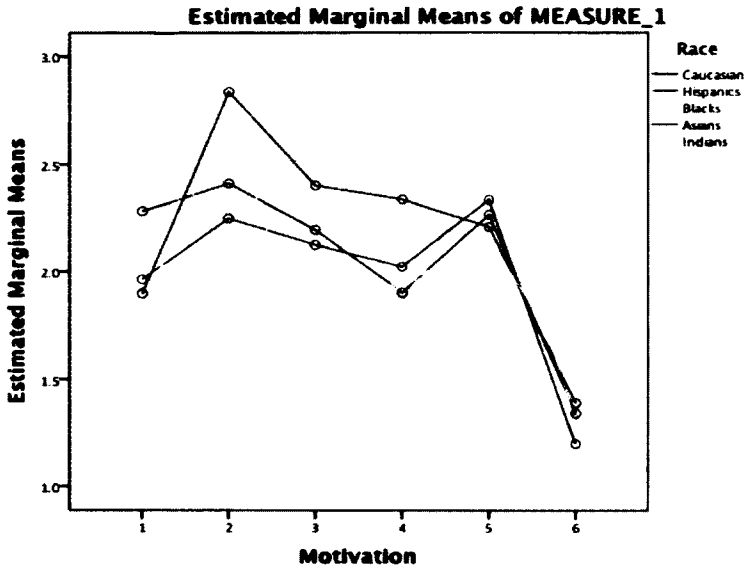


FIGURE 3.1: PILOT PLOT FOR ESTIMATED MARGINAL MEANS FOR ABILITY AND PARTICIPATION MOTIVATION



Covariates appearing in the model are evaluated at the following values: Age = 3.448, Grade = 9.385

FIGURE 3.2: PILOT PLOT FOR ESTIMATED MARGINAL MEANS FOR PARTICIPANTS AND PARTICIPATION MOTIVATION



Covariates appearing in the model are evaluated at the following values: Age = 3.448, Grade = 9.385

FIGURE 5.1: G GRAPH SHOWING EXTRINSIC REWARDS ACCORDING TO IMPORTANCE

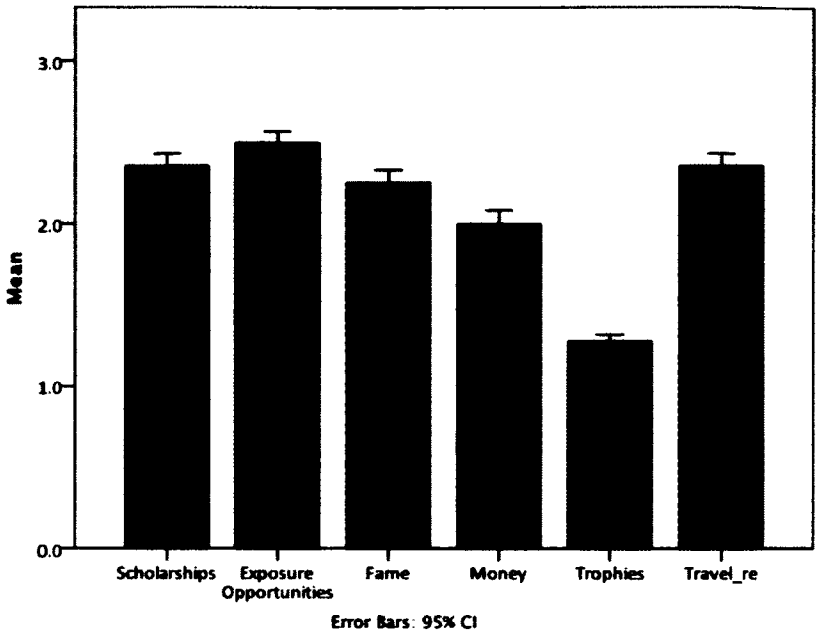


FIGURE 4.11: MULTIVARIATE REGRESSIONS ACCORDING TO ABILITY LEVELS