

# **Athletic Performance as a Function of Locus of Control and Personality Characteristics among Ethiopian Athletes**

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**A Thesis Submitted To the School Of Graduate Studies**

**Institute of Psychology**

**Addis Ababa University**

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## Acronyms/Abbreviations

|        |                                                                                           |
|--------|-------------------------------------------------------------------------------------------|
| BFI    | Big Five Factor Inventory                                                                 |
| BPT    | Best performance Time                                                                     |
| EAF    | Ethiopian Athletics Federation                                                            |
| FFM    | Five Factor Model                                                                         |
| LDR    | Long Distance Running                                                                     |
| LOC    | Locus of Control                                                                          |
| m      | meter                                                                                     |
| MDR    | Middle Distance Running                                                                   |
| OCEANS | Openness to Experiences, Conscientiousness, Extraversion, Agreeableness,<br>& Neuroticism |
| SDR    | Short Distance Running                                                                    |
| VO2MAX | High Maximal Oxygen Uptake                                                                |

### *Abstract*

*The purpose of the study was to investigate the relationship of athletic performance with locus of control and personality characteristics among Ethiopian athletes. It was also aimed to examine the existing counseling intervention mechanisms employed to enhance athletic performance in the study sites. Among 225 total samples who were selected from 10 sport clubs using simple random sampling, only 208( 64 from short distance running, 74 of middle distance running and 70 of long distance runners) completed and return back the questionnaires. 10 Coaches were also selected purposively from the sport clubs. After Pilot study was conducted, a questionnaire consisting of demographic items, modified Rotter's internal-external locus of control and Big five personality inventory was employed. Semi- structured interview guiding questions was also used in the study. The collected data was analyzed through Pearson product moment, t-test, and multiple regression analysis techniques. The open-ended questions and interview responses were qualitatively analyzed. The quantitative analysis showed that those athletes with high neuroticism and agreeableness scored low athletic performance at a significant level at 200m and 400m events respectively. Athletes with high external locus of control also perform low at a significant level at 3000m event. Those participants with high internal locus of control scored low athletic performance at short and middle track events. There was no significance difference between male and female athletes on locus of control and conscientiousness at all running events. Locus of control and personality characteristics were not able to explain the variations in best performance time of athletes at significant level at all running events. However, demographic variables were able to explain the variance in best performance time significantly at short track events. The qualitative result also point out that athletes encounter copious problems related to psychological, health, lack of resources, etc. More specifically, wrong beliefs on "power/tinqola" was reported as a devastating factor of performance of many athletes. All respondents emphasized the relevance of counseling services for improving athletic performance and psychological wellbeing of athletes. But, there were no advanced counseling intervention mechanisms rather than giving simple advice for athletes. Based on the findings of the study conclusions were drawn and recommendations also forwarded to alleviate the existing problems and improve the Ethiopian athletes' performance.*

# **Chapter One**

## **1. Introduction**

### **1.1 Background of the Study**

Athletics is the natural pursuits of human beings. Some of the usual activities like walking, running, jumping and throwing are the movements which we learn first as small children. These are some of the basic abilities of all human being and every physically normal child takes a delight in doing them it is only when as we grow older that the introduction of outside influences, the football, the hacky stick and similar attachments to games, changes our attitude to the enjoyment of the basic movements (Millar & Cawley, 1960). For this reason, it is commonly considered as the king of all sport activities (EAF, 2009).

Sport activities including athletics have long past but short history in Ethiopia. With this regard, Abera (2008) described that the exact roots of Ethiopian athletics cannot be traced accurately. However, there is a belief that sport was widely practiced in schools and military before 1897. Moreover, it is widely believed that modern athletics has been originated following the start of modern education and military services.

Now a days, the field of athletics particularly track and field competitions seem to attract most peoples' attention in the world. It also seems true in Ethiopia. Even, there are many public and governmental initiatives in advancing and using these sport activities to mobilize the society for development. For instance, many athletics clubs have been established and several public participatory running programs such as Ethiopian athletics championships, Great Ethiopian Run which have been raising many objectives at each race series, education for girls race, etc. have been made more or less in all corners of the country (Millennium Run, 2007).

Even if track events (running) have been widely practiced sport activities in Ethiopia and famous athletes exist in, it is not free of problem. According to Sung (2001) athletic performance is mostly determined by factors such as physical conditions, technical, and psychological abilities. However, the role of psychology in sport does not obtain special consideration in our country. This study focuses on underlined psychological constructs of



locus of control and personality characteristics which could be assumed to play determinant roles for success in individuals' life.

The big five factor model is widely studied personality dimension of an individual. According to McCrae and John (1992) the five factor model (FFM) is a way of organizing thoughts and research about personality using lexical analysis. It is to mean that through statistical analysis of words commonly used to describe personality, researchers have arrived at five major dimensions or factors of personality. Those big five factors include personality traits such as Openness(O), Conscientiousness(C), Extraversion(E), Agreeableness(A), and Neuroticism (N). Since those big five factors consists of specific behaviors and experiences, it is applicable for clinical assessments of clients. It is also used as an outline to understand the clients' personality which could facilitate understanding of the clients and choice intervention strategies (Costa & McCrae, 1995). Even though weak correlations have been reported due to factors related to validity of instruments, difficulty of identifying the components of performance and cultural constraints, dimensions of personality are correlated with performance of individuals (Mathews et al., 2000).

The other concern of this research is athletes' perception of their environment and outcomes. Psychological studies (Cox, 2002; Rotter, 1966, 1982) indicated that an individual's locus of control can be oriented internally or externally. Individuals with an external locus of control view circumstances or situations in their lives as a result of external influences such as luck, higher beings, chance or predetermination. Conversely, an individual characterized by an internal locus of control views circumstances in their life as a result of influences emanating from within, such as hard work, determination, motivation and dedication.

Numerous psychological investigations have been made on Personality and locus of control at different times in human history. Even though explorations have been made on theses psychological constructs, it does not seem as such exploitively investigated in sports particularly on track and field events as other aspects of human life events. As my knowledge is concerned, no investigation to date has attempted to trace the locus of control beliefs and personality characteristics of Ethiopian athletes. Moreover, the role of counseling or psychology in general to improve athletics performance has been remained

undermined in our country. Thus, the study attempted to examine the relationships of athletic performance with locus of control and personality characteristics of athletes at short, middle and long distance running events. The existing counseling intervention mechanisms used to enhance athletic performance in the study areas have been also assessed.

## **1.2 Statement of the Problem**

Athletics and related sport activities have immense economical, social, health, political, cultural and psychological values for nations in the world; Ethiopia in particular. Interestingly, Ethiopia is the home of the most famous track athletes in the world particularly in middle and long distance events. It is common to watch Ethiopian athletes in most Media's window during international athletics championships.

Even though Ethiopian athletes have been successful in most of long distance world championships, problems have been inevitable to occur among those athletes recently. It is not wise to assume that all Ethiopian athletes are successful and the ways are easy for them. Some of them could not keep their records in few track competitions and overwhelmed by other nations. Obviously, those short distance runners or sprinters are not effective as that of long distance athletes. Moreover, we always watch the same face on international competitions at the long distance events though the country has a rich potential in producing competent young athletes.

However, as my knowledge is concerned, there is no psychological study conducted to investigate the existing situation in the area. In support of this, Wolde and Gaudin (2008) stated that:

*In the story of Ethiopian athletes' life, nothing –or almost- is described about the years between childhood and the age when they reach their highest level in sport competitions. The tale of their life usually states that, one day, they enter a stadium and, all of the sudden, the “raw diamonds” reveal themselves on the tracks of an official competition (p.175).*

In addition, Wondimu (2003) argued about the importance of athlete centered approach which emphasized on humanistic approach of mind-body development to the realm of sport practice essentially for the survival of olympism. This implies the relevance /importance of psychology not only to improve athletic performance rather to preserve

sport or Olympic movement. However, psychology or counseling does not obtain appropriate emphasis to contribute at least little for athletes and sport society in general in our country.

Thus, it is essential and timely to investigate how athletes perceive their environment and outcomes of their work. It is also important to examine individual differences among athletes in the area of athletics. Furthermore, examining the counseling intervention strategies used to enhance athletic performance in the study area could help us to understand the existing conditions and improve it further if any or to recommend basics of new designs.

Therefore, the study tried to examine the core of Ethiopian athletes' locus of control orientations as well as the personality characteristics and its relationship with their athletic performance. This research also tried to dig out counseling intervention mechanism used in the athletics clubs in order to enhance athletic performance.

At the end, this study endeavors to answer the following basic questions:

- Do personality characteristics (OCEANs) correlate with athletic performance?
- Does internal-external locus of control beliefs relate with athletic performance?
- Does the interrelationship between locus of control, personality characteristics (OCEAN) and athletic performance vary as function of race types?
- What kinds of counseling intervention mechanisms have been used to enhance athletic performance by coaches and counselors if any?

### **1.3 Objectives of the Study**

#### **a. General Objectives of the study**

The ultimate purpose of this study was examining the relationship of athletic performance with locus of control and personality characteristics among Ethiopian athletes at short, middle and long distance running events. A second purpose was to explore the counseling intervention strategies used in those athletics clubs to scale up athletic performance.

#### **b. The Specific objectives of the study are:**

- Investigating the relationship between personality characteristics (OCEANs) and athletic performance.
- Examining the relationship between internal-external locus of control and athletic performance.
- Exploring the variation among the interrelationship between locus of control beliefs, personality characteristics and athletic performance by race types.
- Examining the existing counseling intervention mechanisms that have been used in those athletics clubs to enhance athletic performance.

### **1.4 Significance of the Study**

Currently, sport activities like football playing and track and field (athletics) championships dominate people's attention almost in all parts of the continents. It has also been used as source of luxury and economic development. In this regard, Ethiopia has unexploited potential in producing distance running athletes. Therefore, this study is expected to have the following contributions in order to support this potential resource.

This study could help coaches, athletes, sport administrators and above all psychologists to design appropriate training strategies, motivate athletes and providing satisfactory psychological support based on individual differences( in terms of their psychological characteristics and performances) of athletes. For example, Sung (2001) explained that determining the athlete's psychological and physiological characteristics is an essential step to establish training plan to enhance athletics performance logically. It would also give an insight for responsible bodies about the athletes' perception of their environment

(Internal-External LOC beliefs), personality characteristics and performance across the three running events. Hence, it could be used as an outline for those psychologists and coaches to identify the type and nature of psychological support essential for athletes to improve their performance. This study highlights about the existing status of applications of counseling intervention strategies in those sport clubs. This would also provide a good implication for coaches, EAF, club administrators and athletes about the role of counseling for improving athletic performance.

### 1.5 Delimitation

Several psychological issues related to athletic performance draw researchers' attentions for exploration since it play decisive roles for athletes' success at various sport settings. In order to make the study more specific and manageable, this study mainly focuses on psychological constructs (such as internal-external locus of control and personality characteristics (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism) and its relationship with athletic performance. This research emphasized on athletes from SDR, MDR and LDR track events. Since it was difficult to address all sport clubs, the study selected respondents from 10 known athletics sport clubs in Ethiopia at their best event.

### 1.6. Definition of Terms

Some terms used in the study which need further clarity have been either operationally defined or global definitions have been provided with sources which goes in line with the study.

**Athlete** refers to a person who participates as contestant either in training or competitions of running activities (track events).

**Athletic performance:** refers to the best performance time (in terms of seconds for all events) that an athlete costs to cover a certain running event as measured by self report. **Note:** As measured by self report from the respondents the shorter the best performance time the higher the performance whereas the larger/higher the best performance time the lower the performance.

**Locus of control** refers to "... the degree to which the individual perceives that the {outcome} follows from, or is contingent upon, his own behavior or attributes [internal] versus the degree to which he feels the {outcome} is controlled by forces outside of himself and may occur independently of his own actions [external]" (Rotter, 1966).

**Personality characteristics** refer to OCEANs defined by McCrae and John (1992) as: ***Openness**, or Openness to Experience, is a general appreciation for art, beauty, imagination, adventure, unusual ideas, and variety of experience. Individuals who score high on Openness tend to be sensitive to beauty, imaginative, and intellectually curious. By contrast, individuals who score low on Openness tend to have more conventional, traditional interests.*

***Conscientiousness** is a tendency towards self-discipline, devotion to duty, and drive. Individuals who score high on Conscientiousness prefer planning to spontaneity. Individuals who score low on Conscientiousness tend to be less organized and less driven to get things done.*

***Extraversion** is characterized by positive emotions, energy, and engagement in the world. Individuals who score high in Extraversion seek out stimulation and the social opportunities. Conversely, individuals who score low in Extraversion (sometimes called introversion) tend to need less social stimulation and more time alone.*

***Agreeableness** is a tendency towards compassion and cooperation. Individuals who score high on Agreeableness value social harmony and have an optimistic view of human nature. By contrast, individuals who score low on Agreeableness are unconcerned with others' well being and prioritize their interests over those of others.*

***Neuroticism**, sometimes called Emotional Instability, is the enduring tendency to experience negative emotional states. High Neuroticism is associated with negative emotions like anxiety, anger, guilt, and depression. Conversely, individuals who score low in Neuroticism are less emotionally reactive and calmer.*

**Short distance running** refers to sprinters which consist of races ranging from 200m to 400m.

**Long distance running** refers to the races ranging from 5,000m to 10,000m.

**Middle distance running** means races ranging from 1,500m to 3,000m.



## **Chapter Two**

### **2. Review of Related Literature**

This part of the study consists of various literatures regarding variables considered in this research. It is explained and organized in the following manner.

#### **2.1 Overview of Athletics (distance running) In Ethiopia**

Ethiopia is a country found in the horn of east Africa. It has variety of topography ranging from the Rift valley lowlands to the highlands of Semien Mountains and Arsi highlands. She is endowed with several natural resources and cultural heritages including variety of ethnic diversities.

Moreover, Yohannes (n.d) elaborated that Ethiopia has been endowed with few citizens, who have unique talents, contributing remarkable outputs in various fields of arts, literature, music and mainly in track and field events. He also added that their remarkable talent and achievement has helped this country to have a special place in the Olympic arena. Some of world class Ethiopian athletes who won international athletic championships at different periods include Abebe Bikila (pioneer of black victory in Olympic champions with bare foot), Mamo Wolde, Mirus Yefter and the incredible Haile Gebresellasie, Kenenisa Bekele, Seleshi Sehini, Derartu Tulu, Berhane Adere, Fatuma Roba, Meseret Defar, Turunesh Dibaba, Egegayehu Dibaba, etc (Millennium Run, 2007). Those incredibly talented and highly recognized famous athletes, made this nation and its people very proud over time (Yohannes (n.d)). This achievement has been recognized and acknowledged time and again as a reflection of dignity, courage and refined elegance.

Athletics has been considered as the king of other sport activities since it took the first in its history (EAF, 2009). Track and field events have long history not only in Ethiopia but also in all over the world. It took the leading in its historical upbringing of various sport activities in human history since it include most ancient human activities such as walking, running, jumping etc. Many literatures pointed out that the exact date in which athletics was started remains unknown. However, modern athletics became widely introduced with prevalence of modern education and military services around the 19<sup>th</sup> century even though the exact date at which it started remains unknown. For instance, modern sport activities

including athletic competitions were conducted at schools and different military forces since 1898 (Abera, 2008; EAF, 2009).

Athletics particularly track and field events obtain great emphasis in Ethiopia in recent years. As it is one of the sport activities governmental policies and declarations have been developed over time. Following several obstacles and procedures EAF was established in 1941. Various athletic championships programs organized by EAF and private owned companies come to appear throughout the country (see Wolde & Gaudin, 2008 in detail). Moreover, plenty of athletic clubs and project have been invested by regional governments, EAF, private companies, and institutions.

Generally, some literatures call Ethiopia as running highland (e.g Millennium Run, 2007). This can be a witness to say Ethiopia and running are two faces of a coin. Indeed, Running and Ethiopia are inseparable since successful Ethiopian athletes have not been out of television screens in most of international athletic championship including Olympic Games. It implies the potential of the country in producing outsmart athletes not only in long distances but also sprinters and other track and field events who could stand our national flag and anthem in the face of the world. This could be practical if it is supported by locally based scientific studies. Unfortunately, little or no local psychological investigations have been made on the area.

## **2.2 Categories of Running Events**

Athletic is one of the common leisure sport activity of individuals. Running, is part of athletics, refers to go steadily by sprinting steps so that both feet leave the ground for an instant in each step (Abera, 2008). It is to mean that both feet are on the air at once which is quite different from walking and jogging. The runner's objective is always to cover a given distance in the least possible time. The time actually recorded by the athlete is determined by the distance of the event and by the athletes' average speed over the distance.



As visibly described by Abera (2008), there are three types of running events:-

**a. Sprints (short distance running):** - are short running races in athletics. It is running at full speed over a short distance. The common distances in sprint consist of 100m, 200m and 400m. Sprinting is a type of running in which the participant runs the entire distance at near maximum speed (Cooper, Lavery,& Perrin, 1960). They also stated that sprinting differs from fast running in that the stride is usually longer, the number of stride per second is greater, and the force of the driving leg against the ground is less.

According to Cooper, Lavery, Perrin, (1960) the sprinters have the following characteristics:

*Body build:-* sprinters appears to be the least distinguishable track and field participants. Probably the ideal body build for the sprinter would be a height of about 6 feet with light bones, good musculature, especially around the thigh region, light musculature in the calf of the leg(at least not thick ankle and heavy muscle placed low in the leg) and long, lender feet.

*Temperament and age:* - the sprinter is often nervous and high strung. Whether this results from experience in an explosive, competitive situation or is the natural condition is debatable. Evidence in relation to age seems to indicate that speed belongs to youth, but some great sprinters have been able to keep their speed until the age of 30 or longer.

**b. Middle Distance Running Events:** races ranging from 600m to 3000m are known as middle distance events. The most popular distances include 800m, 1500m, and 3000m runs. Middle distance runners use combination of sprint speed and endurance. The athletes are expected to develop combined characteristics of sprinters and endurance runners like speed, strength and endurance.

**c. Long Distance Running:-** the most common distance races consist of 5000m to 10,000m and marathon that does not take place on tracks. Cooper, Lavery, Perrin, (1999) described the ideal Characteristics of the long distance runners as: distance runner is short and tends to be light in weight, although he may be somewhat stocky. He has a slow pulse rate, and likes activities that require endurance. They also added that the essentials of good

distance running are knowledge of pace, knowing how to conserve energy, knowing how to relax, and willing to work very hard to achieve endurance.

### **2.3 Determinant Factors of Athletic Performance**

Several factors may interfere with athletic performance. According to Gleeson (2002) athletes fail to perform to the best of their ability if they become infected, stale, sore or malnourished. In fact, exploring the factors that affect performance of athletes is not the sole purpose of this research. Athletics like other dynamic sports activities require multifaceted factors to be successful in it. These range from anthropological, psychological, environmental, organic-functional, to specific sport factors like equipment, instrumentation, tactics, techniques, etc. (Monte, 1999). Moreover, Lucia et al. (2008) stated that endurance running performance depends on a complex interplay of factors, including: (1) a high maximal oxygen uptake (VO<sub>2</sub>MAX); (2) the ability to sustain a high percentage of VO<sub>2</sub>MAX for long periods of time (fractional utilization of VO<sub>2</sub>MAX); and (3) the ability to move efficiently (i.e., "cost of running" or "running economy").

Athletic training matters to become successful in athletic competitions. Bale, Bradbury and Colley (1986) reported that along with other factors the type and frequency of training and the number of years running were the best predictors of running performance and success at the 10 km distance. However, excessive training with insufficient recovery can lead to a debilitating syndrome in which performance and well being can be affected for months (Gleeson, 2002). This shows the frequency and intensity training could influence athletes to use their optimal potential in becoming success.

The type of skills employed for training or athletic competitions could affect athletes' performance. Sport specialists agree that athletic performance is influenced not only by physical skills but also by psychological ones. In order to achieve peak performance athletes need a "total package" including physical skills, psychological skills, fitness and injury prevention (Gould and Eklund, 1991). Athletic performance could also be influenced by team or coaching variables and social support issues (Gould et al., 2002). This entails us the factors related to coaching like efficiency, type of goals developed, the training programs given by coaches could matter success in athletics. It goes beyond

coaching to the extent of social supports like psychological services given for athletes which have an influence on their performance.

Black athletes of East African origin (Kenyans and Ethiopians) dominate most endurance running events, from the 800m track event to the marathon. Many of the best performances in these events have been achieved by Kenyans (49%) and Ethiopians (15%) (Lucia et al., 2008). In recent years, other African endurance runners (from South Africa, Tanzania, Zimbabwe and, more recently, Eritrea) have also attained excellent results in international competition. A lower cost of running, that is, better economy, has been demonstrated in some top-level East African runners and in runners from other parts of Africa compared to their Caucasian counterparts (Lucia et al., 2008).

Researchers have tried to explain the success of those east African runners from several perspectives. For instance, as indicated in Onywera et al. (2006), some experts propose different explanations like environmental factors (Saltin, 1996), psychological advantage (Baker & Horton, 2003) and favorable physiological characteristics that could be genetically conferred or environmentally determined (Larsen, 2003). These phenomena could account, at least in part, for their superior competition performance. Moreover, Scott et al. (2003) reported that both environmental (like altitude, going to school with foot) and genetic factors contribute for athletic success of Ethiopian endurance athletes. Furthermore, Scott et al. (2005) concluded that “environment and, perhaps, polymorphisms in the nuclear genome are more important determinants of Ethiopian running success than mt DNA polymorphisms”.

Even though some literature could be evidences to show that psychological variables influences athletes' success in running, limited or no psychological research have not been done in our country to see whether psychological factors correlate with athletic success or not. Hence, this study gives an insight about the associations of some psychological variables (like locus of control and personality characteristics) with athletic performance.

## **2.4 Overview of the Big Five Personality Characteristics (OCEAN)**

The study of the big five personality model goes back to the 1940's and going on till now. The Big Five is not a theory of personality per se, but rather is a model of personality based on some fifty years of research analyzing the words individual use to describe themselves and others. After factor analysis these "personality traits" align along five dimensions, hence the model's name. Although it is not a theory in itself the model has generated several trait theories, most importantly for this research is the "Five Factor Theory".

This study chose to focus exclusively on Costa and McCrae's (1992) five factor model of personality. The Five Factor Model (FFM) of Personality, based on the compilation of 40 years of factor analytic studies, began to emerge as researchers started to agree that personality traits could be grouped into five basic categories (Costa et al., 1999; McAdams, 2001). The FFM states that there are five universal personality traits that are present in varying degrees in each individual. These five primary traits are Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness (McCrae & Costa, 1987).

Since it was originally introduced, a large body of research has been created that supports the FFM of personality (Costa et al., 1999; McAdams, 2001; McCrae & Costa, 1987). The FFM is the first comprehensive account of traits in the history of personality psychology (McAdams, 2001) and is considered by many psychologists to be the best depiction of trait configuration (Podar et al., 1999). The model is considered to be efficient as it provides a global description of personality in as little as five scores. Furthermore, support for the FFM has been found across cultures (McCrae, Costa, Martin, Oryol, Rukavishnikov, Senin, et al., 2004; McCrae & John, 1992). However, it does not mean free from criticisms.

In contrast to theories of personalities, the FFM is a descriptive model that only depicts the degree to which a person possesses the five basic personality traits and their facets. The model does not explain the origins of personality (Costa et al., 1999). However, McCrae and John (1992) noted that present theories of personality are not completely adequate in

explaining the origins and operation of all the five factors. There are five primary traits that are identified in the FFM, each of which has six facets that comprise the trait. Supporters of the FFM note that these five factors can be found in virtually all personality measures and across cultures (McCrae & John, 1992).

## **2.5 Personality Characteristics (OCEANs) and athletic Performance**

Personality is considered as the unique pattern of psychological and behavioral characteristics by which each person can be distinguished from other people (Strickland, 2001 p. 490). Since, the personality characteristics of an individual are so complex and dynamic, it cannot be easily conceptualized by lay man as other behavioral constructs of a person. In order to make it easy and manageable only limited dimensions of personality are under consideration of the study.

The Big-Five framework enjoys considerable support and has become the most widely used and extensively researched model of personality (John & Srivastava, 1999, and McCrae & Costa, 1999), although it has not been accepted universally. Due to its wide acceptance and its representativeness in plenty of psychological researches, the big five personality dimensions have been the core of this enquiry to understand the existing personality characteristics of athletes.

### **2.5.1 Role of Openness to experience**

Openness to Experience is a personality dimension that characterizes someone who is intellectually curious and tends to seek new experience and explore novel ideas. Individuals who are high in Openness to Experience typically are original, imaginative, creative, analytic, have broad interests, are daring, usually see themselves as more intelligent and tend to be viewed by others in that manner as well. A high degree of openness to experience is also associated with welcoming change and challenges (McCrae & Costa, 1987). Individuals who are low in Openness to Experience are more conventional, rigid, and conforming. They are less creative, analytic, and artistic, and tend to have narrow interests (McAdams, 2001).

The facets of Openness to Experiences are Fantasy, Aesthetics, Feelings, Actions, Ideas, and Values. Individuals high in Fantasy have vivid imaginations, an active fantasy life, and

daydreams while those low in Fantasy are more prosaic and would rather keep their attention on a given task. Aesthetics measures a person's appreciation for art and beauty. High scorers on the Aesthetics facet like and appreciate art, music, and poetry, whereas low scorers are not interested in art or beauty. The Feelings facet assesses an individual's receptivity to their own inner feelings and emotions and the valuation of emotion as a significant part of life. Individuals high in Feelings experience more deep and diverse emotional states and feel happiness and unhappiness more intensely than others. Individuals low in Feelings have blunted affects and do not value emotions. The facet of Actions examines one's willingness to try different behavioral situations. On the one hand, high scorers in Actions prefer novelty and will try new activities, foods, and places, while, on the other hand, low scorers have difficulty adjusting to change and prefer to stick with what they know. The facet of Ideas measures intellectual curiosity.

High scorers take pleasure in philosophical debates and brain-teasers while those low in ideas have limited curiosity. Finally, Values explores an individual's willingness to reexamine social, political, and religious values. High scorers are more willing to examine their values, while low scorers are more likely to accept authority and traditions and tend to be more conservative (Costa & McCrae, 1992).

Individuals with an "openness to experience" personality are characterized by curiosity and playfulness (John and Srivastava 1999), intellect and unconventionality (Judge et al., 1999). Due to the inherent curiosity, it is very likely that such individuals will be more adventurous and explore various possible approaches to overcome the requirement uncertainty. Further, they can be expected to be more agile and be able to quickly adapt to changes (in requirement). Hence they are more likely to revel in situations such as dynamic changes in the project requirement and like the challenges that come with it. It can be expected that the challenge will motivate them to perform well under such conditions of uncertainty. Barrick and Mount (1991) note that openness to experience is a valid predictor of training proficiency because it includes characteristics such as being curious, broad-minded, and intelligent which are attributes associated with athletic performance among athletes. Moreover, Barrick and Mount (1991) say that such persons are imaginative and original. So, it can be expected that they will use innovative approaches to solve the



problem. Thus we expect athletes with high on “openness to experience” personality trait to perform well in track and field computational events.

Costa and McCrae (1992) stressed that open individuals are curious about both inner and outer worlds, and their lives are experientially richer. They are willing to entertain new ideas and unconventional values, and they experience both positive and negative emotions more keenly than do closed individuals.

### **2.5.2 Role of Conscientiousness**

Conscientiousness is a general personality trait commonly characterized as careful, thorough, responsible, organized, self-disciplined, and scrupulous at one end, to irresponsible, disorganized, undisciplined, and unscrupulous at the other end (McCrae & Costa, 1987). Some researchers viewed this construct as an indicator of volition or the ability to work hard and it was found as the best predictors of job performance (Barrick & Mount, 1991). Individuals with a “Conscientiousness” personality trait are also goal oriented (John and Srivastava 1999)

Individuals high in Conscientiousness are hardworking, organized, dependable, ambitious, energetic, persevering, and purposeful. They also stick to plans, schedules, and requirements, and are predictable. Individuals low in Conscientiousness are lazy, disorganized, indecisive, spontaneous, irresponsible, and undirected (McCrae & Costa, 1987).

The facets of Conscientiousness are Competence, Order, Dutifulness, Achievement Striving, Self-discipline, and Deliberation. The facet of Competence measures the degree to which one is capable, sensible, prudent, and effective, and is associated with self-esteem. Individuals high in Competence are well-prepared to deal with life, while low scorers feel less prepared or inept. People who are high in Order are neat, tidy, and well-organized, whereas those who are low in Order are disorganized and unmethodical. Dutifulness assesses the degree to which a person is governed by their conscience. High scorers strictly adhere to ethical principles and moral obligations, while low scorers are more casual about such things and tend to be unreliable. Individuals high in Achievement



Striving have high aspirations, work hard to achieve goals, and are diligent and purposeful. However, individuals low in Achievement Striving is lackadaisical, lack ambition, and is sometimes lazy. Self-discipline examines a person's ability to begin and complete tasks, despite boredom and distractions. High scorers can motivate themselves to finish a task, whereas low scorers procrastinate and become easily discouraged. The last facet of Conscientiousness is Deliberation, which is the tendency to think before acting. Individuals high in Deliberation are cautious and deliberate, while those low in Deliberation are hasty and speak or act without considering the consequences (Costa & McCrae, 1992).

### **2.5.3 Role of Extraversion**

Extraversion is associated with reports of feeling good about life. Individuals high in Extraversion are sociable, fun-loving, affectionate, friendly, gregarious, assertive, and have a high activity level (McCrae & Costa, 1987). Low Extraversion is related to being withdrawn, quiet, contemplative, and less likely to take risks (McAdams, 2001). McCrae and Costa's (1987) idea of extraversion corresponds to Eysenck's concept of extraversion.

Individuals with an "Extraversion" personality type are sociable, cheerful, optimistic and status striving (Barrick et al. 2002). Further, as they want to be the "centre of attention" (John and Srivastava 1999) and as they are likely to be motivated by a desire to get ahead of others (Barrick et al. 2002) they will strive to perform well in situations involving uncertainty to establish themselves well among peers. Further, as requirements elicitation requires good interpersonal skills and the ability to relate to the customers, developers with an extraversion personality can be expected to be able to elicit requirements better than people of other personality types. They are well suited for social and interpersonal demands of the contextual activities. Seibert and Kraimer (2001) found that extraversion was consistently related to career success which possibly was due to "greater visibility, influence and social/political skills". As working in teams requires the ability to be able to tap in to each other's expertise and knowledge, extraverted developers may be more successful at it due to their social/political skills. Hence, we expect that extraverted developers will perform well under conditions of uncertainty in requirement. Because, According to Egan & stelmack (2003) higher extraversion scores are typical of athletes in

various sports and at all levels of performance which are indicative of a disposition to assertiveness, venturesomeness and risk taking.

#### **2.5.4 Role of Agreeableness**

Agreeableness assesses one's interpersonal orientation. Individuals high in Agreeableness are empathic, trusting, honest, friendly, cooperative, kind, understanding, courteous, selfless, and kind. Individuals low in Agreeableness is characterized by setting themselves against others, being mistrustful, skeptical, callous, manipulative, unsympathetic, uncooperative, unreliable, stubborn, and rude (McCrae & Costa, 1987).

Individuals high in Modesty are humble although not necessarily lacking in self-esteem, while those low in Modesty believe they are superior and are seen as conceited or arrogant by others. The last facet of Agreeableness, tender-mindedness, examines attitudes of sympathy and concern for other people. High scorers are moved by the needs of others and focus on the human side of policies, whereas low scorers are more hardheaded and not as affected by emotional appeals (Costa & McCrae, 1992).

Agreeableness is a fundamental trait associated with the intention to strive for communion with others (Barrick et al. 2002,). Being such, athletes are more likely to be ready to share their knowledge and experience with others to overcome the challenges in the athletics settings. They facilitate smooth knowledge sharing among team members. But in critical situations, like requirement uncertainty, where one is required to take a position of authority to proceed forward, people with an agreeableness personality trait are likely to avoid taking the appropriate actions to avoid being un-agreeable. Consequently, they may have to follow the decision of the groups or "significant others" in tackling the new changes in the project as they comply (McCrae and John 1992) to outside pressures (John and Srivastava, 1999). So it is very likely that such athletes will be led by team or peer decisions than by their own, even if it is significantly better. Also prior research have shown a negative relation between agreeableness and external career success in people oriented jobs and that it could be a liability hampering one's own success at the cost of obliging others (Seibert & Kraimer 2001; Judge et al. 1999). Thus, we expect the

performance of athletes with agreeableness personality trait to be lower (than what they are capable of) in the presence of requirements athletic training or competitions.

### **2.5.5 Role of Neuroticism**

Neuroticism represents a spectrum ranging from emotional stability to emotional instability. An individual that is high in neuroticism will have a tendency towards worrying, feeling insecure, having low self-esteem, being self-conscious, and being temperamental. Negative affect and disturbed thoughts or behaviors that result from emotional distress are also elements of neuroticism (McCrae & Costa, 1987). Low neuroticism is associated with being calm, relaxed, and typically unemotional as well as having good self-esteem (McAdams, 2001).

Individuals high in Self-Consciousness feel uncomfortable or inferior around others and are sensitive to criticism while those low in Self-Consciousness are not as disturbed by uncomfortable social situations. The Impulsiveness facet measures one's inability to control cravings and urges, with individuals high in Impulsiveness are less able to resist urges and low individuals more able to resist temptations. Vulnerability assesses one's vulnerability to stress with those high in this facet being more likely to feel unable to cope with stress or to respond to stressful situations with dependence, hopelessness, and panic. Individuals low in Vulnerability believe that they can handle themselves in difficult situations (Costa & McCrae, 1992).

Individuals with a "Neuroticism" personality being emotionally unstable (John and Srivastava 1999) are not likely to be able to get along with others. Especially in sport, which requires working with others (team), athletes with a neurotic personality trait may not be able to tap in to the expertise of others to overcome a challenge like uncertainty in requirement specifications. Further, neuroticism is characterized by feelings of fear, sadness, and difficulty in managing stress. So they may give in to the stress that comes with uncertainty in requirements. Further, as they are not sociable and are hostile they are not likely to acquire the knowledge and information that is required to handle the new challenges in the athletic trainings and championships. It is more like a hidden profile task for athletes with a neurotic personality, as they neither share nor receive information that can

help to leverage their abilities to deliver a high performance. Also, research in psychology has shown that people with neuroticism are less satisfied with the physical aspects of their work environments than stable individuals are and that there is a relation between neuroticism and negative traits like absenteeism, complaining and lower career satisfaction (Seibert and Kraimer 2001; Furnham et al. 1999). Hence, we expect athletes with an overarching neurotic personality to be unable to perform well in the presence of requirements uncertainty such as athletic competitions. Similarly, lower scores on neuroticism scales are also frequently reported for athletes, notably for higher achieving performers (Egan & Stelmack, 2003).

## **2.6 Definitions and Theoretical Background of Locus of Control**

Locus of control is a psychological construct developed by Julian Rotter (1966) from his larger personality theory referred to as the social learning theory. The social learning theory states that one's personality is a result of the individual's interaction with his or her environment. For this theory, behavior cannot be viewed as an automatic response to stimuli, but an interaction of the individual's personal experiences and the environment.

The locus of control concept (Rotter, 1966) refers to an individual's expectancies about the source of reinforcements in his or her life. Individuals have a belief in internal control when they believe that reinforcements come about as a result of their own behaviors or characteristics; they have a belief in external control when they believe that reinforcements come about as a result of luck, chance, fate, or powerful others. Gale encyclopedia of psychology (2001, p.392) also define locus of control as a personality orientation characterized either by the belief that one can control events by one's own efforts (internal locus of control) or that the future is determined by forces outside one's control (external locus of control).

## **2.7 Types of Locus of Control**

A person's locus of control is the perception of the extent to which he or she is in control of the outcome of events in life. Outcomes can be seen as internality controllable by personal efforts or skills or as externally controlled by chance or outside focus. People who

have a very external locus of control believe that their work or talents will have little effect on how things turn out ( Qatamy, 2000, p. 185).

Locus of control is a measure of how individuals believe they can control their life, and where that control comes from. It is the perceived source of control over the behavior. People who have a very external locus of control believe that their work or talents will have little effect on how things turn over (Adas, 1999, p. 157).

Locus of control is a generalized expectancy of the extent to which a person perceives that events in one's life are consequences of one's behavior. People, described as 'internal', believe that they exercise more control over events and outcomes affecting them. In contrast, externals' tend to believe that they have little control over what happens to them. These expectancies are perceived to be the result of many past experiences (Nashawati, 1996, p. 245).

### **2.7.1 Internal Locus of Control**

Locus of control, as discussed earlier, is an individual's belief system regarding the causes of his or her experiences and the factors to which that parson attributes success or failure it can be assessed by the Rotter internal-External Locus of control Scale individual's level are profoundly influenced by whether they perceive control over their lives as predominantly internal or external Locus of control influences the way one views oneself and one's opportunities (Adas, 1999, pp. 157-158).

Internal locus of control is necessary for athletes to maintain a sense of psychological control over their training and subsequent outcomes, which is important in determining competitive success (Matsumoto &Takeuchi,2000). People who have a high internal locus of control believe they are the masters of their own fate and the decisions they make will affect their own lives. This often leads to a higher self-esteem when successes occur. However, depending on one's results, there can be consequences with internalizing failures. Someone with a high internal locus of control, who succeeds at a project, will take more pride in the project and himself or herself for hard work put into it (Nashawati, 1996, p. 246).

Weinberg (1994) indicated that the athletes who have more control over their goals consistently perform more effectively. People with a right internal locus of control tend to be more successful and have an easier time of learning new skills, as the skills matter to them, and are necessary in furthering their goals. If a person has an informal locus of control, that person attributes success to his or her own efforts and abilities. A person who expects to succeed will be more motivated and more likely to learn.

### **2.7.2 External Locus of Control**

According to Rotter (1982, p. 252) internal-external locus of control refers to the degree to which the people believe that what happen to them results from their behavior; versus the degree to which people believe that what happen to them is the result of luck, chance, fate, or forces beyond their control. Athletes would have a belief in external control when they believe that reinforcements come about as a result of luck, chance, fate, or powerful others. These athletes would tend not to be able to train well, or compete well (Matsumoto & Takeuchi, 2000). They also added that Athletes with external locus of control see events, situations, people, and their lives as being caused by factors outside of their direct control.

A person with an external locus of control, who attributes his or her success to luck or false, will be less likely to make the effort needed to learn. People with external locus of control are also more likely to experience anxiety since they believe that they are not in control of their lives. Athletes with a strong external locus of control believe that their achievements are the result of good or bad luck, the coache's mood or God's will. They are more likely to say. 'No matter how much I do training, the coaches or other powerful determines my success, I just hope I'm luckily on the lest.' Believing that luck essentially averages out, after they do well on a track, they lower their expectations. Likewise, when they fail, they are optimistic that the next athletic competition will be better. These externals are less likely to learn from past experiences, and they have difficulty in persisting in tasks (Adas, 1999, pp. 158-159).

Those with a high external locus of control believe that chance and other people have more influence over their lives than they do. This often leads to an attitude of who cares and low self-esteem. Someone will a high external locus of control, who succeeds at project, will



think the circumstances were right, or that they were luck and things just happened to work out and will not credit the skill they used to make the project successful ( Nashawati, 1996, p. 247).

People with a high external locus of control tend to ignore skill advancement, as their skills do not seem to matter in what happens to them, which can lead to a pattern of failures and depression (Mamlin, Harris, & Case, 2001 p.1). Moreover, through incident in their lives, individuals characterized by an external locus of control begin to cognitively reinforce behaviors by placing responsibility for outcomes on outside forces (Cox, 2002).

### **2.7.3 Characteristics of Persons with Internal-External Locus of Control**

Locus of control is a concept that has a significant effect on our daily lives. Those with an external locus of control believe that their own action do not influence future outcomes. This makes individuals less likely to work to reach their full potential due to the motivational, emotional, and cognitive deficits it crates. In fact, people with an external locus of control are more likely suffer from depression and other alignment because they believe their actions cannot improve their current position. Those with an internal locus of control see the world through a more adaptive perspective. They believe that hard work and personal abilities will lead to positive outcomes. This makes them more likely to meet challenges and succeed in their future endeavors. Even though one's actions may not have anything to do with an outcome, the belief that they do can greatly aid one's psychological well-being. Therefore, those that attribute a sense of personal responsibility for their future thoughts and aspirations are much more adept to living in the social world (Adas and Qatamy, 2000, pp. 242-244).

If a child with an internal locus of control does badly on a test, he or she is likely to blame either his/her own lack of ability or preparation for the test. By comparison, a child with an external locus of control will tend to explain a low grade by saying that the test was too hard or that the teacher graded unfairly (Touq & Adas, 2001, p.198). It is expected to see this behavior at sport settings. If an athlete with internal locus of control performs low at certain competition he will blame his potential. In contrast those athletes with external locus of control will make their coaches or other factors responsible for their defeat.



Adults and children with an internal locus of control are inclined to take responsibility for their actions, are not easily influenced by the opinions of others, and tend to do better at tasks when they can work at their own pace. By comparison, people with an external locus of control tend to become outside circumstances for their mistakes and credit their successes to luck rather than to their own efforts. They are readily influenced by the opinions of others and are more likely to pay attention to the status of the opinion-holder, while people with an internal locus of control pay more attention to the content of the opinion regardless of who holds it (Touq & Adas. 2001, pp.198-199).

However, overly internal people, particularly those lacking confidence and efficacy in their abilities, can be neurotic, anxious and depressed. And many people with an external locus of control live happy lives. But, in general, psychological research has found that people with a more internal locus of control are better off, for example, they tend to get better paid jobs like running in various field of events.

Having a more internal locus of control is generally seen as desirable. Having an internal locus of control can also be referred to as 'self-agency', 'Personal control' or 'self-determination'. Research has found the following trends (Mamlin, Harris, & Case, 2001 p.1);

- Males tend to be more internal than females.
- As people get older, they tend to become more internal.
- People higher up in organizational structures tend to be more internally controlled.

#### **2.7.4 Locus of Control Beliefs and Sport Performance**

Locus of control is the psychological construct that refers to peoples' belief about whether they are personally in control of what happens to them. Athletes who exhibit internal control tend to believe their behaviors influence outcome. Those who exhibit external locus of control tend to attribute their outcomes to outside forces such as fate, chance, and other people.

Rotter (1966) responsible for the frame work for the locus of control dimensions in attribution. He concluded that highly external people feel they are the mercy of their environment and are continually being manipulated by outside forces.

While it is not appropriate for human beings to always give internal attributions to outcomes. Research makes it abundantly clear that in the sport environment it is better to have an internal as opposed to an external locus of control (Cox, 2002). It is better that young athletes and people in general view themselves as in control of their own destiny, as opposed to seeing themselves as at the mercy of external control. Accepting credit for a success is psychologically preferred to attributing the success to some external forces such as luck or the action of others. While painful, it is also desirable that we accept responsibility for our actions when we fail. If we don't responsible for our errors and failures, how can we possibly improve and become the stronger? The key is to accept responsibility for our failures when appropriate, but to do so in such a way that attribution does not suggest that failure is inevitable for the future (Cox, 2002).

An internal locus of control is more mature than external locus of control. Even though an internal locus of causality appears to be preferable to an external locus of control this should not be construed to mean that all external attributions are immature. Sometimes external attributions are appropriate and expected. For example, it would be completely normal for athletes to complain that they lost because of poor officiating if their team has been called for twice as many fouls as the other team.

## **2.8. Role of Counseling Interventions to Enhance Athletic Performance**

Counseling psychology is one of the practical helping professions which can be applicable almost in all settings of individuals. Yusuf (1998) define counseling in context to Ethiopia as counseling is a process of assisting a client to make optimum use of his/her potentials so that he/she is able to develop a consistent philosophical outlook and cultivate his/her human resources and maximize material product in both for the benefit of the client and society at large. Counseling psychology as a discipline has its own unique attributes. Patterson summarizes the nature of counseling with the following characteristics (Shertizer and Stone, 1980).

1. Counseling is concerned with influencing voluntary behavior change on the part of the client (client wants to change and seeks counselors help to change).
2. The purpose of counseling is to provide conditions that facilitate voluntary change (conditions such as the individual's right to make choices, to be independent and autonomous)
3. As in all relationships limits are imposed on the counselee (limits are determined by counseling goals that in turn are influenced by the counselor's values and philosophy).
4. Conditions facilitating behavioral change are interviewing, but counseling always involves interviewing.
5. Listening is present in counseling but not all counseling is listening.
6. The counselor understands clients (the distinction between the way others understand and the way counselors understand is qualitative rather than quantitative and understanding alone does not differentiate counseling from other situations).
7. Counseling is conducted in privacy and the discussion is confidential.

The objective of counseling is to help the coaches and athletes to understand and solve their psychological and social problems (Samulski cited in Samulski, & Lopes, 2008). One of the functions of counseling is to provide emotional support to athletes in critical situations. Athletes encounter numerous adjustment difficulties arising from their career itself, conflict with families, injuries and other stressors. Thus, counselors will help them through accepting the athlete with unconditional regard, genuineness and empathy. This guides the athlete toward self actualization with understanding his environment and accepting himself as unique person.

According to Gordon cited in Samulski, & Lopes (2008) Olympic champion athletes could have the following characteristics: coping with and control anxiety, confidence, sport intelligence, the ability to focus and block out distractions, competitiveness, hard work, ethics, ability to set and achieve goals, coachability, high levels of dispositional hope, optimism, adaptive perfectionism, and mental toughness. Building such behaviors among athletes is an ultimate goal of counseling and psychologists in general. These characteristics of athletes are the results of tiresome work among the athletic staff members, counselors and athletes themselves.

Counselors employ various intervention strategies like performance enhancement mechanisms to develop such desirable behaviors. Performance enhancement refers to psychological interventions designed to increase an athlete's effectiveness and chances for success in competition (O'Hearn, 2002). The immediate goal of a performance enhancement intervention is often to reduce some negative feeling or cognitive state, although the more practical concern is competitive success. Counselors may be guided by the "Yerkes-Dodson inverted U hypothesis," which states that optimal performance follows moderate levels of anxiety (while low and high levels of anxiety disrupt performance). To achieve this moderate level of anxiety, psychotherapists may use progressive muscle relaxation (PMR), deep diaphragmatic breathing (DDB), guided imagery, or hypnosis. In 1990, Richard Suinn in (O'Hearn, 2002) also presented a behavior therapy package called anxiety management training (AMT) designed to enhance athletic performance.

Finally, some research highlights the role of psychology for the success of east African athletes in running. In this regard, Hamilton (2000) stated that there is a theoretical rationale that psychology plays a critical role in the dominance of the East African runner. Indeed, the contribution of psychology for the success of Ethiopian runners could not be undermined. However, the scientific applications of psychological principles on the ground have not been assessed for long.

Generally, according to Gould et al. (cited in Samulski & Lopes, 2008), "Successful Olympic Performance is a complex, multifaceted, fragile and long-term process that requires extensive planning and implementations. Attention to detail counts, but must also be accompanied by flexibility to deal with numerous unexpected events". It implies that success in athletics and sport in general is not a one day task and could not be covered with single body. Rather, producing successful athletes for international championships require cooperative and organized activities of all responsible bodies.

## **2.9 Summary and Implications of the Review of Related Literature**

The literatures organized here deals with the overview of athletics in Ethiopia, categories of running events, the factors that influence athletic performance, personality characteristics, locus of control beliefs, and the role of counseling for enhancing sport performance.

Athletics took the leading in its historical upbringing than other sport activities. The literatures depicted that modern athletics sport competitions were growing rapidly with the prevalence of modern military services and education in Ethiopia. Ethiopia has many talented world class athletes who stand our national flag above other nations in many athletic championships. Other East African countries including Kenya also shared similar spirit on athletics success. The literature explained that athletic performance can be influenced by physical, psychological and technical factors. However, psychological factors have not been investigated well in Ethiopia to understand the nature and prevalence of the problem.

The literatures pointed out that the five factor model is widely researched and applicable approach across many cultures. The dimensions comprising the five-factor model are Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Neuroticism represents the tendency to exhibit poor emotional adjustment and experience negative affects, such as anxiety, insecurity, and hostility. Extraversion represents the tendency to be sociable, assertive, active, and to experience positive affects, such as energy and zeal. Openness to Experience is the disposition to be imaginative, nonconforming, unconventional, and autonomous. Agreeableness is the tendency to be trusting, compliant, caring, and gentle. Conscientiousness is comprised of two related facets: achievement and dependability. Those dimensions of personality are the comprehensive explanations/descriptions of individual's personality and behavior at different settings. Most of these previous researches focus on global explanations of the personality traits and tried to relate with performance at work and sport. However, there is lack of specific research which examined the five domains of personality in relation to athletic performance at track events.

The concept of locus of control was developed by Rotter (1966) which refers to an individual's expectancies about the source of reinforcements in his or her life. People, described as 'internal', believe that they exercise more control over events and outcomes affecting them. In contrast, externals' tend to believe that they have little control over what happens to them. The literature explained here mainly focus on locus of control at educational settings, work place, sport and global orientations of the individual and its relation with success in life. The characteristics of those persons with internal/external locus of control orientation have been described in relation to sport performance. Those finding in the literature describe that individuals with internal locus of control orientations are relatively better performing in sport than external oriented individuals. Nevertheless, the nature of the locus of control of those athletes participated in competitions on track events have not been examined, particularly in Ethiopia, as the knowledge of the researcher concerns.

Counseling psychology plays great roles for one's success in life through providing psychological supports. It has unique characteristics and follows scientific standards in order to employ intervention strategies to solve problems or provide treatment at sport settings. Previous findings point out that counseling psychologists employ specific intervention mechanisms applicable in sport. At last no further studies show the nature and kind of intervention mechanisms used for track athletes in our country.



## **Chapter Three**

### **3. Methods**

This section of the study highlights the methods and procedures used in the research. It gives the background of the study setting, the research design used, the population that participated and how it was selected, the sample size and the procedure used to collect the data. It also present the details of the pilot study and the data analysis techniques employed.

#### **3.1 Research Design**

Both quantitative and qualitative study designs were used in this study. The qualitative design also used to complement the quantitative method by providing an opportunity for respondents to explain what they want to say freely.

#### **3.2 Research Settings**

Plenty of athletics clubs have been established throughout the country. Those clubs were located in different regions of the country. The data obtained from EAF show that the federation did not have adequate information and direct linkage to all sport clubs in the country. Rather, the federation assured that only those athletics clubs included in this study have been recognized as athletics sport clubs by the federation and has direct linkages with them. The federation also confirms the researcher that those famous Ethiopian athletes have been produced mainly from those ten clubs. The Ethiopian national athletics team also mainly selected from those athletics clubs who have direct contact with the federation.

Hence, this research targeted those 10 known athletics clubs recognized by EAF to conduct the study. Those sport clubs included in this study can be categorized in to either military related or company owned clubs. Those military related athletics clubs selected for this study include: Defense sport club, Federal police sport club (formerly Omedila), Federal Maremia (Federal prisons administration sport club), Oromia police sport club located in Oromia region, Oromia Maremia (Oromia regional Prisons Administration Club). Obviously, those athletics clubs consists of many famous world class athletes.



On the other hand, company owned sport clubs have been also growing encouragingly in parallel with the first categories. Plenty of company owned athletics clubs have been established specially in Addis Ababa, Amhara, Oromia, SNNP, and Tigray regional governments. Those company owned clubs selected for the study include: Governmental Houses Agency Sport Club, Ethiopian Electric Power Corporation (EEPCO), Saint George Sport Club, Mugher Cement Factory Club, simply called Mugher, located in the Oromiya Region, trained the Olympic gold medallists Gezahagne Abera and Kenenisa Bekele.

### **3.3 Population, Sample Size and Sampling Techniques**

#### **3.3.1 Population**

This study targeted the Ethiopian athletes who participate in various track events. The study has focused entirely on athletes who were registered as members of different athletics clubs in the country. Since it is difficult to include all clubs, the research focused on those recognized athletics clubs by EAF. Those sport clubs consists of athletes who came from different corners of the country. The participants of the study consist of athletes who have been registered as members of those known Ethiopian athletics clubs. Those athletes were either participating in athletics championships or doing trainings for future competitions in their best field of track events. The total population was approximately 547 athletes in all clubs. Out of this population about 156 were from SDR, 170 at MDR and 221 athletes were participating and trained in LDR events. A sample of two hundred twenty five (225) athletes was selected from the total population. Both males and female athletes registered as members and trained in their best field of track events were involved in the study. Moreover, the coaches employed in those clubs were included as participants. Among the existing coaches a total of 10 coaches, one from each sport club were selected.

### 3.3.2 Sample Size

A total of two hundred twenty five (225) athletes were selected and given questionnaires. This total sample constitutes 75 athletes from each of the three running events. However, only two hundred eight (208) athletes (SDR-64, MDR-74, and LDR-70) returned their completed questionnaires. The rest participants, either they did not return the questionnaires or others were not able to fill the instruments appropriately. This sample size was decided upon by calculating proportionally and statistically, based on the number of athletes in each of the athletics clubs selected for the study. For example, proportional bigger numbers of athletes were taken from the club, which had the biggest number of athletes. The reason for this kind of criterion was to get a representative number of athletes from each club in the study sample.

Table 3.1 Research settings and sample sizes drawn from each sport club.

| S.<br>N | Categories<br>of athletic<br>clubs | Names of<br>Athletics clubs | Population size |     |     | Sample size |     |     |
|---------|------------------------------------|-----------------------------|-----------------|-----|-----|-------------|-----|-----|
|         |                                    |                             | SDR             | MDR | LDR | SDR         | MDR | LDR |
|         |                                    |                             | N               | N   | N   | n           | N   | n   |
| 1       | Military related                   | Defence                     | 46              | 18  | 34  | 22          | 8   | 12  |
| 2       |                                    | Federal police              | 17              | 29  | 12  | 8           | 13  | 4   |
| 3       |                                    | Federal Maremia             | 17              | 8   | 11  | 8           | 4   | 4   |
| 4       |                                    | Oromia Maremia              | -               | 21  | 30  | -           | 9   | 10  |
| 5       |                                    | Oromia police               | 36              | 48  | 62  | 17          | 21  | 21  |
| 6       | Company owned                      | Ethiopian Banks             | 30              | 10  | 15  | 15          | 4   | 5   |
| 7       |                                    | EEPCO                       | 10              | 14  | 12  | 5           | 6   | 4   |
| 8       |                                    | Governmental House A.       | -               | 9   | 12  | -           | 4   | 4   |
| 9       |                                    | Mugher                      | -               | 7   | 23  | -           | 3   | 8   |
| 10      |                                    | Saint George                | -               | 6   | 10  | -           | 3   | 3   |
|         |                                    | Total                       | 156             | 170 | 221 | 75          | 75  | 75  |

Furthermore, Table 3.1 above describes the settings/athletic sport clubs, from which the participants were drawn and, it also indicates the size of the population, among which the samples were taken, particularly, the athletes population. For instance, the total athletes' population, who was in SDR, MDR and LDR events, in 10 known athletics clubs, was 547.

### **3.3.3 Sampling Technique**

The study was carried out in 10 different athletics sport clubs listed here above. The participants were selected using two sampling techniques; namely purposive and random sampling techniques. The purposive sampling technique was used to select the coaches and type of running events from each sport club. This technique is based on the judgment of the researcher, such that a sample is composed of the participants that contain the most characteristics, which are representative or typical of the population under study (De Vos, 2002). The researcher made sure that participants from all of the track events were represented in the study sample.

Simple random sampling technique was employed to select the wanted number of athletes from the purposively selected strata (three types of running events) at each sport club. For such track events, random selecting papers corresponding to the number of athletes in that particular track events were marked with a “Yes” or “No” label. The number of papers labelled “Yes” corresponded to the number of athletes wanted from that particular track events identified by the researcher from each sport clubs proportionally. All the labelled papers were put in a box and each athlete was allowed to randomly pick a single paper from the box. Those athletes who picked papers labelled “Yes” were requested to fill the questionnaires.

## **3.4 Data Collection Methods and Procedures**

### **3.4.1. Instruments**

This study employed combination of tools that is a questionnaire (see Appendix A or B) consisting of four parts and structured interview questions (see appendix C) in order to gather data from the participants.

**I. Questionnaires:** - this tool has four parts. It consists of both close ended and open ended item. The first part of the questionnaire deals with athletes’ personal information. In the second part, questions on the locus of control beliefs were posed to athletes. In the third part of the questionnaire, BFI items were prepared. In the last part (four), open ended

questions regarding their problems, counseling and related issue to the problem were prepared for the respondents. They are described here below separately.

**Demographic questionnaire:** it consists of 11 specific items. The items were purported to collect data regarding the background information and mainly Best performance time from the participants. The questions focus on age, sex, type of running event, frequency of participation in competitions, and above all the best performance time, etc.

**Internal-External Locus of Control Scale (I-E scale):** In order to measure athletes' internal-external locus of control, the modified Rotter's Internal-External Locus of Control Scale was used in this study. The researcher adapted the modified Rotter's I/E locus of control scale from Johnson (2003).

Rotter's Internal-External Locus of Control Scale consists of 23 question pairs, plus six filler questions, using a forced-choice format. The scale was designed with six "filler" questions that were random questions, unrelated to locus of control. Moreover, Rotter's scale focus on many of the items were based on government and world issues, asking how much control a person felt they had over the issues of the world.

However, Johnson (2003) explained that unrelated filler items and other items which focus on world and political issues were removed since they did not relate with sport. He reduced the Rotter's scale to 30 items and justified this reduced scale as appropriate for the subject matter of sport. Hence, this instrument was the best choice of this research since the Rotter's original scale was old and there was no other instrument appropriate to measure person's locus of control beliefs at the context of sport related settings.

The scale, minus those thrown out, now has 30 questions, 15 related to an internal locus, and 15 related to an external locus. Through making some modifications of the original Rotter's I/E scale items, Johnson (2003) reached at the reliability of the new scale as .79 for the external locus of control and .66 for internal locus of control items. The pilot study conducted in this study also found very strong reliability coefficients for both the I/E locus of control dimensions. The questionnaire was formatted in five rating likert scale ranging from disagree strongly (1) to agree strongly (5). This gives an opportunity for the respondents to give specific response.

**Big Five Personality Inventory-44:** Throughout the history of studying personality many instruments have been developed at different periods. Following the growth of using five factor model in studying personality, a shorter version of personality measure was created by Costa and McCrae entailing 60 items in 1992 and was called the NEO Five Factor Inventory (NEO-FFI), from the original 240-items NEO Personality Inventory (NEO-PI-R) (Costa and McCrae, 1992).

By the end of the 1990's, John and Srivastava (1999) developed a brief version of the NEO-FFI in order to assess personality according to the five factors efficiently. The inventory which they created was the Big Five Inventory (BFI) consisting of 44-items and it has five general personality factors: Extraversion (characterized by being talkative, energetic and assertive), Neuroticism (characterized by tension, moodiness and anxiousness), Agreeableness (characterized by being sympathetic, kind and affectionate), Conscientiousness (characterized by being organized, thorough and plan life), and finally Openness to experience (characterized by having wide interests, being imaginative and insightful) (John & Srivastava, 1999).

The BFI-44 was adapted from John & Srivastava (1999) since it has been widely used to measure the big five personality characteristics across various cultures. BFI-44 items consist of short phrases that are representative of each trait. In this study, participants forced to chose how much they agree or disagree with each statement in how it applies to them. In a research done by John and Srivastava (1999), the mean reliability of the Five Factor Model traits with the BFI was reported to be strongly positive (.83). Cronbach's alpha values also reported for the traits as 0.8 for extraversion, 0.6 for agreeableness, 0.75 for conscientiousness, 0.79 for neuroticism, and 0.82 for openness to experience.

**II. Structured interview:** it was used to collect data from the coaches. It includes seven basic guiding questions for the coaches. It was prepared based on the existing literatures regarding personality characteristics and locus of control in relation to athletic performance. It was aimed to complement the data collected through the standardized inventories described above. It also helped the researcher to share the experience of those coaches who has very close to athletes regarding the relationship of athletic performance with personality characteristics, locus of control and counseling intervention mechanism

employed. Moreover, it gave an opportunity for coaches to express their idea in suggesting valuable remedial actions for the improvement of athletic performance for long.

### **3.4.2 Procedures**

Initially, a questionnaire was developed which had demographic items, 44-items for overall personality characteristics, 30-items for Internal-External locus of control beliefs. Then, it was translated into Amharic to minimize misunderstanding that might have occurred. The translation was made helped by two English language postgraduate students. The translation was done by those individuals independently for cross-checking the accuracy of the translation. Examining the translation made by those two individuals, the researcher reconstructed items those failed to provide common understanding. Then, the questionnaires were tested in the pilot study.

Then after, cooperation letters from Institute of psychology in AAU were distributed for EAF and athletics sport club authorities to get permission. After the authorities granted the permission, the researcher developed a rapport with coaches and athletes at each sport club. Clear instructions were given for each participant and assured that all individual responses would be kept in confidential. Both questionnaires had trait-oriented instructions which emphasized the need for responding to each question according to how the participants usually felt.

After permission was obtained from the authorized bodies of the EAF, clubs and participants, the samples were selected and the questionnaires were distributed for them with the help of coaches and some athletes at each research sites. The participants also agreed to bring the questionnaires in the next training period. The athletes were not able to fill the questionnaires freely during training programs since they were exhausted by athletic training activities. So, they used their recovery time at home to fill out the questionnaires. Many completed questionnaires were collected during the next training program and those who could not return them at that particular given period, were reminded to bring them the following programs. This process was not easy for the researcher even though the procedure was fairly effective and out of the 225 questionnaires, which were distributed, 208 were completed correctly and returned. The researcher collected data from coaches using structured interview through making



Some modifications were done on some items of those instruments immediately to suit the conditions of the athletes. Since some of the personality inventory items were shown as lowering reliabilities of the subscales and unclear, the Amharic translations of BFI-44 items 7, 8, 11, 24, 35 were revised. After the questions that reduced the reliability of those personality traits were modified, the BFI-44 items were finalized.

Moreover, the pilot study also revealed that the athletes in those clubs were come from different regions of the country even though the frequency differs from one region to another. Some of the demographic items were also modified and reconstructed after the pilot study. Generally, the pilot study was used not only to examine the reliabilities of the instruments but also to determine directions for shaping the objectives of the main study.

### 3.6. Variables Included in the Study

In this study the following dependent and independent variables were considered.

**1. Dependent variable:** The dependent variable of the study was athletic performance. In this study athletic performance is the best performance time that athletes scored during their training or athletic competition at their best event until the data was gathered. The athletes' best performance time was obtained from self report. It was very advantageous for the researcher to gather the optimal performance of athletes during the competition periods of those athletics clubs.

The athletes participated in the study were asked to report their best performance time (BPT) recorded in their best track event at athletic trainings or competitions (not more than or less than ten trials) for the last three months. Each runner's best performance time, in his/her best event (SDR, MDR, and LDR), was obtained from self report and transformed in to the smallest unit of time that is seconds for analysis.

**2. Independent variables:** The independent variables considered in this study can be categorized in to four: variables that are used to measure the personality characteristics (OCEAN), Internal-external LOC, the demographic variables associated with athletes and the variables related to athletic achievement.

i. personality scales were: a) Openness to experience b) Conscientiousness c) Extraversion d) Agreeableness e) Neuroticism



- ii. Locus of control scales: a) Internal locus of control b) External locus of control
- iii. Personal variables (Demographic variables):
  - a) Sex: both male and female athletes were included in the study
  - b) Marital status: as being married or single have been
  - c) Age: athletes' actual age was entered in the analysis
  - d) Educational level: in this case athletes were categorized in to four sub Groups.
  - e) Monthly average income
- iv. Athletics related variables
  - a) Frequency of participation in athletics competition
  - b) Number of years stayed in club
  - c) Medals earned

### 3.7 Scoring Procedure

After the raw data was gathered from the respondents, it was first coded and the codes were entered into the Microsoft Excel computer program. The nominal data were coded by using different ways of coding depending on the question. For example, the question on sex: male was given a code of 1 and female a code of 0. Questions that required Yes/No responses: Yes was given a code of 1 and No a code of 0. For marital status: married response was coded as "1" and unmarried ones as "0". Moreover, educational level was categorized under four sub groups: primary school complete coded as "1", junior secondary school complete coded as "2", high school and preparatory complete coded as "3", Some college and above coded as "4".

The athletes were reporting their best performance time in their field in minute, second and microsecond. For easiness of analysis, the time was transformed in to its smallest unit that is second. The other variables like frequency in athletic participation, average income, number of medals, time stayed in the club were simply used as it is for analysis.

The participants rated LOC and BFI-44 items of the questionnaire on five likert scale ranging from disagree strongly "1" to agree strongly "5". The ordinal data for part II and III of the questionnaire were all coded as "agree strongly" = 5, "agree a little" = 4, "neither agree nor disagree" = 3, "disagree a little" = 2 and "disagree strongly" = 1. Some of the negatively keyed BFI-44 items (2, 6, 8, 9, 12, 18, 21, 23, 24, 27, 31, 34, 35, 37, 41, 43 see appendix B, part three) were scored reversivly. There were 15 internal LOC items and 15

external LOC items that came out the final scale for analysis. The researcher then took the mean score for the internal items and the mean from the external items and added them to make two separate and distinct factors.

### **3.8 Method of Data Analysis**

This study employed Pearson-product moment correlation to examine patterns of relationships among dependent and independent variables. The independent sample t-test analysis was also used to compare the mean values and examine whether there is statistically significant variation between males and female athletes on personality characteristics and locus of control across the three types of running events.

The main independent variables (personality characteristics (OCEANs), internal LOC and external LOC) were treated in relation to athletic performance (dependent variable). Demographic variables were also examined in relation to athletic performance. Multiple regression analysis was utilized to see the joint contribution of the independent variables on variance of athletic performance as a dependent variable. Stepwise multiple regression was also employed to select the variables that best explain the variation in athletic performance (performance time) following multiple regression.

The statistical analysis was done using SPSS 16.0 version. All the quantitative data were entered in this software and analyzed in line with the basic questions raised at the beginning of the study.

The interview items and open-ended responses were not used for statistical analysis, and therefore, they were used “anecdotally”. This means responses were not presented in statistical summaries but were simply related to what some of the respondents had said (Anecdote). In other words, the researcher just provides some examples of what respondents wrote. The interview items and open-ended response information has been used in this study as complementary data to close-ended responses, for discussion and general comments.

## Chapter Four

### 4. Results

This section of the study consists of demographic characteristics of participants, the relationship between the independent variable and dependent variables, the multiple regression analysis regarding the contributions of the predictor variables on dependent variables. It also includes the qualitative analysis of data obtained from open ended questions forwarded to athletes and interview responses gathered from coaches.

#### 4.1. Demographic Characteristics of the Participants

The section consists of general background information of the participants regarding their sex, age, educational status and other variables related to athletics participations.

Table 1, Demographic Variables of the Respondents by Type of running events

| Serial No. | Variables                      | Types Of Running Events |          |          |          |         |          |
|------------|--------------------------------|-------------------------|----------|----------|----------|---------|----------|
|            |                                | SDR                     |          | MDR      |          | LDR     |          |
|            |                                | 200m                    | 400m     | 1500m    | 3000m    | 5000m   | 10000m   |
| 1.         | Sex:                           |                         |          |          |          |         |          |
|            | a) Male<br>b) Female           | 11<br>23                | 15<br>15 | 22<br>25 | 13<br>14 | 24<br>9 | 23<br>14 |
| 2.         | Age:                           |                         |          |          |          |         |          |
|            | Mean                           | 21                      | 20.37    | 20       | 20       | 21.18   | 20.78    |
|            | SD                             | 2.894                   | 2.512    | 2.54     | 2.77     | 3.117   | 2.69     |
|            | MIN                            | 17                      | 17       | 15       | 15       | 15      | 17       |
| 3.         | MAX                            | 30                      | 27       | 26       | 28       | 28      | 28       |
|            | Marital status:                |                         |          |          |          |         |          |
| 4.         | a) Single<br>b) Married        | 28<br>6                 | 28<br>2  | 41<br>6  | 23<br>4  | 29<br>4 | 34<br>3  |
|            | Educational status:            |                         |          |          |          |         |          |
| 5.         | a) Elementary school           | -                       | -        | 5        | 7        | -       | 1        |
|            | b) Junior secondary school     | 1                       | 4        | 7        | 5        | 8       | 13       |
|            | c) High school and preparatory | 23                      | 20       | 26       | 19       | 22      | 21       |
|            | d) college and above           | 10                      | 6        | 9        | 2        | 3       | 2        |
| 5.         | Average monthly Income:        |                         |          |          |          |         |          |
|            | Mean                           | 591.26                  | 659.48   | 591.21   | 594.7    | 646.73  | 601.13   |
|            | SD                             | 219.65                  | 126.58   | 281.932  | 344.619  | 135.124 | 173.44   |
|            | Min                            | 0                       | 500      | 0        | 0        | 500     | 0        |
| 6.         | Max                            | 1000                    | 1160     | 1753     | 1650     | 1000    | 800      |

Table 2, descriptive statistics scores of the variables related to athletics participation.

| S. No. | Variables                                             | Types Of Running Events |       |       |       |        |         |
|--------|-------------------------------------------------------|-------------------------|-------|-------|-------|--------|---------|
|        |                                                       | SDR                     |       | MDR   |       | LDR    |         |
|        |                                                       | 200m                    | 400m  | 1500m | 3000m | 5000m  | 10000 m |
| 1.     | Frequency of Participations in athletic competitions: |                         |       |       |       |        |         |
|        | Mean                                                  | 5.15                    | 5.73  | 5.28  | 9.8   | 8.27   | 6.41    |
|        | SD                                                    | 3.096                   | 2.664 | 3.728 | 7.1   | 4.83   | 4.74    |
|        | MIN                                                   | 1                       | 1     | 1     | 2     | 2      | 1       |
|        | MAX                                                   | 15                      | 15    | 18    | 30    | 22     | 25      |
| 2.     | Number of years athletes stayed in their club:        |                         |       |       |       |        |         |
|        | Mean                                                  | 3.74                    | 3.44  | 3.12  | 3.92  | 4.35   | 3.99    |
|        | SD                                                    | 2.108                   | 1.759 | 1.34  | 2.33  | 2.31   | 2.313   |
|        | MIN                                                   | 1                       | 1     | 1     | 1     | 1      | 1       |
|        | MAX                                                   | 10                      | 9     | 6     | 11    | 8      | 10      |
| 3.     | Number of medals earned in the last two years:        |                         |       |       |       |        |         |
|        | Mean                                                  | 7.21                    | 8.28  | 5.19  | 6.15  | 4.15   | 3.92    |
|        | SD                                                    | 8.108                   | 6.75  | 5.792 | 7.79  | 3.91   | 4.23    |
|        | MIN                                                   | 0                       | 0     | 0     | 0     | 0      | 0       |
|        | MAX                                                   | 34                      | 29    | 32    | 35    | 15     | 20      |
| 4.     | Best performance time in terms of seconds:            |                         |       |       |       |        |         |
|        | Mean                                                  | 24.35                   | 54.5  | 243.4 | 573.5 | 892.6  | 1858.4  |
|        | SD                                                    | 2.423                   | 5.929 | 39.48 | 43.9  | 49.486 | 144.04  |
|        | MIN                                                   | 21                      | 46    | 109   | 503   | 822    | 1696    |
|        | MAX                                                   | 29                      | 64    | 298   | 666   | 1020   | 2223    |

Note: X=mean, SD=standard deviations, MIN= minimum score, MAX= maximum score.

Table (2) above pointed out that the short distance runners were participated in athletics championships about five times in average in the last two competition years. Those athletes in short running event stayed for an average 3.6 years in their current club. They also collected an average of eight medals for the last two consecutive competition periods. Those participants from 200m and 400m track events recoded best performance time ranging from 21 up to 29 and 46 up to 64 second respectively.

MDR athletes also participated in athletics competitions averagely about seven times in the last two consecutive competition years. The athletes at 1500m and 3000m scored best

performance time on these events ranging from 109 to 298 and 503 up to 666 seconds respectively.

In addition, the average frequency of participation of those long distance runners in athletics championships was seven which range from only one to 25 periods in the last two computational years. Those athletes participate at 5000m and 10000m scored best performance time ranging from 822 up to 1020 and from 1696 up to 2223 seconds respectively.

## **4.2. Quantitative Results**

In this part of the finding, data analysis using various statistical methods has been made on the independent and dependent variables. The nature of the relationship among all variables considered in the study, the contribution of demographic and main independent variable for the variance observed in best performance time among those participants at different types of running events and the differences in the mean score between male and female athletes on locus of control and personality characteristics were examined by applying product moment correlation, multiple regression and independent sample t-test. Descriptive statistics like Mean, standard deviations were also used.

### **4.2.1. Relationships of the independent and dependent variables under the study**

In order to realize the nature of the relationship among the independent and the dependent variables considered in the study, Pearson product moment correlation analysis was employed. Thus, the inter-correlation matrix of the variables under the study include: demographic variables, LOC, personality characteristics, athletic performance (best performance time in terms of seconds) and medals earned. Inter-correlation matrices analysis and descriptions have been made among these variables by the six specific types of running events separately.

Table 3, Intercorrelation matrix among the variables under the study at SDR (200 meter)

|        | AGE    | FP    | Yrs   | Income | Intloc | Extloc | O     | C      | E      | A     | N      | BPT   | Medal |
|--------|--------|-------|-------|--------|--------|--------|-------|--------|--------|-------|--------|-------|-------|
| AGE    | -      |       |       |        |        |        |       |        |        |       |        |       |       |
| FP     | -.133  | -     |       |        |        |        |       |        |        |       |        |       |       |
| Yrs    | .607** | .057  | -     |        |        |        |       |        |        |       |        |       |       |
| Income | .341*  | .106  | .424* | -      |        |        |       |        |        |       |        |       |       |
| Intloc | .062   | -.325 | .008  | .051   | -      |        |       |        |        |       |        |       |       |
| Extloc | .008   | -.085 | .070  | -.034  | .250   | -      |       |        |        |       |        |       |       |
| O      | .143   | -.219 | .170  | .098   | .248   | .001   | -     |        |        |       |        |       |       |
| C      | .023   | .102  | .100  | -.337  | .172   | .098   | .139  | -      |        |       |        |       |       |
| E      | .007   | .043  | .169  | -.135  | .103   | -.098  | .374* | .465** | -      |       |        |       |       |
| A      | .144   | .007  | .215  | .000   | .401*  | .212   | .272  | .634** | .654** | -     |        |       |       |
| N      | .003   | -.068 | .043  | .061   | .086   | .099   | -.193 | -.177  | -.137  | .002  | -      |       |       |
| BPT    | -.106  | -.213 | .114  | .151   | .157   | -.007  | .018  | -.258  | -.133  | -.058 | .483** | -     |       |
| Medal  | .195   | .383* | .262  | .278   | .062   | .067   | .223  | .094   | .101   | .052  | -.163  | -.255 | -     |

Note: - \*\*. Correlation is significant at the 0.01 level (2-tailed), \*. Correlation is significant at the 0.05 level (2-tailed), FP = frequency of participation athletics competitions, Yrs = number of years stayed in a certain club, O = openness to experience, C = conscientiousness, E = extraversion, A = agreeableness, N = neuroticism, Intloc =internal locus of control, Extloc =external locus of control, BPT=best performance time.

As we can see on the table (3) above age and frequency of participation in athletic competition were negatively and not significantly correlate with best performance time( $r = -.106$ ,  $r = -.213$ ). Internal LOC was positively and not significantly correlate with best performance time( $r = .157$ ). Only neuroticism personality characteristics was positively and significantly correlate with best performance time( $r = .483$ ,  $p < .01$ ). The rest personality characteristics as conscientiousness, extraversion and agreeableness were negatively and not significantly correlate with best performance time( $r = -.258$ ,  $r = -.133$ ,  $r = -.058$  respectively). Agreeableness was also positively and significantly correlated with internal LOC( $r = .401$ ;  $p < .05$ ).



Table 4, Intercorrelation matrix among the variables under the study at SDR (400m)

|        | AGE   | FP    | Yrs    | Income | Intloc | Extloc | O       | C      | E     | A     | N     | BPT   | Medal |
|--------|-------|-------|--------|--------|--------|--------|---------|--------|-------|-------|-------|-------|-------|
| AGE    | -     |       |        |        |        |        |         |        |       |       |       |       |       |
| FP     | .046  | -     |        |        |        |        |         |        |       |       |       |       |       |
| Yrs    | .326  | .361* | -      |        |        |        |         |        |       |       |       |       |       |
| Income | .286  | .025  | .187   | -      |        |        |         |        |       |       |       |       |       |
| Intloc | .097  | .075  | .019   | -.025  | -      |        |         |        |       |       |       |       |       |
| Extloc | .014  | -.007 | .049   | -.192  | .596** | -      |         |        |       |       |       |       |       |
| O      | .125  | -.263 | .152   | -.123  | .187   | .386*  | -       |        |       |       |       |       |       |
| C      | -.208 | -.151 | -.398* | .027   | .105   | -.143  | -.374*  | -      |       |       |       |       |       |
| E      | .124  | -.020 | .118   | .058   | .030   | -.024  | .146    | -.131  | -     |       |       |       |       |
| A      | .142  | -.063 | -.211  | -.194  | .097   | .039   | -.223   | .287   | -.098 | -     |       |       |       |
| N      | .125  | -.263 | .152   | -.123  | .187   | .386*  | 1.000** | -.374* | .146  | -.223 | -     |       |       |
| BPT    | -.150 | -.271 | -.144  | .034   | .074   | .053   | .018    | .210   | -.087 | .454* | .018  | -     |       |
| Medal  | -.019 | .022  | .145   | .242   | .052   | .117   | -.092   | .129   | -.138 | -.264 | -.092 | -.114 | -     |

Note: - \*\*. Correlation is significant at the 0.01 level (2-tailed), \*. Correlation is significant at the 0.05 level (2-tailed), FP = frequency of participation athletics competitions, Yrs = number of years stayed in a certain club, O = openness to experience, C = conscientiousness, E = extraversion, A = agreeableness, N = neuroticism, Intloc =internal locus of control, Extloc =external locus of control, BPT=best performance time.

As the table (4) above show all the demographic variables were correlated negatively and not significantly with best performance time except average monthly income( $r = .034$ ). Both internal and external LOC were positively and very weakly correlated with best performance time( $r = .074$ ,  $r = .053$  respectively). The table (4) also illustrate that agreeableness was positively and significantly correlate with best performance time( $r = .454$ ,  $p < .05$ ) at four hundred meter track event. Neuroticism was also positively and significantly correlated with external LOC( $r = .386$ ,  $p < .05$ ).

Table 5, Intercorrelation matrix among the variables under the study at MDR (1500 meter)

|        | AGE    | FP     | Yrs   | Income | Intloc | Extloc | O     | C      | E     | A     | N      | BPT   | Medal |
|--------|--------|--------|-------|--------|--------|--------|-------|--------|-------|-------|--------|-------|-------|
| AGE    | -      |        |       |        |        |        |       |        |       |       |        |       |       |
| FP     | .140   | -      |       |        |        |        |       |        |       |       |        |       |       |
| Yrs    | .042   | .376** | -     |        |        |        |       |        |       |       |        |       |       |
| Income | .444** | .018   | .119  | -      |        |        |       |        |       |       |        |       |       |
| Intloc | .065   | -.074  | -.012 | .217   | -      |        |       |        |       |       |        |       |       |
| Extloc | -.040  | .169   | -.073 | .001   | .307*  | -      |       |        |       |       |        |       |       |
| O      | .122   | -.222  | -.041 | .076   | .016   | -.107  | -     |        |       |       |        |       |       |
| C      | -.016  | -.176  | -.253 | .177   | .144   | .257   | .171  | -      |       |       |        |       |       |
| E      | .114   | .085   | -.049 | .116   | .022   | -.150  | .162  | .127   | -     |       |        |       |       |
| A      | .258   | .254   | .181  | .197   | -.036  | .305*  | .051  | .319*  | -.051 | -     |        |       |       |
| N      | -.184  | .425** | .201  | -.149  | -.219  | .139   | -.161 | -.295* | -.088 | .275  | -      |       |       |
| BPT    | -.084  | -.048  | .006  | -.199  | .041   | .071   | .047  | .100   | -.028 | -.178 | -.322* | -     |       |
| Medal  | .054   | .132   | .031  | .138   | .049   | -.019  | .178  | -.222  | -.162 | .131  | .072   | -.060 | -     |

Note: - \*\*. Correlation is significant at the 0.01 level (2-tailed), \*. Correlation is significant at the 0.05 level (2-tailed), FP = frequency of participation athletics competitions, Yrs = number of years stayed in a certain club, O = openness to experience, C = conscientiousness, E = extraversion, A = agreeableness, N = neuroticism, Intloc =internal locus of control, Extloc =external locus of control, BPT=best performance time.

As can be observed in table (5) age and frequency of participation in athletics competitions were negatively and not significantly correlated with best performance time( $r = -.084$ ,  $r = -.048$  respectively). Openness and conscientiousness were positively and not significantly correlated with best performance time( $r = .047$ ,  $r = .100$ ). In contrast neuroticism was negatively and significantly correlated with best performance time( $r = -.322$ ,  $p < .05$ ). Extraversion and agreeableness were negatively and not significantly correlated with best performance time( $r = -.028$ ,  $r = -.178$  respectively).

Table 6, Intercorrelation matrix among the variables under the study at MDR (3000 meter)

|        | AGE    | FP     | Yrs    | Income | Intloc | Extloc | O     | C      | E     | A     | N     | BPT   | Medal |
|--------|--------|--------|--------|--------|--------|--------|-------|--------|-------|-------|-------|-------|-------|
| AGE    | -      |        |        |        |        |        |       |        |       |       |       |       |       |
| FP     | .406*  | -      |        |        |        |        |       |        |       |       |       |       |       |
| Yrs    | .531** | .468** | -      |        |        |        |       |        |       |       |       |       |       |
| Income | .254   | .258   | .446** | -      |        |        |       |        |       |       |       |       |       |
| Intloc | .017   | .058   | .109   | -.091  | -      |        |       |        |       |       |       |       |       |
| Extloc | .335   | .050   | .258   | -.135  | .473** | -      |       |        |       |       |       |       |       |
| O      | -.003  | -.247  | -.189  | .119   | .240   | -.121  | -     |        |       |       |       |       |       |
| C      | .045   | .068   | -.011  | -.053  | .326   | .211   | .225  | -      |       |       |       |       |       |
| E      | .031   | .409*  | -.070  | -.096  | .116   | .033   | .149  | .255   | -     |       |       |       |       |
| A      | .064   | .337   | .067   | -.058  | .296   | .316   | .191  | .652** | .419* | -     |       |       |       |
| N      | .313   | .099   | .158   | -.053  | .098   | .414*  | .019  | -.073  | .111  | .231  | -     |       |       |
| BPT    | -.403* | -.422* | -.223  | -.113  | -.240  | -.259  | -.007 | -.232  | -.260 | -.254 | -.235 | -     |       |
| Medal  | .013   | .534** | .087   | .008   | .107   | -.281  | -.286 | -.071  | .169  | .097  | -.278 | -.190 | -     |

Note: - \*\*. Correlation is significant at the 0.01 level (2-tailed), \*. Correlation is significant at the 0.05 level (2-tailed), FP = frequency of participation athletics competitions, Yrs = number of years stayed in a certain club, O = openness to experience, C = conscientiousness, E = extraversion, A = agreeableness, N = neuroticism, Intloc =internal locus of control, Extloc =external locus of control, BPT=best performance time.

Table (6) depict that age was negatively and significantly correlated with best performance time( $r = -.441$ ). Both internal and external LOC were positively correlated with best performance time however external LOC was significantly associated with best performance time( $r = .396$ ,  $p < .05$ ). Most of the personality characteristics were also positively correlated with best performance time except openness to experience which was negatively and weakly relate with best performance time( $r = -.018$ ).

Table 7, Intercorrelation matrix among the variables under the study at LDR (5000 meter)

|        | AGE    | FP     | Yrs   | Income | Intloc | Extloc | O     | C      | E     | A     | N     | BPT   | Medal |
|--------|--------|--------|-------|--------|--------|--------|-------|--------|-------|-------|-------|-------|-------|
| AGE    | -      |        |       |        |        |        |       |        |       |       |       |       |       |
| FP     | .265   | -      |       |        |        |        |       |        |       |       |       |       |       |
| Yrs    | .616** | .125   | -     |        |        |        |       |        |       |       |       |       |       |
| Income | .139   | .334   | .478* | -      |        |        |       |        |       |       |       |       |       |
| Intloc | .221   | -.060  | -.081 | -.103  | -      |        |       |        |       |       |       |       |       |
| Extloc | .072   | -.021  | .119  | -.004  | .624** | -      |       |        |       |       |       |       |       |
| O      | -.321  | -.230  | -.312 | -.118  | .147   | -.059  | -     |        |       |       |       |       |       |
| C      | -.271  | .033   | -.148 | -.118  | -.006  | -.161  | .290  | -      |       |       |       |       |       |
| E      | .056   | -.208  | .163  | .290   | .046   | .095   | .271  | .239   | -     |       |       |       |       |
| A      | -.201  | .178   | -.080 | .117   | .197   | .097   | .339  | .772** | .347  | -     |       |       |       |
| N      | -.290  | -.343  | -.339 | -.203  | -.023  | .306   | .139  | -.458* | .039  | -.373 | -     |       |       |
| BPT    | -.441* | -.181  | -.212 | -.003  | .214   | .396*  | -.018 | .168   | .156  | .374  | .233  | -     |       |
| Medal  | .276   | .848** | .290  | .318   | -.115  | .115   | -.190 | .020   | -.121 | .178  | -.372 | -.067 | -     |

Note: - \*\*. Correlation is significant at the 0.01 level (2-tailed), \*. Correlation is significant at the 0.05 level (2-tailed), FP = frequency of participation athletics competitions, Yrs = number of years stayed in a certain club, O = openness to experience, C = conscientiousness, E = extraversion, A = agreeableness, N = neuroticism, Intloc =internal locus of control, Extloc =external locus of control, BPT=best performance time.

As the above table (7) indicate all of the variables entered in the correlation analysis correlate with best athletic performance negatively. Among these variables considered in this event age and frequency of participation in athletics competition were found to correlate negatively and significantly with best performance time( $r = -.403$ ,  $r = -.422$ , at  $p < .05$  respectively). Even though it is not at a significant level conscientiousness, extraversion and agreeableness were negatively correlated with best performance time(  $r = -.232$ ,  $r = -.262$ ,  $r = -.254$ ). Neuroticism was positively and significantly correlated with external LOC ( $r = .414$ ,  $p < .05$ ).

Table 8, Intercorrelation matrix among the variables under the study at LDR (10,000 m)

|        | AGE   | FP    | Yrs   | Income | Intloc | Extloc | O     | C      | E     | A     | N     | BPT   | Medal |
|--------|-------|-------|-------|--------|--------|--------|-------|--------|-------|-------|-------|-------|-------|
| AGE    | -     |       |       |        |        |        |       |        |       |       |       |       |       |
| FP     | -.002 | -     |       |        |        |        |       |        |       |       |       |       |       |
| Yrs    | .092  | .131  | -     |        |        |        |       |        |       |       |       |       |       |
| Income | .080  | .233  | -.002 | -      |        |        |       |        |       |       |       |       |       |
| Intloc | -.123 | -.074 | .222  | -.124  | -      |        |       |        |       |       |       |       |       |
| Extloc | .051  | .124  | .353* | -.073  | .550** | -      |       |        |       |       |       |       |       |
| O      | .177  | .052  | .063  | -.377* | .090   | .099   | -     |        |       |       |       |       |       |
| C      | -.132 | -.169 | -.214 | -.116  | .113   | -.220  | .170  | -      |       |       |       |       |       |
| E      | -.110 | .243  | .125  | .190   | -.014  | .157   | .215  | .063   | -     |       |       |       |       |
| A      | -.220 | -.096 | .072  | -.113  | -.034  | -.065  | .122  | .671** | .349* | -     |       |       |       |
| N      | .036  | .133  | .093  | -.131  | .035   | .417*  | .123  | -.337* | .091  | -.184 | -     |       |       |
| BPT    | .096  | -.036 | .036  | .131   | -.156  | -.019  | -.182 | -.024  | -.250 | .062  | .022  | -     |       |
| Medal  | .261  | .377* | -.229 | .285   | .038   | .066   | .103  | .108   | .031  | -.317 | -.201 | -.002 | -     |

Note: - \*\*. Correlation is significant at the 0.01 level (2-tailed), \*. Correlation is significant at the 0.05 level (2-tailed), FP = frequency of participation athletics competitions, Yrs = number of years stayed in a certain club, O = openness to experience, C = conscientiousness, E = extraversion, A = agreeableness, N = neuroticism, Intloc =internal locus of control, Extloc =external locus of control, BPT=best performance time.

Table(8) above illustrates that all of the variables considered in this Pearson product moment correlation analysis were not significantly correlate with best performance time at ten thousand track event. As it is observed in the table internal LOC was negatively but not significantly correlate with best performance time( $r = -.156$ ) which is relatively higher than external LOC. Among the personality characteristics of the athletes considered in this event agreeableness and neuroticism were positively and weakly associate with best performance time( $r = .062$ ,  $r = .022$ ). On the other hand, extraversion was negatively and not significantly correlate with best performance time( $r = -.250$ ) relatively higher than other coefficients of the personality traits. Neuroticism was positively and significantly correlated with external LOC( $r = .417$ ).

#### 4.2.2 Sex Difference on Internal-External LOC and personality characteristics (OCEANS)

In order to examine the difference between males and female athletes in terms of internal-external LOC dimensions and OCEANs, the mean values of these groups have been compared using independent sample t-test analysis. The comparisons have been made in six specific types of races and presented with a single table for each event (see **appendix D**).

As can be observed on t-test table (appendix D), independent sample t-test analysis was conducted to examine the discrepancies between male and female athletes on internal-external dimensions of LOC scores at some track events. The test show that there was no significant difference among male and female athletes at all six specific events on both internal and external LOC scales. Of course, there seem slight mean differences among male and female athletes on both scales at some track events even if it was not statistically significant.

The t-test table (see appendix D) shows the means and standard deviations of male and female athletes' scores on personality characteristics. In order to understand the differences among these athletes on personality scales of OCEAN, independent sample t-test was employed. The table indicates that males' and females' mean values on neuroticism personality characteristics was significantly different at 200m( $t = -2.150$ ,  $df = 32$ ,  $p < .05$ ). Here, females score higher mean value compared to male athletes at this event. Moreover, statistically significantly sex differences were obtained on openness to experience and agreeableness ( $t = -2.082$ ,  $t = -2.786$ ,  $df = 25$ ,  $p < .05$ ) at 3,000m running event. Male and female athletes were significantly different on extraversion ( $t = 2.065$ ,  $df = 31$ ,  $p < .05$ ) at 5,000m track event at which male were more extravert than female athletes. As the independent sample t-test analysis show slight mean difference on most of the personality characteristics considered in the study but some were not statistically significant on the given running events.



## 4. 2.3 Predicting Athletic Performance from Demographic Variables

In order to uncover the joint contribution of demographic characteristics (sex, age, marriage, educational levels, frequency of participation in athletic competitions, amount of time stayed in club and average monthly income) multiple regression analysis was used and described below at each track events(see detail statistics on **Appendix E**). Some demographical variables showed statistically significant results for the prediction of athletic performance and presented as follows.

Table 9, Multiple Regression Analysis to Determine the Contribution of the Demographic Variables for best performance time at **SDR (200m)**

| Variables     | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|---------------|-----------------------------|------------|---------------------------|--------|------|
|               | B                           | Std. Error | Beta                      |        |      |
| (Constant)    | 23.191                      | 3.767      |                           | 6.156  | .000 |
| Sex           | -2.938                      | .922       | -.576                     | -3.188 | .004 |
| Age           | .018                        | .181       | .021                      | .097   | .924 |
| Marriage      | -1.169                      | .932       | -.187                     | -1.255 | .221 |
| Education     | .765                        | .691       | .161                      | 1.107  | .279 |
| Participation | -.199                       | .115       | -.255                     | -1.736 | .094 |
| Stay          | -.098                       | .244       | -.085                     | -.400  | .692 |
| Income        | .001                        | .002       | .131                      | .766   | .450 |

a. Dependent Variable: performance ( $R = .710$ ,  $R^2 = .504$ , Adj.  $R^2 = .371$ ,  $SEE = 1.922$ ,  $F = 3.778$ ,  $p < .05$ )

b. Predictors: (Constant), Income, Participation, Education, Marriage, Sex, Stay, Age

Table (9) consists of multiple regression analyses of demographic variables and their cumulative contributions to the prediction of best performance time at SDR. All of these independent variables jointly contribute for the prediction of best performance time at a significant level of confidence, which accounts for about 37.1% of the variance of performance time ( $R = .710$ ,  $p < .05$ ). The stepwise multiple regressions have been made to identify the independent contribution of those variables for the explained variance in best performance time at two hundred track events as follows.

Table 10, Stepwise regression analysis of demographic variables that importantly contribute for the prediction of best performance time

(probability -of-F- to-enter <=.050, probability-of-F-to-remove > = .1000).

| Model | R                 | R Square | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics |        |     |     |          |
|-------|-------------------|----------|-------------------------|----------------------------|-------------------|--------|-----|-----|----------|
|       |                   |          |                         |                            | R <sup>2</sup> Δ  | F Δ    | df1 | df2 | Sig. F Δ |
| 1     | .629 <sup>a</sup> | .396     | .377                    | 1.913                      | .396              | 20.944 | 1   | 32  | .000     |

a. Predictors: (Constant), Sex

Using stepwise regression analysis (in table 10), the variable that best explained the prediction of best performance time was done. Those variables that did not explain the explained variance significantly were rejected. The type of sex was found to explain about 37.7% of the combined effect variance significantly ( $R = .629$ ,  $p < 0.05$ ).

Table 11, Multiple Regression Analysis to Determine the Contribution of the Demographic Variables for best performance time **SDR (400m)**

| Variables     | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|---------------|-----------------------------|------------|---------------------------|--------|------|
|               | B                           | Std. Error | Beta                      |        |      |
| (Constant)    | 60.015                      | 6.620      |                           | 9.065  | .000 |
| Sex           | -8.123                      | 1.892      | -.697                     | -4.293 | .000 |
| Age           | 1.565                       | 1.825      | .164                      | .857   | .401 |
| Marriage      | -3.096                      | 4.130      | -.132                     | -.750  | .461 |
| Education     | 1.513                       | 1.596      | .149                      | .948   | .353 |
| Participation | -.331                       | .352       | -.149                     | -.940  | .357 |
| Stay          | -.277                       | .644       | -.082                     | -.430  | .671 |
| Income        | -.008                       | .008       | -.169                     | -1.047 | .306 |

a. Dependent Variable: performance ( $R = .739$ ,  $R^2 = .546$ , Adj.  $R^2 = .402$ ,  $SEE = 4.585$ ,  $F = 3.786$ ,  $p < .05$ )

b. Predictors: (Constant), Income, Participation, Marriage, Education, Sex, Stay, Age

As it can be seen in the regression analysis in the table(11) above, demographic variables were entered to see their contribution for the variance of best performance time when they combined together. The summary of the regression model indicate that those demographic variables were able to explain 40.2% of the variance of best performance time significantly when the variables had been taken together( $R = .739$ ,  $p < .05$ ). Stepwise multiple regression analysis was made to examine the contribution of each variable for the explained common variance.

Table 12, Stepwise multiple regression analysis of demographic variables that importantly contribute for the prediction of best performance time

(probability -of-F- to-enter  $\leq .050$ , probability-of-F-to-remove  $\geq .1000$ ).

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics |        |     |     |          |
|-------|-------------------|----------------|-------------------------|----------------------------|-------------------|--------|-----|-----|----------|
|       |                   |                |                         |                            | R <sup>2</sup> Δ  | FΔ     | df1 | df2 | Sig. F Δ |
| 1     | .669 <sup>a</sup> | .448           | .428                    | 4.485                      | .448              | 22.685 | 1   | 28  | .000     |

a. Predictors: (Constant), Sex

All demographic variables were entered in the stepwise regression analysis to identify their independent predictive power for the explained variance. As table(12) above indicate that sex was found the only variable that importantly contribute about 42.2% of the explained common variance in best performance time significantly ( $R = .669$ ,  $p < .05$ ).

Table 13, Multiple regressions analysis results of demographic variables predicting best performance time at **MDR(1500 meter)**

| Variables     | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|---------------|-----------------------------|------------|---------------------------|--------|------|
|               | B                           | Std. Error | Beta                      |        |      |
| (Constant)    | 253.181                     | 51.979     |                           | 4.871  | .000 |
| Sex           | -26.373                     | 14.540     | -.337                     | -1.814 | .077 |
| Age           | 2.226                       | 2.846      | .143                      | .782   | .439 |
| Marriage      | 5.912                       | 20.056     | .051                      | .295   | .770 |
| Education     | -8.566                      | 7.500      | -.188                     | -1.142 | .260 |
| Participation | .029                        | 1.720      | .003                      | .017   | .987 |
| Stay          | -.629                       | 5.267      | -.021                     | -.119  | .905 |
| Income        | -.027                       | .023       | -.191                     | -1.158 | .254 |

a. Dependent Variable: performance ( $R = .453$ ,  $R^2 = .206$ , Adj.  $R^2 = .063$ ,  $SEE = 38.213$ ,  $F = 1.442$ ,  $p > .05$ )

b. Predictors: (Constant), Income, Participation, Education, Sex, Marriage, Stay, Age

Table (13) above depicts the multiple regression analysis that explains the combined contribution of the independent variables for the prediction of best performance time. Those demographic variables consisting of the average monthly income, frequency of participation in athletic competitions, education level, Sex, Marriage, amount of time stayed in clubs and age jointly explained 6.3% ( $R = .453$ ,  $p > 0.05$ ) of the variance in athletes' best performance time but it was not at a significant level.

Table 14, Multiple regressions analysis results of demographic variables predicting best performance time at **MDR (3000m)**

| Variables     | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|---------------|-----------------------------|------------|---------------------------|--------|------|
|               | B                           | Std. Error | Beta                      |        |      |
| (Constant)    | 661.182                     | 81.426     |                           | 8.120  | .000 |
| Sex           | -18.793                     | 20.505     | -.219                     | -.917  | .372 |
| Age           | -5.945                      | 4.781      | -.380                     | -1.243 | .230 |
| Marriage      | -30.409                     | 46.820     | -.227                     | -.649  | .524 |
| Education     | 13.641                      | 15.103     | .198                      | .903   | .378 |
| Participation | -1.579                      | 1.307      | -.258                     | -1.208 | .243 |
| Stay          | 3.294                       | 5.866      | .176                      | .562   | .581 |
| Income        | .018                        | .034       | .142                      | .515   | .613 |

a. Dependent Variable: performance ( $R = .637$ ,  $R^2 = .406$ , Adj.  $R^2 = .175$ , SEE = 39.689,  $F = 1.76$ ,  $p > .05$ )

b. Predictors: (Constant), Income, Age, Education, Participation, Sex, Stay, Marriage

As the above table (14) show, the demographic variables including sex, age, marriage, educational level, frequency of participation athletic competition, time stayed in club were entered in to the regression model. The coefficient of determination indicated that those demographic are able to explain 17.5 % of the variance in best performance time among athletes at 3,000m track event. However, the multiple regression analysis show that the explained variance brought through the combined independent variables was not found to be at a significant level ( $R = .637$ ,  $P > .05$ ).

Table 15, multiple regressions analysis results of demographic variables predicting best performance time at **LDR (5000 meter)**

| Variables     | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|---------------|-----------------------------|------------|---------------------------|--------|------|
|               | B                           | Std. Error | Beta                      |        |      |
| (Constant)    | 1004.404                    | 67.875     |                           | 14.798 | .000 |
| Sex           | -72.841                     | 18.321     | -.666                     | -3.976 | .001 |
| Age           | .522                        | 2.886      | .033                      | .181   | .858 |
| Marriage      | 4.111                       | 22.478     | .028                      | .183   | .856 |
| Education     | -2.794                      | 11.753     | -.032                     | -.238  | .814 |
| Participation | -1.975                      | 1.615      | -.193                     | -1.223 | .233 |
| Stay          | -4.197                      | 4.099      | -.196                     | -1.024 | .316 |
| Income        | -.043                       | .057       | -.117                     | -.754  | .458 |

a. Dependent Variable: performance ( $R = .751$ ,  $R^2 = .564$ , Adj.  $R^2 = .442$ , SEE = 36.977,  $F = 4.616$ ,  $p < .05$ )

b. Predictors: (Constant), Income, Education, Marriage, Participation, Age, Sex, Stay

As it is observed in table(15)above the demographic variables were entered in the regression analysis to see their joint contribution for the variance of best performance time . The summary of the regression model illustrate that those demographic variables were able to explain 44.2% of the variance of best performance time significantly when the variables had been taken together( $R = .751$ ,  $p < .05$ ). Stepwise multiple regression analysis was made to examine the contribution of each variable for the explained common variance.

Table 16, Stepwise regression analysis of demographic variables that importantly contribute for the prediction of best performance time

(Probability –of-F- to-enter <=.050, probability-of-F-to-remove > = .1000).

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics |        |     |     |          |
|-------|-------------------|----------------|-------------------------|----------------------------|-------------------|--------|-----|-----|----------|
|       |                   |                |                         |                            | R <sup>2</sup> Δ  | F Δ    | df1 | df2 | Sig. F Δ |
| 1     | .647 <sup>a</sup> | .419           | .400                    | 38.326                     | .419              | 22.349 | 1   | 31  | .000     |
| 2     | .718 <sup>b</sup> | .516           | .484                    | 35.558                     | .097              | 6.014  | 1   | 30  | .020     |

a. Predictors: (Constant), Sex  
b. Predictors: (Constant), Sex, Participation

As the table (16) above indicate, all demographic variables were entered in the stepwise regression analysis to identify their independent predictive power for the explained variance. The stepwise analysis illustrate that sex and frequency of participation in athletics competitions were found to be the only variables that importantly contribute about 40% and 48.4% of the explained common variance in best performance time significantly( $R = .647$ ,  $R = .718$ ,  $p < .05$ ) respectively.

Table 17, Multiple Regressions Analysis of the Effect of Demographic Variables on best performance time at **LDR (10,000 meter)**

| Model         | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|---------------|-----------------------------|------------|---------------------------|--------|------|
|               | B                           | Std. Error | Beta                      |        |      |
| (Constant)    | 1635.148                    | 223.274    |                           | 7.323  | .000 |
| Sex           | -91.990                     | 57.263     | -.314                     | -1.606 | .119 |
| Age           | 9.956                       | 10.116     | .187                      | .984   | .333 |
| Marriage      | 23.522                      | 93.855     | .045                      | .251   | .804 |
| Education     | 22.550                      | 46.115     | .099                      | .489   | .629 |
| Participation | -.383                       | 5.868      | -.013                     | -.065  | .948 |
| Stay          | 3.453                       | 11.053     | .055                      | .312   | .757 |
| Income        | .001                        | .175       | .001                      | .005   | .996 |

a. Dependent Variable: performance ( $R = .343$ ,  $R^2 = .118$ , Adj.  $R^2 = .095$ ,  $SEE = 150.754$ ,  $F = .552$ ,  $p > .05$ )

b. Predictors: (Constant), Income, Stay, Marriage, Age, Participation, Sex, Education

As shown in the above regression table ( 17 ) the demographic variables as average monthly income, time stayed in club, status of marriage, frequency of participation in athletics competition, sex and educational level were able to jointly contribute about 9.5% of the variance of best performance time even though it was not at a significant level( $R = .343, p < .05$ ).

4.2.4 LOC and Personality Characteristics as Predictors of Athletic Performance

In order to see the contribution of personality variables for the prediction of best performance time, multiple regression analyses have been employed. The strength of the relationships and the contribution of LOC and personality variables have been treated separately in the regression model across the six specific track events( see detail statistic on Appendix E).

**Table 18**, multiple regression analyses results for predicting best performance time from LOC and OCEANs at SDR (200 meter).

| Variables         | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. |
|-------------------|-----------------------------|------------|---------------------------|-------|------|
|                   | B                           | Std. Error | Beta                      |       |      |
| (Constant)        | 18.956                      | 4.889      |                           | 3.877 | .001 |
| Internal LOC      | .041                        | .059       | .131                      | .687  | .498 |
| External LOC      | -.025                       | .053       | -.084                     | -.473 | .640 |
| Openness          | .058                        | .092       | .116                      | .625  | .538 |
| Conscientiousness | -.082                       | .086       | -.209                     | -.952 | .350 |
| Extraversion      | -.035                       | .114       | -.076                     | -.309 | .760 |
| Agreeableness     | .024                        | .125       | .057                      | .196  | .846 |
| Neuroticism       | .248                        | .095       | .455                      | 2.610 | .015 |

a. Dependent Variable: performance ( $R = .551, R^2 = .304, \text{Adj. } R^2 = .116, \text{SEE} = 2.278, F = 1.619, p > .05$ )  
b. Predictors: (Constant), Neuroticism, Agreeableness, External LOC, Openness, Internal LOC, Conscientiousness, Extraversion

The multiple regression analysis in table (18) demonstrates that the combination of LOC and personality characteristics(OCEANs) were not added significantly to the prediction of performance time, even though the regression coefficient of determination shows about 25.1% of the variance in performance time ( $R = .551, p > .05$ ). As table (18) show the independent contributions of those personality characteristics in the regression analysis,



neuroticism was able to predict best performance time significantly ( $\beta = .455$ ,  $t = 2.610$ ,  $p < .05$ ).

**Table 19**, multiple regression analyses results for predicting best performance time from LOC and OCEANs at SDR (400 meter).

| Variables         | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. |
|-------------------|-----------------------------|------------|---------------------------|-------|------|
|                   | B                           | Std. Error | Beta                      |       |      |
| (Constant)        | 35.270                      | 16.786     |                           | 2.101 | .047 |
| Internal LOC      | -.009                       | .181       | -.011                     | -.047 | .963 |
| External LOC      | -.009                       | .199       | -.011                     | -.043 | .966 |
| Conscientiousness | .195                        | .284       | .142                      | .687  | .499 |
| Extraversion      | -.079                       | .286       | -.051                     | -.275 | .786 |
| Agreeableness     | .250                        | .107       | .451                      | 2.330 | .029 |
| Neuroticism       | .243                        | .282       | .185                      | .862  | .398 |

a. Dependent Variable: performance ( $R = .491$ ,  $R^2 = .241$ , Adj.  $R^2 = .043$ , SEE = 5.801,  $F = 1.216$ ,  $p > .05$ )

b. Predictors: (Constant), Neuroticism, Extraversion, Internal LOC, Agreeableness, Conscientiousness, External LOC

The table (19) above illustrates the multiple regression analyses which reveals the strength of those main independent variables to predict athletic performance at SDR( 400 meter) . The combined contribution of LOC and personality characteristics in explaining the variance in athletic performance was 24.1% ( $R = .491$ ,  $p > 0.05$ ) but it has no significant effect on performance of athletes. The regression analysis also indicate the independent contribution of agreeableness was found to be a significant predictor of athletic performance(  $\beta = .451$ ,  $t = 2.330$ ,  $p < .05$ ). Further stepwise regression analysis was not made since those variables entered in the regression model were not significantly explaining the variances in athletic performance.

**Table 20**, multiple regression analyses results for predicting best performance time from LOC and OCEANs at SDR (1,500 meter).

| Variables         | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------------------|-----------------------------|------------|---------------------------|--------|------|
|                   | B                           | Std. Error | Beta                      |        |      |
| (Constant)        | 326.739                     | 86.073     |                           | 3.796  | .001 |
| Internal LOC      | -.513                       | .899       | -.093                     | -.570  | .572 |
| External LOC      | .894                        | .853       | .183                      | 1.049  | .301 |
| Openness          | .202                        | 1.105      | .028                      | .183   | .856 |
| Conscientiousness | .202                        | 1.391      | .026                      | .145   | .885 |
| Extraversion      | -.372                       | 1.368      | -.042                     | -.272  | .787 |
| Agreeableness     | -1.286                      | 1.381      | -.163                     | -.931  | .358 |
| Neuroticism       | -2.532                      | 1.427      | -.315                     | -1.775 | .084 |

a. Dependent Variable: performance ( $R = .380$ ,  $R^2 = .145$ , Adj.  $R^2 = .009$ ,  $SEE = 39.651$ ,  $F = .942$ ,  $p > .05$ )

b. Predictors: (Constant), Neuroticism, Extraversion, External LOC, Openness, Agreeableness, Internal LOC, Conscientiousness

Table (20) above show that all of the LOC and personality variables entered in the regression model explained about 14.5% ( $R = .380$ ,  $p > 0.05$ ) of the variance in athletic performance. However, the coefficient of determination of these variables did not explain the variance in athletic performance significantly. Hence, further stepwise regression was not made for the independent variables entered in the regression model.

**Table 21**, multiple regression analyses results for predicting best performance time from LOC and OCEANs at SDR (3,000 meter).

| Variables         | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------------------|-----------------------------|------------|---------------------------|--------|------|
|                   | B                           | Std. Error | Beta                      |        |      |
| (Constant)        | 381.143                     | 98.281     |                           | 3.878  | .001 |
| Internal LOC      | .373                        | 1.604      | .058                      | .232   | .819 |
| External LOC      | .742                        | 1.381      | .146                      | .537   | .597 |
| Openness          | -2.872                      | 2.114      | -.293                     | -1.358 | .190 |
| Conscientiousness | .191                        | 2.187      | .027                      | .088   | .931 |
| Extraversion      | -.206                       | 2.301      | -.017                     | -.089  | .930 |
| Agreeableness     | 4.017                       | 2.099      | .608                      | 1.914  | .071 |
| Neuroticism       | 4.054                       | 2.066      | .470                      | 1.962  | .065 |

a. Dependent Variable: performance ( $R = .644$ ,  $R^2 = .414$ , Adj.  $R^2 = .199$ ,  $SEE = 39.294$ ,  $F = 1.921$ ,  $p > .05$ )

b. Predictors: (Constant), Neuroticism, Internal LOC, Extraversion, Openness, Conscientiousness, External LOC, Agreeableness

The multiple regression analyses indicated in table (21) reveals the relative strength of those main independent variables to predict athletic performance at MDR( 3000 meter) . The combined contribution of LOC and personality characteristics in explaining the variance in athletic performance was 19.9% ( $R = .644$ ,  $p > 0.05$ ) but it has no significant contribution for the variation in best performance time at three thousand track event. Further stepwise regression analysis was not made since those variables entered in the regression model were not significantly explaining the variances in best performance time of those athletes at this event.

**Table 22**, multiple regression analyses results for predicting best performance time from LOC and OCEANs at SDR (5000 meter).

|                   | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------------------|-----------------------------|------------|---------------------------|--------|------|
|                   | B                           | Std. Error | Beta                      |        |      |
| (Constant)        | 1075.126                    | 107.979    |                           | 9.957  | .000 |
| Internal LOC      | -.647                       | 1.073      | -.135                     | -.603  | .552 |
| External LOC      | -.346                       | 1.151      | -.073                     | -.301  | .766 |
| Openness          | 1.088                       | 2.612      | .083                      | .416   | .681 |
| Conscientiousness | -1.625                      | 2.338      | -.179                     | -.695  | .494 |
| Extraversion      | -3.109                      | 3.068      | -.204                     | -1.013 | .321 |
| Agreeableness     | .354                        | 2.435      | .040                      | .145   | .886 |
| Neuroticism       | -2.161                      | 2.412      | -.193                     | -.896  | .379 |

a. Dependent Variable: performance ( $R = .425$ ,  $R^2 = .181$ , Adj.  $R^2 = .048$ , SEE = 50.669,  $F = .789$ ,  $p > .05$ )

a. Predictors: (Constant), Neuroticism, Openness, Extraversion, Internal LOC, Conscientiousness, External LOC, Agreeableness

As the table (22) above depicts the strength of the main independent variables treated in the study to predict athletic performance in LDR (5000 meter). The combined contribution of LOC and personality characteristics in explaining the variance in athletic performance was 4.8% ( $R = .425$ ,  $p > 0.05$ ) but it has no significant effect on performance of athletes. Further stepwise regression analysis was not made since those variables entered in the regression model were not significantly explaining the variances in athletic performance.

**Table 23**, multiple regression analyses results for predicting best performance time from LOC and OCEANs at SDR (10000 meter).

| Model             | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. |
|-------------------|-----------------------------|------------|---------------------------|--------|------|
|                   | B                           | Std. Error | Beta                      |        |      |
| (Constant)        | 2222.409                    | 324.124    |                           | 6.857  | .000 |
| Internal LOC      | -4.134                      | 4.400      | -.212                     | -.940  | .355 |
| External LOC      | 2.758                       | 4.630      | .147                      | .596   | .556 |
| Openness          | -4.029                      | 5.835      | -.125                     | -.691  | .495 |
| Conscientiousness | -2.270                      | 6.470      | -.094                     | -.351  | .728 |
| Extraversion      | -15.534                     | 8.878      | -.340                     | -1.750 | .091 |
| Agreeableness     | 7.399                       | 7.224      | .267                      | 1.024  | .314 |
| Neuroticism       | .901                        | 5.742      | .032                      | .157   | .876 |

a. Dependent Variable: Performance ( $R = .397$ ,  $R^2 = .158$ , Adj.  $R^2 = .046$ ,  $SEE = 147.299$ ,  $F = .775$ ,  $p > .05$ )

b. Predictors: (Constant), Neuroticism, Intloc, Extraversion, Openness, Conscientiousness, Extloc, Agreeableness

Table (23) show that all of the LOC and personality variables entered in the regression model explained about 15.8% ( $R=.397$ ,  $p > 0.05$ ) the variance in athletic performance. However, the coefficient of determination of these variables did not explain the variance in athletic performance significantly. Hence, further stepwise regression was not made for the independent variables entered in the regression model.

The strength of the relationships and the contribution of LOC and personality variables were treated separately in the regression models above in all track events. However, most of all the variables considered in the regression analysis had no significant effect effects on athletic performance. Thus, they were combined together to examine their joint effect on athletic performance through multiple regression model.

#### 4.2.5 Athletes' Responses For Open Ended Questions

Following the quantitative data analysis, the data gathered through open ended questions from athletes has been analyzed and presented below. Moreover, it provides an opportunity for respondents to describe what they feel about the issues presented for them

Table 24, athletes' locus of control orientations toward the causal factors of their failure

| 1. a) | Categories of factors that were put as causes of failure in athletics                                                                                                                                                                                                                     | Responses |       |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------|
|       |                                                                                                                                                                                                                                                                                           | freq      | %     |
| 1     | Coaches related factors( biases, low efficiency, abuse of athletes particularly females, corruption)                                                                                                                                                                                      | 36        | 17.31 |
| 2     | Training related problems( traditional training systems, lack of adequate trainings, knowledge regarding scientific trainings, over training, un able to keep conditions in general during training periods, disorganized training programs)                                              | 34        | 16.35 |
| 3     | Resources ( lack of sport wears, lack of proper diet during training, and low access of facilities for athletics training, and unattractive fees and reinforcements from clubs                                                                                                            | 38        | 18.27 |
| 4     | Health related factors (common illness, injuries etc).                                                                                                                                                                                                                                    | 39        | 18.75 |
| 5     | Psychological factors( inaccurate goal setting, un able to design one's own plan, worries with simple thing, anger, carelessness, hopelessness, low confidence, over arousal, unable to take adequate rest, internal discomfort ,taking sport as the end one's life, low parental support | 37        | 17.79 |
| 6     | God's will ( the failure was occurred since God allowed it to do so)                                                                                                                                                                                                                      | 12        | 5.77  |
|       | Missing                                                                                                                                                                                                                                                                                   | 12        | 5.77  |
|       | Total                                                                                                                                                                                                                                                                                     | 208       | 100   |

As the table show the majority 39(8.75%) and 38(18.27%) of athletes reported that health related problems and lack of resource were courses of failures in athletics competitions respectively. The least number of athletes stated that God may decide their fate to be failed.

Table 25, athletes' locus of control orientations toward the causal factors of their success

| 1. b) | Categories of factors that were put as causes of success in athletics | Responses |       |
|-------|-----------------------------------------------------------------------|-----------|-------|
|       |                                                                       | freq      | %     |
| 1     | Setting objectives, Hard working and working along with plans         | 40        | 19.23 |
| 2     | Allocating professionals who can listen athletes' problems and ideas  | 30        | 14.42 |
| 3     | God's will as well as accomplishing tasks properly                    | 20        | 9.62  |
| 4     | Accessability of adequate facilities and resources.                   | 35        | 16.83 |
| 5     | Being assertive ,reducing fear and making one's mind free             | 34        | 16.35 |
| 6     | Being healthy and keeping one's conditions through adequate rest      | 37        | 17.79 |
|       | Missing                                                               | 12        | 5.77  |
|       | Total                                                                 | 208       | 100   |

Regarding the causes of success, highest number 40(19.23%) of athletes felt that hard working and guided through plans or objectives plays great role for success in athletics. Physical health also accounted high position for their success. Moreover, 20(9.62%) of respondents were thought that belief with God and accomplishing tasks properly could lead to success.

**2. Do you think that your personality could affect your athletic performance?**

The majority 150(72.115%) of athletes respond that their personality affects their performance. On the other hand, 46(22.115%) of athletes were reported that their personality did not affect performance.

The participants were also asked to reason out how personality could influence their performance. Most of the respondents explained that personality has an influence not only on athletic performance but also in other parts of an individual's life activities. They exemplified those behaviors like being anxious, being reserved, carelessness, disorganized life style, worries, feeling of restlessness, hopelessness, etc as having huge negative impacts on success in life and athletics performance in particular. In contrast, they described other behaviors such as goal oriented, being relaxed, active participant in one's job, working hard, believe in effort, enthusiasm, assertiveness, positive self image and self confidence etc, as exceedingly contribute for their success in running world.



3. Regarding the question do believe that psychological factors related with athletic performance and how it could influence your performance? The majority 184 (88.46%) of those athletes who participated in the study said that psychological factors have immense influence on performance. The participants explained their view on how psychological factors influence their athletic performance. They reported that:

- Even if athletes have fulfilled the requirements of training activities, they might not be successful. Many athletes explained that they have finished their force at night before competitions as a result of psychological factors like lack of sleep, feeling of restlessness, frustrations and repeated thinking of the outcomes. Since most of the athletes thought themselves as lower than other people or they thought as other people are above them, they lose their race without applying what they did during training. It was true particularly when they participate at competitions with elite athletes.
- An athlete stated that *“Athletics (Running) cannot be done only with legs rather it is a career that needs mental work/calculation. Thus, unless athletes become strong psychologically/mentally they never be successful in running.”* Similarly, another participant added that psychological constructs have associations with performance because *“if one’s psychological wellbeing becomes weak or sick, athletes’ legs will be weak or sick.”*
- Many athletes lost their good performance as a result of wrong beliefs like repeated thinking of “power” or “evil sprit/magic” which results frustration, fear, stress, anxiety and lose of one’s confidence.
- Those participants also pointed out that many athletes who were talented and covered their training programs well but remained unsuccessful due to several psychological factors such as anger, anxiety, stress, repeated thought of outcomes, depression, deciding one’s rank before competition and other psychological discomforts. Sometimes, these factors may also inhibit athletes to cover the training programs properly. Finally, psychological factors play great roles either for success or failure of athletes in athletics championships.

4. The athletes were asked whether they need counseling services or not and to explain the benefits they could obtain from counseling services. The majority 197 (94.7%) of participants sought counseling services. On the other hand, few 11(5.3%) of those athletes

responded that they didn't need counseling services. All of the participants declared that there were no psychological services provided for them earlier. No one of the participants disagree on the necessity of psychological service for athletes. They ascertain that psychological services are core elements of success not only for them but for human beings in general. Those participants described the benefits they could obtain from counseling services as:

- It could help athletes to develop self confidence, build winning spirit, to know what they do carefully, and how to deal with life challenge including how to go with others. They also indicated psychology as the key principle of athletic success. Because it helps to do mental and physical training activities carefully, reduce one's limitations and finally directs athletes to be accurate in athletic activities.
- Athletes may be stressed and depressed due to their eagerness to win the competitions. Hence, they need counseling services to be successful by developing mental readiness, handling over arousal, and stress properly.
- One of the athletes reported the need of psychological support in his own words:

*In my experience I have got different conditions at the time of competitions than training periods. If I were getting counseling services, I would be a different person at that situation.*

Other respondent also reported that *"to be frankly speaking I have been on a good condition physically for many times. But, I was not successful in championships since I didn't feel comfort during competitions."* This implies the impacts of lack of psychological support among athletes.

- Psychological services are essential especially for novice athletes. Because counseling need to be given for athletes about the challenges they face, the costs they pay for their success, the objectives, commitments, tolerance, courage and other requirements of athletics sport.

5. The participants were requested to give their own suggestions for improving their performance. The athletes' suggestions were summarized and presented as follows:

- To produce competent and successful athletes, they should be trained with efficient and educated professional coaches, fulfilling their basic resources like sport wears, training fields, waiting/resting places, giving adequate rest.

- Helping athletes to accomplish their work properly, building their self confidence, take adequate rest, avoid unwanted thinking, reducing stressful events and help them to keep themselves from unwanted places, etc.
- develop open discussion habits with coaches, and resolve problems together
- Providing psychological trainings to prepare athletes for championships, building the sense of winning and avoiding hopelessness etc,
- Provide all kinds of counseling services about social issues, life, work, beliefs, gender, eating style, marriage, luck and success etc. when this is possible and problems become resolved, our country will have many best and successful athletes for future.

### **4.3. Qualitative Results**

The data obtained through interview from the coaches has been organized and analyzed qualitatively in brief as follows.

#### **4.3.1 Analysis Of Coaches' Responses**

The Coaches working in the study sites were the targets of the research. Ten coaches were involved as participants of this enquiry. The coaches' response for interview items have been summarized and presented in the following manner. Some special cases, which the coaches shared with the researcher related to the issues, raised by the interviewer has been also presented in brief by coating the response as it is.

1. How do you describe the personality characteristics of athletes at their best event?

All of the 10 coaches elaborated that since athletes had unique characteristics, it was difficult to describe personality characteristics of all athletes with simple terms. Two of the coaches reported that the behaviors of those athletes may vary due to difference in the upbringing of individuals from their families, and the nature of their job and their cultural background. For instance, most of LDR athletes came from countryside were commonly showed isolation and reservation themselves from social interaction. Athletics is also naturally tiresome activity that results nervousness, absent from training, anger, etc.

The coaches described some of the common characteristics of those athletes. All of the coaches agreed up on the existence of personality differences among athletes at different

events. The majority 8(80%) of the coaches reported that those athletes in SDR event showed the following common behaviors. These characteristics include aggressive, overconfidence, outgoing, easily nervous, stylish, overactive, and assume themselves as they were special and the like. On the other hand, those middle and long distance runners were calm, fearful, shy, reserved, practice what is told by coaches, were not educated further.

One of the coaches described the LDR athletes as they were calm in their behavior, dedicated to their job, devoted their time for trainings and activities related to their career, did not follow fashions, and are far sighted because higher number of those LDR athletes have a chance to participate in international competitions and the incentives obtained from their competitions were encouraging compared to athletes at SDR events.

2. Do you think that athletes' personality characteristics could affect their performances?

All coaches emphasized that personality had an effect on performance. For example, unlimited relationship with others, aggressive behavior, and nervousness contributes for less performance. In contrast, those behaviors like goal oriented, assertiveness, commitment, tolerance, and calmness help to be successful.

Three of the coaches explained the relationship between SDR athletes' personality and their effectiveness. They said that sprinters were more recreationist attitude, want play more time, relaxed, aggressive, were not far sighted , they have similar behaviors with football players in Ethiopia. Those short distance runners were not participated in Olympics, international championships and different meetings. Even they didn't fulfill the minima of international championships. In general, short distance runners were less effective since they lack self regulatory behaviors.

3. Coaches were asked to describe athletes' internal-external LOC orientations and its influence on athletic performance.

The athletes have variety of beliefs towards their performance. All of the 10 coaches were proudly said that we have athletes who have been very strong, committed and know what they are doing and how to do it like Haile G/Silassie and Kenenisa Bekele. Such athletes

believed that, according to coaches, they could change their performance by putting their maximum effort, doing much training, applying techniques learned during trainings, etc.

The coaches also added that most of those athletes did not hesitate to do anything that they believed as short cut methods of success. Nine of the coaches reported that some athletes relate either their failure or success towards God's will, coaches, the type of wears, shoes during championships, type of places they did training and type of food they took and *bad/evil spirits* or with their language "*power*" <sup>1</sup> in recent time. Commonly, in the eyes of coaches, those athletes with low confidence project their success or failure toward coaches, training, type of food, injury even before championships.

According to the coaches' view, most of the athletes specifically long distance runners have more religious orientations, doing hard trainings but fasting, praying for long time in religious places like churches and mosques. In contrary to religiosity, some of them fear "*muart*" or "*felfela*" or "*power*" or "*tenquay*" (magical power) or in other terms the *evil/bad* beliefs. Almost all coaches explained that these activities have significant impacts on athletes' recovery which could in turn have direct influence on their performance.

Five of the coaches pointed out that the belief in "*power*" or "*evil spirit*" was intensively observed among those middle and long distance runners. Female athletes were also more subjective toward the belief in evil spirit. Above all, those athletes who have beliefs on "*power/evil spirit*" do not share their shoes, T-shirts and other things even they did not shake their hands during the time of training programs around computational or championships periods.

Some of the coaches underlined that the widely prevalent wrong beliefs among our athletes on the evil spirit/magic/what athletes call as "*power (tingola)*" has been resulting a devastating effect on athletics in general even at the national level. Due to the belief on bad/evil spirit, those able athletes could not use their optimal potential. In most cases these beliefs hinder athletes from success even though they have the talents and conditions like the elite ones. Since they developed extreme fear of bad/evil spirit before competitions, many athletes became liable to failure in athletics championships. In this regard, one of the coach narrated a real case like this :



*know an athlete who was a best athlete going to the so called "person who has magic power" before his athletic competition. Then the so called "magic person" warned the athlete not to make any physical contact with other athletes before he participate in athletic champion. He was preserving himself from meeting any physical contact with any athletes. Even he was not doing training programs with other athletes. He was trying to do trainings at the edge of fences to be far away from any physical contact. By doing these careful activities he became on the track at the day of the competition. The procedures of athletic competitions were finished and competitive athletes prepared themselves on the track to run. Unfortunately, some athletes start to run before they instructed and forced to start the game again because of false start. At that time, one of the competitive athletes touched his shoulder unknowingly for fun/joke. At that moment the so called "powered athlete" become irritated, too hot, sad, and aggressive and tried to torch physically. The conflict was resolved by the arbiter and the game was started. At end, "the powered athlete" was become the last among the athletes who were involved in the championship. Sorrowely, he is now out of the world of running due to the failure at that championship moment.*

Generally, those coaches thought that projecting success or failure toward "bad/evil spirit" has been hindering most athletes to use their natural talent during championships. Most of the coaches listed some of the factors to which athletes associating their success as well as failure with: environmental conditions (air conditions, type of food, injury, techniques that coaches apply, God, bad/evil spirits, etc.). On the other hand other athletes internalize their outcomes towards training they did, use of one's potential/effort, self confidence, etc.

4. As a coach, have you been taking psychological skill training? What do you say about the importance of counseling services in enhancing athletic performance? Are there any professional counselors in your club?

All of the coaches reported that no special psychological trainings were provided for them. In some cases the coaches have been learnt psychological related issues as a single section of the training programs of coaching license. They added that no professional counselors have been working in supporting athletes not only in clubs but also even in the level of national team.

According to the coaches' view the relevance of counseling psychology in athletic is unquestionable. They assured that provision of counseling services could certainly enhance athletes' success. One of the coaches explained it with an example as :



*Farmers have been passing through a lot of ups and downs to produce a crop from ploughing (farming) to collecting. Finally, they will put in to a sack and travel to their dwelling from field of large farms. If the sack is not properly tied, the crop will be on the ground and all the tiresome activities of the farmers become useless. Likewise, if an athlete cannot be supported through psychological treatments, all of the activities and goals will be remaining on the air. As the rope is basic to tie the sack for the farmer, counseling psychology is true for an athlete's success.*

Even though psychologists have been essential members of athletics staff in abroad, there were no professionals in these clubs. Almost all coaches (9) reported that counselors/psychologists are very essential athletic team members to enhance athletic performance. Besides, they said that except the individual's efforts we made to know the psychological skills essential for athletics, no adequate psychological skill training have been given for us earlier.

5. Could you identify the major problems of your athletes that hinder them from success especially which needs psychological interventions? The coaches described several problems and organized as follows: they listed so many physical, technical, economical, material and psychological factors that they observed in their experience as factors which influence athletic performance. However, more emphasis have been given on psychological problems of athletes.

All of the coaches elucidated that major problems of athletes consist of lack of adequate rest, unable to accept athletics as a career, feeling of hopelessness, manustration related problems for female athletes and inappropriate eating habits. Moreover, they indicated that during competition periods most athletes develop extreme fear, restlessness, stress, frustrations, unable to identify one's talent(best event), for instance athletes want to participate in running events that could brought higher earnings or rewards even if it is not their talent, etc. Since most athletes have been highly eager for achievement, they encounter common sickness and injury.

As the couches' view, prevalence of wrong beliefs on "bad/evil sprits" or "power"(tingola) have been serious problems of many of our athletes recently. It hurts the performances and social interactions among athletes. Furthermore, they come across with problems like

economical, lack of resources (i.e. sport wears, training fields, facilities needed for the sport activities), inappropriate eating habit, etc.

Five coaches said that since most athletes particularly LDR athletes were not further educated and came from countryside, they encounter problems in accommodating the culture. That has been the cause for most athletes to stop running after little success. In most cases, athletes were resistant to accept scientific athletic training systems due to low level of education among large number of athletes.

6. What kind of counseling intervention mechanisms have been used to solve problems of athletes? Those coaches replied that no adequate and organized professional counseling services have been given for athletes independently. According to their explanations, psychological services need to be provided for athletes in parallel with physical trainings. However, this is the most ignored aspects of athletic performance in our country.

With its limitation coaches attempt to provide most services for athletes since they were most close responsible bodies for athletes. Even though the services vary from coach to coach, most of the coaches provided the following service for athletes. Most of the coaches reported some supports have been provided for their athletes based on experience such as: giving advice, arousing athletes for competition, helping athletes through modeling those elite athletes on how they reach to the position they have, providing guidance on eating styles, providing reinforcements like salary and rank, etc. One of the coaches stated that

*Female athletes face difficulties related to manustration to do trainings and participate in competition. He tried to resolve the problem through open discussion with the athletes even if it was not easy to discuss the problem openly.*

Three coaches explained that most of their athletes do not close to coaches rather they tried to withdraw from and hide most of their personal issues. This caused difficulty for coaches to help the athletes psychologically. Those coaches felt that the psychological interventions employed to enhance athletic performance were almost none or very little though they tried their best. Even some do not have enough understandings regarding psychology.

7. Those coaches were requested to provide their suggestions to alleviate the problems of athletes and enhancing athletic performance. They forwarded the following suggestion:

- Fulfilling the basic needs of athletes (sport wears, salary), helping athletes at the time of their success or failure by building their moral and self confidence in steady of insulting or discouraging them during their failure.
- Recruiting professional psychologists to provide counseling and psychological services for athletes and coaches.
- Providing counseling treatments for athletes to avoid their wrong beliefs of “*evil sprits/power/magic power*” through cooperation with other professional.
- Creating available conditions for athletes to attend further education.
- One of the coaches provided professional explanation on the ways of providing counseling services in terms of three phases: *a) Preparation period:-* create mental readiness among athletes for the coming competition periods and provide mind refreshing mechanism, *b) Competition period;* - help athletes to avoid fear, minimize over confidence, and avoid loss of confidence, etc, *c) Transition stage:-* teach athletes to use the active rest effectively, give medical and massage treatment for injured athletes and evaluate ones positive and weak sides of the previous competition periods.

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**Note: “Power”<sup>1</sup>** is the special term used by athletes which means something which is powerful given from “*tenquay*” (in Amharic) /magicians.

## **Chapter Five**

### **5. Discussion**

This section focus on explanations and interpretations of the findings in light with previous studies on the bases of the research questions raised at the beginning of the study. The purpose of this study was examining the relationship of athletics performance with locus of control and personality characteristics among Ethiopian athletes. It also tried to investigate some of the counseling intervention strategies used in those athletics clubs to scale up athletes' performance.

The basic research questions raise in this study were:

- Do personality characteristics (OCEANs) correlate with athletic performance?
- Does internal-external locus of control beliefs relate with athletic performance?
- Does the interrelationship between locus of control, personality characteristics (OCEAN) and athletic performance vary as function of race types?
- What kinds of counseling intervention mechanisms have been used to enhance athletic performance by coaches and counselors if any?

#### **5.1 Personality Characteristics (OCEANs) and Athletic Performance**

This study attempts to examine the relationship between personality characteristics of athletes and its relation with athletic performance. The major findings of personality characteristics considered in the study are explained hereafter.

Barrick and Mount (1991) note that openness to experience is a valid predictor of training proficiency because it includes characteristics such as being curious, broad-minded, and intelligent which are attributes associated with athletic performance among athletes. This study also illustrates that openness to experiences was negatively correlated with best performance time at LDR events even if it was weak and not at a significant level. It implies as the athletes scored high on openness to experience, their athletic performance was also relatively high but not at significant level at this events. On the other hand, openness was positively, weakly and not significantly correlated with best performance

time at both SDR & MDR events. Those athletes high on openness scored low athletic performance at both SDR and LDR events.

Conscientiousness is a general personality trait commonly characterized as careful, thorough, responsible, organized, self-disciplined, and scrupulous at one end, to irresponsible, disorganized, undisciplined, and unscrupulous at the other end (McCrae & Costa, 1987). These behaviors have direct implications for better athletic performance. Moreover, meta-analytic evidence has found conscientiousness to be one of the best predictors of job performance (Barrick & Mount, 1991). Likewise, this study found that conscientiousness was negatively correlated with best performance time at all LDR events and 200m track event from SDR event. In other words as the athletes score higher on this personality trait, they recorded high athletic performance or least possible time to cover the distance in the given track events. In contrast, this study indicates that Conscientious was positively and not significantly correlated with best performance time across all types of MDR and 400m at SDR track events. It implies that those athletes high on conscientiousness recorded low athletic performance at those track events. However, the strength of the correlation coefficient of these variables was different among athletes at different running events.

Furthermore, conscientiousness incorporates characteristics such as being hardworking, persevering and achievement-oriented (Barrick & Mount, 1991). Similarly, the coaches reported that “the athletes do not hesitate to do any actions that they assume as the short cuts for their success”. Moreover, athletes reported over trainings as the causes of their failure due to their eagerness of athletics success. These tell us the existence of over achievement orientations, and unachievable goal settings among those athletes. These may be the underlying reasons for the reversed relationships between conscientiousness and athletic performance at some track events and even for low correlation coefficients between these variables in this study which cause the finding to be deviated from previous literatures.

According to Egan & stelmack (2003) higher extraversion scores are typical of athletes in various sports and at all levels of performance which are indicative of a disposition to assertiveness, venturesomeness and risk taking. In this study also, it is negatively

correlated with athletes' best performance time at all events except 3,000m track event. This implies those athletes with high athletic performance are characterized by extraversion personality traits. However, the results in this research show that extraversion is weakly and not significantly correlated with best performance time.

Moreover, agreeableness was positively and significantly correlated with best performance time of SDR athletes at 400m track event ( $r = .454, p < 0.05$ ). It is to mean that as the scores of athletes on this trait increases, their athletic performance decreases, the reverse is also true at the given track event. Similarly, neuroticism was positively and significantly correlated with best performance time of athletes at 200m track event ( $r = .483, p < 0.01$ ). Those athletes high on agreeableness and neuroticism recorded low athletic performance at the given SDR event. However, previous findings characterize those sprinters as relatively aggressive and nervous (Cooper, Laverly, & Perrin, 1960) as temperaments of successful athletes. The discrepancy of this finding from previous literature can be explained to the degree of being neurotic among athletes in SDR event. When individuals become extreme on neuroticism, it could influence the performance of those athletes in this event.

Neuroticism was negatively and significantly correlated with best performance time at 1500m track event ( $r = -.322, p < 0.05$ ). It was also positively and not significantly correlated with best performance time of athletes at 5000m track event. When the athletes score high on the neuroticism dimension of personality, they have scored high in their athletic achievements at the given track events. In contrary to the present finding lower scores on neuroticism scales are frequently reported for athletes, notably for higher achieving performers (Egan & Stelmack, 2003). In line with previous findings, neuroticism was positively correlated with best performance time at the rest track events even if it was not at a significant level.

The above statement (Egan & Stelmack, 2003) supports the current finding on neuroticism at SDR event. Neuroticism was correlated positively and not significantly with best performance time at the remaining track events considered in the study. As the athletes become high on neuroticism dimension, they have scored low athletic achievements and



the reverse is true. The correlation coefficients on the relationships between neuroticism and best performance time at 400m and 10,000m events were very weak and positive. The coaches during the interview session reported that most of those long distance runners were very descent, calm and obeyed compared to the short distance runners. Even though the coefficient is weak, being neurotic correlates with low athletic achievement in most track events.

## **5.2. Locus of Control and Athletic Performance**

The study tried to explore the relationship between internal-external LOC and athletic performance among athletes at different fields of events. The relationship between LOC and best performance time was weak and positive in all race types except at LDR track events. It denotes that as the athletes scored high on the internal LOC dimension, they scored low athletic performance at SDR and MDR track events. Internal LOC was positively and not significantly correlated with best performance time among athletes in the above track events. In other words, those athletes high on internal locus of control recorded low athletic performance. On the contrary, research findings show that peoples perform better when they feel control over their behaviors and events. In this regard, Weinberg (1994) indicated, the athletes who have more control over their goals consistently perform more effectively. It implies that the internal drive to succeed and perform is one of the factors that help athletes to accomplish difficult goals. Similar to Winberg's finding, internal LOC was negatively correlated with best performance time at LDR track events even though it was not at a significant level. As we all know, most of Ethiopian long distance runners seem to be successful in most athletic competitions. Hence, it is possible to say that those long distance Ethiopian runners are characterized by internal LOC. The deviation of the current finding at SDR and MDR track events from previous literatures done on human performances might be due to the degree of internal locus of control orientation over ones' outcome.

External LOC was also positively and significantly correlated with best performance time among athletes at 3000m track events( $r = .396$ ,  $P < 0.05$ ). It means as the athletes scored high on the external dimension of LOC, they recorded low athletic performance in most

types of races but significant at 3000m. Correspondingly, prior findings on LOC explained that external LOC has been found to be associated with low performances (Mamlin, Harris, & Case, 2001; Matsumoto & Takeuchi, 2000). In contrary to this, external locus of control was negatively correlated with best performance time at LDR track events. As those athletes high on external dimension of LOC, they recorded lowest possible time at the given track events.

Furthermore, the results found from open ended questions indicate that athletes relate either their success or failure towards several factors. The respondents describe the factors that they put as causes of their failure include factors related to health conditions, coaches, psychological factors, God's will, and "*beliefs on evil sprit/power*". Even though the quantitative analysis could not able to explain why the internal or external locus of control beliefs relate with performance at a certain degree, the open ended questions highlights the little further elaborations on the nature of their attribution to a certain degree. The qualitative analysis showed that most of the athletes attribute their failure toward factors outside him/her. On the other hand, most of the factors put as causes of success were inclined to internal factors than externals like hard working, designing plans, hard working etc.

Athletes with external locus of control see events, situations, people, and their lives as being caused by factors outside of their direct control (Matsumoto & Takeuchi, 2000). It means that athletes with external locus of control tend to place responsibility for their athletic performance on forces outside of him/her. Likewise, in this study nine of the coaches also reported that many athletes lost their result and position mainly as a result of frightening of other athletes' "evil sprit" or the so called "power/tinqola". The existing beliefs on "*power/tinqola*" among athletes has been affecting not only their achievements but also their social interaction and team work sprit.

Coaches also added that most of those athletes with low confidence try to find out complain like injury, training related factors, type of food, illness etc that causes their performance even before the game begins. Through incident in their lives, individuals characterized by an external locus of control begin to cognitively reinforce behaviors by

placing responsibility for outcomes on outside forces (Cox, 2002). Coaches were emphasizing on the psychological impacts of the wrong beliefs on “evil spirit” or “power/tinqola” on athletic achievement not only at the individual level but also at the national level. In contrast, the coaches did not hide the presence of world class athletes who break these wrong beliefs, know what to do and how to do their job effectively. Thus, a belief on one’s effort is more advisable to enhance performance. In contrast, external locus of control is mostly related to low performance since it preoccupies athletes’ thought in projecting one’s failure toward external bodies in steady of accepting responsibility to use their optimal potential.

### **5.3 Locus of Control and Personality Characteristics as Predictors of Athletic Performance**

LOC and personality characteristics were entered in the regression model to know their contribution in explaining the variance of performance time at SDR, MDR and LDR track events. However, the regression coefficients of determination do not satisfactorily explain the variance in performance at a significant alpha level in all running events.

The multiple regression analysis portray that the contributions of LOC and personality characteristics for the variance in athletic performance were not statistically significant among athletes across all track events considered in this study. This could be explained as personality variables are more likely to appear in interaction – rather than direct – effects, such as influencing the likelihood of converting one’s ability into achievements (Barrick & Mount, 1991). This implies that locus of control and personality characteristics have less direct influence on athletic performance.

### **5.4. Interrelationships of Demographic variables, LOC, Personality Characteristics and Athletic Performance**

This study tried to examine the relationships of independent variables (demographics characteristics, LOC and personality characteristics) and athletic performance. Among the demographic variables age and frequency of participation in athletics competition were found to correlate negatively and significantly with best performance time( $r = -.403$ ,  $r = -$

.422, at  $p < .05$  respectively) at 5000m track event. Moreover, age was negatively and significantly correlated with best performance time ( $r = -.441$ ,  $p < .05$ ) at 3000m running type. It suggests that as the age of the athlete become relatively older, their athletics performance become high (shorter time scored). Hence, those athletes score better performance at their best field of events when they have been relatively older in their age than their partners. Moreover, frequency of participation and average monthly income were positively and significantly correlated with number of medals earned by the participants. Those athletes who participate in athletic performance frequently and other athletes stayed in their club for long time earned more number of medals.

The frequency of participation in athletic competitions was negatively correlated with best performance time at MDR events. Being involved in more athletic competition was associated with better athletic performance across the track events except at 200m event at which positive correlation was observed.. Even though no literatures exist to support or contradict, it could be due to the motivations and experience brought from the frequent participation in athletic competition associate with better performance at relatively longer distance events.

The demographic variables considered in the study were also entered in to regression analysis to see its predictive ability of athletic performance at all events. Those characteristic consisting of age, educational level, frequency of participation in athletic competitions, amount of time stayed in clubs and average monthly income jointly account about 37.1% ( $R = .71$ ,  $p < 0.05$ ) and 40.2% ( $R = .739$ ,  $p < .05$ ) of the variance in best performance time at 200m and 400m track events at a significant level respectively. Moreover those demographic variable were able to explain 44.2% of the variance of best performance time significantly ( $R = .751$ ,  $p < .05$ ) at 5000m track event. In this regard , Bale, Bradbury and Colley (1986) found that along with other factors the type and frequency of training and the number of years running were the best predictors of running performance and success at the 10 km distance.

The independent sample t-test also confirm that statistically significant variation exist between male and female athletes on some personality characteristics at certain running

events. But there is no significant difference between male and female athletes on both dimensions of LOC across all types of track events in this study. In contrast, Mamlin, Harris, and Case (2001) described that males tend to be the more internal than females.

The independent sample t-test analysis reveals that male and female athletes' mean values on neuroticism personality characteristics was significantly different at 200m( $t = -2.150$ ,  $df = 32$ ,  $p < .05$ ). This shows female athletes score higher mean value compared to male athletes on neuroticism at this event. Moreover, the finding of the study indicate statistically significantly sex differences on openness to experience and agreeableness ( $t = -2.082$ ,  $t = -2.786$ ,  $df = 25$ ,  $p < .05$ ) at 3,000m running event. Male and female athletes were significantly different on extraversion ( $t = 2.065$ ,  $df = 31$ ,  $p < .05$ ) at 5,000m track event. This implies that male athletes were more extravert than female athletes at the given event.

### **5.5. The Role of Counseling to Improve Athletic Performance**

The athletes tried to explain their psychological problems which affect their athletic performance. The responses indicated that those psychological factors were the most ignored and unexplored even though it was most prevalent and hurt performance of athletes. Counseling services were given in any of the athletics clubs to alleviate those observed psychological problems of athletes.

Researchers have been identifying the determining factors of athletic performance for decades. According to Gleeson (2002) athletes fail to perform to the best of their ability if they become infected, stale, sore or malnourished. Similarly, this study also indicated that health related factors like injury, common illness, discomforts and inappropriate eating habits of athletes were deteriorating factors of athletic performance. Moreover, both the athletes and coaches reported that overtraining in seeking of good performance and inadequate rests among athletes due to several reasons contribute for the failure of many athletes. Likewise, Excessive training with insufficient recovery can lead to a debilitating syndrome in which performance and well being can be affected for months (Gleeson, 2002).



Furthermore, psychological problems were indicated as the most prevalent and hammering the growth of athletic performance among many of the respondents. Those psychological problems listed as the determinant factors of performance include, extreme fear, unwise goal setting, anxiety, over arousal, inappropriate eating styles, hopelessness, restless feeling, etc. above all wrong beliefs on “evil spirit/power” is the current problem in which many athletes were overwhelmed in various competitions even if they have a potential talent as the elite contestant. Those problems seem either parts or closely related to the individual personality traits and internal-external locus of control.

Even though those athletes have encountered several problems, the respondents reported that counseling services was not provided for them earlier. About 94% of the athlete respondents showed the need of counseling services for various purposes. The problems of athletes described in the open ended questions and interview analysis also show the status of counseling practices and need of counseling interventions for alleviating their problems. As the analyses indicate most of those athletes externalize their failure inappropriately by externalizing to things outside themselves. The belief of those athletes on “*power/evil spirit*” is a good evidence to show the way most athletes have been externalizing athletics events inappropriately. The belief on this “*evil spirit*” reigned in most athletes as reported from coaches and some athletes may be due to the way athletes perceive it, attitudes and the cognitive appraisal of the individual about that “*evil spirit*”. This could be possibly resolved through psychological treatments by employing various counseling intervention mechanisms.

The respondents of this study explained importance or values of psychological support for improvement of athletic performance. They pointed out that without applications of psychological principles, success in athletics is unthinkable. The existing problems of athletes can be witnesses for the need of counseling services for athletes. Hamilton (2000) also stated that there is a theoretical rationale that psychology plays a critical role in the dominance of the East African runner. Even though the theoretical explanations indicate the role of psychology for the success of east African athletes, there have been no organized psychological services provided for Ethiopian athletes in general.



## **Chapter Six**

### **6. Summary, Conclusions and Recommendations**

#### **6.1 Summary**

This research was conducted on 10 athletics sport clubs which have been known in producing competent athletes who covers most of the national athletics team. The main purpose of the study was to investigate the relationships of athletic performance with locus of control and personality characteristics of Ethiopian athletes. Attempts also made to examine counseling intervention strategies employed to enhance the athletes' performance.

Data were collected using Internal-external locus of control scale, big five personality inventory and semi structured interview questions. The scales were adapted from reliable sources and good reliabilities also reported from these sources. Before the instruments were used to collect data, it was translated in to Amharic language and try out was also conducted on 30 athletes. Adequate reliabilities obtained from pilot and some modifications were made on few items of the given scales before application.

After the athletes were selected through simple random sampling technique from three running events at each sport clubs, the questionnaires (225) were distributed for the participants during athletic training programs. Among the questionnaires distributed to sample athletes, 208 questionnaires were properly filled and returned. Others were either not returned or rejected since the items were not properly filled.

The quantitative data was analyzed using statistical methods like Pearson product moment correlation, Multiple regression analysis, stepwise multiple regression and independent sample t-test. On the other hand, the qualitative data obtained from open ended questions of athletes and interview with coaches were organized, integrated, explained and narrated as the respondents described.

Through applying the above statistical and qualitative methods, data was analyzed and the following results were obtained:

- In one way or the other the demographic variables were related with performance time and the main independent variables.

- Internal LOC was positively and not significantly correlated with best performance time at SDR and MDR events. Similarly, external LOC was positively and significantly associated with best performance time ( $r = .396$ ,  $p < .05$ ) at 3,000m track event.
- Neuroticism was positively and significantly correlated with best performance time of athletes ( $r = .483$ ,  $p < .01$ ) at 200m track event. In contrast, neuroticism was negatively and significantly correlated with best performance time ( $r = -.322$ ,  $p < .05$ ) at 1500m running event.
- Agreeableness was positively and significantly correlated with best performance time ( $r = .454$ ,  $p < .05$ ) at 400m track event .
- Comparison of male and female athletes on internal external locus of control using independent sample t-test found no significance differences at all specific six track events.
- Females were scoring higher on openness to experience and agreeableness ( $t = -2.082$ ,  $t = -2.786$ ,  $df = 25$ ,  $p < .05$ ) at 3,000m running event. However male athletes were relatively higher on extraversion than females at 5000m track event.
- There was no significance difference by sex regarding the personality characteristics of conscientiousness at all running events.
- The multiple regression analysis indicated that demographic variables were able to explain the variance in best performance time at significant level at SDR events. However, those variables entered in the regression model did not contribute for variances in athletic performance significantly at MDR events.
- The main independent variables( LOC and OCEANs) entered in the regression model were not significantly contribute for the variances in best performance time of those athletes across all track events considered in this study.
- The athletes described psychological, coach related, health related, hard working and God's will as the predisposition factors for their success or failures in athletics championships.

- All of the respondents acknowledge the importance of counseling service for the improvement of athletic performance and psychological wellbeing during champions.
- The coaches emphasized on wrong beliefs reigning among majority of athletes' mind and its devastating effect on athletic performance not only at sport clubs but also at national levels.
- Both the athletes and coaches assured that there was no professional counseling services provided for athletes even though deep rooted problems which need psychological intervention had been existed in the sport clubs. However, the coaches provide simple advice for athletes even though they did not take training courses.

## 6.2 Conclusions

Even though possible attempts have been done to minimize the influence of limitations on the findings of the study, it could not be avoided. some restrictions encountered this study include: Due to shortage of time and finance the samples were drawn only from the known sport clubs; the instruments (BFI-44 and modified Rotter's I-E scale) used in this study were new to our culture and were not widely used earlier in our context; the athletic performance of the participants was also collected mainly through self report. Official documented data about the athletes' performance was not collected due to difficulties in obtaining organized actual data of athletes' performance from their clubs. These limitations need to be considered on the conclusions forwarded in the study.

The following conclusions are drawn based on the findings of the study:

- As the demographic information indicated, the average age of the respondents was around 20. Moreover, the majority of those athletes found in junior and high school educational ladders. There were also athletes at elementary educational levels. Thus, athletes do not go ahead in their educational aspects even though most of them found at the most fertile stage that is period of adolescence.
- The analysis indicated that internal locus of control was positively related with performance time at SDR and MDR events. It implies those athletes who score high on

internal locus of control scale at SDR and MDR scored low athletic performance. On the other hand, external locus of control was negatively and significantly associated with performance time at 3,000m track event. This means those athletes with higher external locus of control scored better athletic performance at the given track event.

- The finding of the study showed that those athletes high on neuroticism scored low athletic performance at SDR events. In contrast, those athletes high on neuroticism achieved high athletic performance at 1500m track event.
- The statistical t-test analysis revealed that there was no sex difference on internal-external locus of control across all types of running events.
- There was no significance difference between male and female athletes on conscientiousness personality characteristics. But, female athletes trained at 3000m were scoring higher on openness to experience and agreeableness than male athletes in.
- The correlation coefficients of locus of control and personality characteristics with best performance time showed discrepancies to a certain degree across the three types of running. Thus, the relationships of athletic performance with locus of control and personality characteristics vary by type of running events.
- The participants of the study reported that athletes had been bounded by several troubles. The coaches were tried to help them through simple advice to solve the existing problems. However, professional counseling or any other psychological services have not been provided for athletes at all research sites. Furthermore, there were no advanced psychological intervention mechanisms applied to improve the existing conditions among athletes including their athletic performance.
- Several issues related to athletic performance were explained such as the influence of personality on performance, the intervention strategies provided for athletes, and the inherent psychological problems which influence athletic performance. Above all, the respondents particularly coaches and the given cases narrated in the analysis show the “beliefs on evil spirit/power” was the most hidden and prevalent problem that puts a devastating influence on performance of many athletes’ performance even though they have physical talents.

- In addition to what this study explored some details about athletics performance, Gould et al., cited in (Samulski, & Lopes, 2008) point out that “Successful Olympic Performance is a complex, multifaceted, fragile and long-term process that requires extensive planning and implementations. Attention to detail counts, but must also be accompanied by flexibility to deal with numerous unexpected events”. Hence, producing successful athletes for international championships entail determination, cooperative and organized actions of all responsible bodies like administrative members, coaches, counselors, parents, athletes and all athletics team members.
- In conclusion, there was a deficiency of local studies to make comparisons with previous studies done by researchers from overseas .Therefore, more studies need to be carried out locally in the future. It is hoped that that this study’s finding would be beneficial in upgrading the sport quality in Ethiopia.

### 6.3 Recommendations

- The findings of the study showed differences in personality characteristics and locus of control beliefs among athletes at different running events. Thus, the coaches, program managers, psychologists and other athletics team members need give due attention to these differences when they design and implement varies strategies to enhance athletic performance;
- The qualitative results of the research revealed that widely deep rooted problem that is frustrations as well as beliefs on “*power/evil sprit/magic*” had been prevailing among many of the athletes in the study area. However, no one speaks out either about the benefits or disadvantages of such belief rather it was kept as secretes and sin. Since these beliefs are mainly culture oriented, it needs coordination of various bodies. Thus, professionals from different disciplines should work hand in hand in order to halt or at least to reduce its impact on athletes’ performance and their psychological wellbeing. In order to avoid this deep rooted problem, special attempts need to be done through drama, film, psychological treatment, discussion and education programs with athletes, , media advocacy, etc about the existing situations by the responsible bodies;

- In order to alleviate the existing multifaceted problems of athletes, adequate professional counseling services need to be provided for all athletes. Therefore, those responsible bodies such as Ethiopian Athletics Federation and club administrators should facilitate conditions to include counselors as athletics team members/staffs at each sport clubs and national level;
- Those responsible bodies and professionals close to athletes should give more emphasis on athletes' achievement orientations and perception of outcomes. Thus, adequate guidance need to be given in setting smart goals and internalize the happenings in their life appropriately;
- Coaches and other helping professionals, especially those who are involved with assisting athletes need be aware of the Locus of Control orientation of these athletes. Moreover, personality characteristics and locus of control orientations of athletes should be incorporated as main contents of training programs provided for coaches and supportive staffs of athletics team
- Currently, since coaches are the most close professionals who are responsible to give supports for athletes at the present, upgrading the efficiency of coaches should be done by providing psychological and counseling short term trainings and workshops by each sport clubs; Ethiopian athletics federation and other governmental or non-governmental organizations;
- Since this area has not been investigated well in our country, further psychological investigations should be carried out through increasing the sample size and employing other instruments.



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## Appendix A: A Questionnaire Amharic Version

### በአዲስ አበባ ዩኒቨርሲቲ ሣይክሎጂ ትምህርት ተቋም ካውንስሊንግ ሣይክሎጂ ድህረ-ምረቃ ፕሮግራም

#### አጠቃላይ መመሪያ

የዚህ ትምህርታዊ ምርምር ዓብይ አላማ የሰው ልጅ ስብዕና (ባህሪ) ከአትሌቲክ ውጤት ጋር ያለውን ትስስር በመዳሰስ የአትሌቶችን ውጤት በበለጠ ለማሻሻል እና የሚታዩ ችግሮችን ለመቅረፍ የሚረዱ የመፍትሄ ሀሳቦችን ለመጠቀም ታስቦ ነው። ስለሆነም በዚህ መጠይቅ ውስጥ ስብዕናን የሚገልጹ የተለያዩ ጥያቄዎች እንደሚከተለው ተዘርዝረዋል። እነዚህ ጥያቄዎች ትክክል ወይም ስህተት የሆነ መልስ የላቸውም በመሆኑም ከተሰጡት አምስት አማራጮች በይበልጥ ይገልጻኛል ብለው የሚገምቱትን በተሰጠው ሰንጠረዥ ውስጥ በእያንዳንዱ ጥያቄ ትይዩ ይህን ምልክት(✓) በማድረግ ይምረጡ፤ ሌሎች ጥያቄዎችንም እንደ አስፈላጊነቱ መልስ ይስጡባቸው። በመጨረሻም የሚሰጡት ምላሽ ለጥናቱ ስኬታማነት ወሳኝ መሆኑን ተገንዝበው በታማኝነት ምላሽ በመስጠትና ሁሉንም ጥያቄዎች በመሙላት እንድትሰጡና በትህትና እጠይቃለሁ።

#### ማሳሰቢያ :-

- በዚህ መጠይቅ በየትኛውም ቦታ ላይ ስም መጻፍ አያስፈልግም።
- የሚሰጡት መረጃ በሚስጥራዊነት የሚጠበቅ ሲሆን ማንንም በምንም አይነት ዓይነትም አይገኝም።
- በመጠይቁ ውስጥ መልስ ሳይሰጡ የተውጡ ጥያቄ ካለ ጥናቱን ያልተሟላ ስለሚያደርገው ለሁሉም ጥያቄዎች ምላሽ መስጠታዎን ያረጋግጡ።

ለሚያደረጉልኝ ትብብር ሁሉ በቅድሚያ አመሰግናለሁ።





**ክፍል ሁለት፡ የሚከተሉትን 30 ዐረፍተ ነገሮች በጥንቃቄ ካነበብክ/ሽ በኋላ የምትስማማበት/ሚበት ወይም የማትስማማበት/ሚበት መሆኑን በሰንጠረዥ ውስጥ ከተሰጡት አምስት አማራጮች ውስጥ በተሰጠው ክፍት ቦታ ይህን ምልክት (✓) በማድረግ ይምረጡ።**

| ተ.ቁ. | ዓረፍተ ነገሮች                                                                   | የመስማማት/የለመስማማት ሁኔታ |               |              |             |     |        |
|------|-----------------------------------------------------------------------------|--------------------|---------------|--------------|-------------|-----|--------|
|      |                                                                             | በጭራሽ አልሰማላለሁም      | በመጠኑ አልሰማላለሁም | እስማማለሁም አልልም | በመጠኑ እስማማለሁ | በጣም | እስማማለሁ |
| 1    | በሰዎች ህይወት ውስጥ አብዛኞቹ የማያስደስቱ ነገሮች የሚከሰቱት በመጥፎ ዕድል ምክንያት ነው                   |                    |               |              |             |     |        |
| 2    | መጥፎ እድሎች/አጋጣሚዎች ሰዎች ከሚሰሯቸው ስህተቶች የሚመነጩ ናቸው                                  |                    |               |              |             |     |        |
| 3    | ሰዎች ለወደፊት በዚህ አለም ላይ የሚገባቸውን ክብር ያገኛሉ                                       |                    |               |              |             |     |        |
| 4    | እንደ አጋጣሚ ሆኖ እንደ ሰው ምንም ያህል ቢጥር ብዙ ጊዜ ክብሩ ዕውቅና ሳያገኝ ያልፋል                     |                    |               |              |             |     |        |
| 5    | አሰልጣኞች ለአትሌቶች ሚዛናዊ አይደሉም የሚለው ሀሳብ እርባና ቢስ ነው                                |                    |               |              |             |     |        |
| 6    | አብዛኞቹ አትሌቶች የሚያጋጥሟቸው ክስተቶች በውጤታቸው ላይ እስከምን ድረስ ተጽዕኖ እንደሚያሳድሩባቸው አይገነዘቡም     |                    |               |              |             |     |        |
| 7    | ምንም ያህል ተግተህ ብትጥር ጥቂት ሰዎች አይወዱህም                                            |                    |               |              |             |     |        |
| 8    | ሌሎች ሰዎች እንዲወዷቸው ማድረግ ያልቻሉ ሰዎች ከሌሎች ጋር እንዴት መጓዝ እንዳለባቸው አይገነዘቡም              |                    |               |              |             |     |        |
| 9    | ብዙ ጊዜ ሊሆን የሚችለው ሲሆን አግኝቶቻለሁ                                                 |                    |               |              |             |     |        |
| 10   | በእኔም እንዳየሁት ተግባራዊ እርምጃ ( ውሳኔ ) ለመስጠት በአጣፈንታ ላይ እምነት መጣል በፍጹም ለስኬት አያበቃም     |                    |               |              |             |     |        |
| 11   | ስኬታማነት ጠንክሮ የመስራት ጉዳይ ነው፤ ዕድል ለስኬት ትንሽ ወይም ምንም የሚፈይደው ነገር የለም               |                    |               |              |             |     |        |
| 12   | ጥሩ ስራ ለማግኘት በዋናነት በትክክለኛ ቦታ በትክክለኛ ጊዜ በመሆን ላይ የተመሰረተ ነው                     |                    |               |              |             |     |        |
| 13   | እቅድ በማወጣት ወቅት ተግባራዊ እንደማይርገው በአብዛኛው እርግጠኛ ሁኔ ነው                             |                    |               |              |             |     |        |
| 14   | ቀድሞ ማቀድ ሁልጊዜ ብልህነት አይደለም ምክንያቱም የአብዛኞቹ ነገሮች ስኬት የመልካም ወይም የመጥፎ እድል ጉዳይ በመሆኑ |                    |               |              |             |     |        |
| 15   | ከእራሴ አንጻር የምፈልገውን ማግኘቱ ከዕድል ጋር ትንሽ ወይም ምንም ግንኙነት የለውም                       |                    |               |              |             |     |        |
| 16   | ብዙ ጊዜ ሳንቲም በማጓጓ(በማሾር) እጣ በማውጣት ምን መሰራት እንዳለብን ብንወስን መልካም ነው                 |                    |               |              |             |     |        |
| 17   | አብዛኞቹ ሰዎች ህይወታቸው እስከምን ድረስ በአጋጣሚ ክስተቶች ቁጥጥር ስር እንደሆነ አይገነዘቡም                |                    |               |              |             |     |        |
| 18   | በእርግጠኝነት እንደ ዕድል ያለ ነገር የለም                                                 |                    |               |              |             |     |        |
| 19   | አንድ ሰው በትክክል የሚወድህ ወይም የማይወድህ መሆኑን ለማወቅ ያስቸግራል                              |                    |               |              |             |     |        |
| 20   | የጓደኞችህ ብዛት የሚወስነው ምን ያህል መልካም ሰው በመሆንህ ላይ ነው                                |                    |               |              |             |     |        |
| 21   | ያጋጠሙን መጥፎ ክስተቶች ለወደፊት በመልካም ነገሮች ይካካላሉ                                      |                    |               |              |             |     |        |
| 22   | አብዛኞቹ መጥፎ ዕድሎች የችሎታ ማጣት፣ የዕውቀት ማነስ፣ ስንፍና ወይም በአጠቃላይ የሶስቱም ውጤቶች ናቸው          |                    |               |              |             |     |        |
| 23   | አንድ አንድ ጊዜ አሰልጣኞች እንዴት ደረጃ እንደሚሰጡ አይገባኝም                                    |                    |               |              |             |     |        |
| 24   | በጥንካሬ ልምምድ ማድረግና ያስመዘገብኩት ውጤት ቀጥተኛ ግንኙነት አላቸው                               |                    |               |              |             |     |        |
| 25   | ብዙ ጊዜ በሚያጋጥሙኝ ነገሮች ላይ አነስተኛ ተጽዕኖ እንዳለኝ ይሰማኛል                                |                    |               |              |             |     |        |
| 26   | ለእኔ አጋጣሚ ወይም ዕድል በህይወቴ ጠቃሚ ሚና አለው ብዬ ማመን አልችልም                              |                    |               |              |             |     |        |
| 27   | ሰዎች ብቸኛ የሚሆኑት ጓደኛ ለመሆን ስላልሞከሩ ነው                                            |                    |               |              |             |     |        |
| 28   | ሰዎች የሚወዱህ ከሆነ ይወዱሃል፤ እነርሱን በጣም ለመሳብ መሞከር ያን የህል ጠቀሜታ የለውም                   |                    |               |              |             |     |        |
| 29   | በእኔ ላይ የሆነው የእራሴ ድርጊት ነው                                                    |                    |               |              |             |     |        |
| 30   | አንድ አንድ ጊዜ ህይወቴ ሊይዝ በሚችለው አቅጣጫ ላይ በቂ ቁጥጥር እንደሌለኝ ይሰማኛል                      |                    |               |              |             |     |        |

ክፍል ሦስት፡- በዚህ ሰንጠረዥ ውስጥ ስብዕናን አስመልክቶ 44 ዐረፍተ ነገሮች ተዘርዝረዋል። ለአያንዳንዱ ዐረፍተ ነገር አምስት አማራጮች ተሰጥተዋል። እያንዳንዱን ዐረፍተ ነገር ካነበብክ/ሽ በኋላ የእርሶዎን ስብዕና በሚገባ ይገልጻኛል ብለው የሚሰማሙበትን ከተሰጡት የደረጃ አማራጮች ውስጥ በተሰጠው ክፍት ቦታ ይህን ምልክት (✓) በማድረግ ይምረጡ።

በጥቅሉ እኔ-----

| ተ.ቁ. | ስብዕናን የሚገልጹ ዓረፍተ ነገሮች            | የመስማማት/ያለመስማማት ሁኔታ |                |             |                |                |               |
|------|----------------------------------|--------------------|----------------|-------------|----------------|----------------|---------------|
|      |                                  | በጭራሽ<br>አልስማማም     | በመጠኑ<br>አልስማማም | እስማማለሁ<br>ም | አልስማማም<br>አልልም | በመጠኑ<br>እስማማለሁ | በማም<br>እስማማለሁ |
| 1    | ወግ ማውጋት እወዳለሁ                    |                    |                |             |                |                |               |
| 2    | ከሌሎች ሰዎች ስህተት እፈልጋለሁ             |                    |                |             |                |                |               |
| 3    | የተሟላ ስራ እሰራለሁ                    |                    |                |             |                |                |               |
| 4    | ድብርት እንድሁም ትካዜ ይሰማኛል             |                    |                |             |                |                |               |
| 5    | አዲስ ሀሳብ አፍላቂና የፈጠራ ባለቤት ነኝ       |                    |                |             |                |                |               |
| 6    | ቁጥብ ነኝ                           |                    |                |             |                |                |               |
| 7    | ለራሴ ቅድሚያ የማልሰጥና ሌሎችን የምረዳ ነኝ     |                    |                |             |                |                |               |
| 8    | በመጠኑ ግዴሳ ስለሆናለሁ                  |                    |                |             |                |                |               |
| 9    | የተረጋጋሁና ጫናን በአግባቡ የምቋቋም ነኝ       |                    |                |             |                |                |               |
| 10   | ስለብዙ የተለያዩ ነገሮች ለማወቅ እንጓለሁ       |                    |                |             |                |                |               |
| 11   | ብዙ(አምቅ) ሃይል አለኝ                  |                    |                |             |                |                |               |
| 12   | ጠብ አነሳሽ ነኝ                       |                    |                |             |                |                |               |
| 13   | ታማኝ ሰራተኛ ነኝ                      |                    |                |             |                |                |               |
| 14   | በሐሳብ መወጣጠር ያጋጥመኛል                |                    |                |             |                |                |               |
| 15   | ብልህና ጥልቅ አሳቢ ነኝ                  |                    |                |             |                |                |               |
| 16   | ከፍተኛ ወኔ አለኝ                      |                    |                |             |                |                |               |
| 17   | ይቅርታ የማድረግ ተፈጥሮ አለኝ              |                    |                |             |                |                |               |
| 18   | ዝርክርክነት ይታይብኛል                   |                    |                |             |                |                |               |
| 19   | በጣም እሸበራለሁ                       |                    |                |             |                |                |               |
| 20   | ንቁ አይነ-ህሊና አለኝ                   |                    |                |             |                |                |               |
| 21   | ዝምተኝነት ያጠቃኛል                     |                    |                |             |                |                |               |
| 22   | በጥቅሉ እምነት የሚጣልብኝ ነኝ              |                    |                |             |                |                |               |
| 23   | ቸል ማለት አበዛለሁ                     |                    |                |             |                |                |               |
| 24   | በስሜት የተረጋጋሁና በቀላሉ የማልከፋ ነኝ       |                    |                |             |                |                |               |
| 25   | የፈጠራ ሰው ነኝ                       |                    |                |             |                |                |               |
| 26   | በእራሴ የመተማመን ስብዕና አለኝ             |                    |                |             |                |                |               |
| 27   | ለዘብተኛና ገለልተኛ እሆናለሁ               |                    |                |             |                |                |               |
| 28   | ስራ ሳልጨርስ አልተውም                   |                    |                |             |                |                |               |
| 29   | ስሜቴ ተለዋዋጭ ነው                     |                    |                |             |                |                |               |
| 30   | ለስነ-ጥበብና ስነ-ወበት ዕውቀቶች ልዩ ግምት አለኝ |                    |                |             |                |                |               |
| 31   | አንድ አንድ ጊዜ አይን-አፋርና ፈሪ ነኝ        |                    |                |             |                |                |               |
| 32   | በአብዛኛው ለማንኛውም ሰው ጥሩ አሳቢና ሩህሩህ ነኝ |                    |                |             |                |                |               |
| 33   | ስራዎችን በብቃት እሰራለሁ                 |                    |                |             |                |                |               |
| 34   | ውጥረት ባለበት ሁኔታ መረጋጋትን እመርጣለሁ      |                    |                |             |                |                |               |
| 35   | ተደጋጋሚ የሆነ ስራ እመርጣለሁ              |                    |                |             |                |                |               |
| 36   | ተጫዋችና ተግባቢ ነኝ                    |                    |                |             |                |                |               |
| 37   | አንድ አንድ ጊዜ በሌሎች እጨክናለሁ           |                    |                |             |                |                |               |
| 38   | እቅዶችን አወጣለሁ በእነርሱም እመራለሁ         |                    |                |             |                |                |               |
| 39   | በቀላሉ እበሳጫለሁ                      |                    |                |             |                |                |               |
| 40   | ምላሽ መስጠትና በሃሳቦች መቀላለድ እወዳለሁ      |                    |                |             |                |                |               |
| 41   | አነስተኛ የጥበብ ፍላጎት አለኝ              |                    |                |             |                |                |               |
| 42   | ከሌሎች ጋር መተባበር እወዳለሁ              |                    |                |             |                |                |               |
| 43   | በቀላሉ እረበሻለሁ                      |                    |                |             |                |                |               |
| 44   | በጥበብ፣ መዘላቂያ ወይም ስነ-ጽሁፍ የተካንኩ ነኝ  |                    |                |             |                |                |               |

**ክፍል አራት፡-የሚከተሉትን ጥያቄዎች በጥሞና ካነበቡ በኋላ ግልጽ እና አጠር ባለ መልኩ ማብራሪያ ይስጡባቸው፡፡**

45. ለውጤትሽ/ህ መሻሻል ወይም ማሽቀልቀል ምክንያት ይሆናሉ ብለው የሚያምኗቸው ነገሮች ምን ምን ናቸው?

46. የአንተ/ች ስብዕና (ተከታታይና ወጥ ባህሪ) በውጤት-ህ/ሽ ላይ ተጽዕኖ ይኖረዋል ብለህ/ሽ ታስባኪ/ቢያለሽ?  
ሀ) አዎ ለ) የለውም ፤ መልሰዎ አዎን ከሆነ እንዴት ስብእናዎ በውጤት-ህ/ሽ ላይ ተጽዕኖ ሊያሳድር እንደሚችል ቢያብራሩልኝ?

47. እንደ እርስዎ አመለካከት ስነልቦናዊ ችግሮች ከአትሌቶች ውጤት ጋር አንጻራዊ ትስስር አላቸው ብለው ያምናሉ? እንዴት?

48. የምክክር ስነ-ልቦና(ካውንስሊንግ ሳይኮሎጂ) አገልግሎት ማግኘት ወይም መጠቀም ይፈልጋሉ??

|       |           |
|-------|-----------|
| ሀ) አዎ | ለ) አልፈልግም |
|-------|-----------|

49. በአጠቃላይ የምክክር ስነልቦና(ካውንስሊንግ ሳይኮሎጂ) አገልግሎት ለአትሌቶች ምን አይነት ፋይዳ ሊኖረው ይችላል ብለው ያስባሉ?

50. የአትሌቶችን ሁለንተናዊ ችግሮችን ለማቃለልና ስኬታማ ለማድረግ ምን ዓይነት የምክክር ስነልቦና(ካውንስሊንግ ዓይኮሎጂ) አገልግሎቶችን ማግኘት ይፈልጋሉ?

ሰላደረጉልኝ ትብብር ሁሉ አልብ አመሰግናለሁ!!

## APPENDIX B: A Questionnaire English Version

### ADDIS ABABA UNIVERSITY INSTITUTE OF PSYCHOLOGY COUNSELING PSYCHOLOGY GRADUATE PROGRAM

#### General Direction

The main purpose of this questionnaire is to investigate the relationships of athletic performance with locus of control and personality characteristics among Ethiopian athletes. The information obtained will help to recommend plausible solutions for the observed problems. To obtain reliable and valid information for the research, your open and genuine response is highly appreciated. ***There are no right or wrong answers*** and what is required is to show the level of your personal opinion to each item.

The questionnaire has four parts: Part one is about your personal information, part two – is about overall locus of control beliefs and part three – deals with personality characteristics, finally open ended questions are given to you to explain what you feel on each issue. Each part has its own instruction. Please read each item carefully and give your honest response to each item. If you overlook any item without giving response, it will invalidate the study. So, please check that you have given your response to all items.

Note: *Do not write your name on any part of the questionnaire.*

*Your responses will be kept confidential and used only for research purpose.*

Thank you for your cooperation in advance!!

## Part I: Personal Background Information

**Direction:** please fill the blank space and choose the letter that fit with your idea for those statements which have alternatives by circling for the following questions.

1. Your club's name -----
2. sex :-                      a) Female                                              b) Male
3. your age: -----
4. marital status: a) single                                              b) married
5. your educational level: -----
6. Which one of the following track events of athletics in which you have been participating or training?  
a) Short distance                      b) middle distance                      c) long distance
7. What is your best performance time (in terms of hour, minute, second or microsecond) that you scored/recorded at athletic competitions or trainings (not more than and less than ten) in your best track event for the last three months in Ethiopia? -----
8. How many medals you earned for the last two computational years in the track that you have been competing? -----
9. How many times you have been participated in athletics championships for the last two computational years? -----
10. How many years that you have been stayed at your club? -----
11. What is the average monthly income you earned in your club? -----

## Part II: Modified Rotter's I-E Scale (Athlete's Self-report Scale; Rotter, 1966)

**Direction:-** There are 30 statements about locus of control beliefs and each statement has five alternatives. Read each item carefully and put this mark (✓) under the alternative that best expresses your feeling about the statement.

| S.N. | Internal-External locus of control items                                                                               | Extent of agreement/disagreement |                      |                                     |                   |                   |
|------|------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------|-------------------------------------|-------------------|-------------------|
|      |                                                                                                                        | Disagree<br>strongly             | Disagree<br>a little | Neither<br>Agree<br>Nor<br>Disagree | Agree<br>a little | Agree<br>Strongly |
| 1    | Many of the unhappy things in people's lives are partly due to bad luck.                                               |                                  |                      |                                     |                   |                   |
| 2*   | People's misfortunes result from the mistakes they make.                                                               |                                  |                      |                                     |                   |                   |
| 3*   | In the long run people get the respect they deserve in this world.                                                     |                                  |                      |                                     |                   |                   |
| 4    | Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.                            |                                  |                      |                                     |                   |                   |
| 5*   | The idea that coaches are unfair to athletes is nonsense.                                                              |                                  |                      |                                     |                   |                   |
| 6    | Most athletes don't realize the extent to which their performances are influenced by accidental happenings.            |                                  |                      |                                     |                   |                   |
| 7    | No matter how hard you try, some people just don't like you.                                                           |                                  |                      |                                     |                   |                   |
| 8*   | People who can't get others to like them don't understand how to get along with others.                                |                                  |                      |                                     |                   |                   |
| 9    | I have often found that what is going to happen will happen.                                                           |                                  |                      |                                     |                   |                   |
| 10*  | Trusting fate has never turned out as well for me as making a decision to take a definite course of action.            |                                  |                      |                                     |                   |                   |
| 11*  | Becoming a success is a matter of hard work, luck has little or nothing to do with it.                                 |                                  |                      |                                     |                   |                   |
| 12   | Getting a good job depends mainly on being in the right place at the right time.                                       |                                  |                      |                                     |                   |                   |
| 13*  | When I make plans, I am almost certain that I can make them work.                                                      |                                  |                      |                                     |                   |                   |
| 14   | It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow. |                                  |                      |                                     |                   |                   |
| 15*  | In my case getting what I want has little or nothing to do with luck.                                                  |                                  |                      |                                     |                   |                   |
| 16   | Many times we might just as well decide what to do by flipping a coin.                                                 |                                  |                      |                                     |                   |                   |
| 17   | Most people don't realize the extent to which their lives are controlled by accidental happenings.                     |                                  |                      |                                     |                   |                   |
| 18*  | There really is no such thing as "luck."                                                                               |                                  |                      |                                     |                   |                   |
| 19   | It is hard to know whether or not a person really likes you.                                                           |                                  |                      |                                     |                   |                   |
| 20*  | How many friends you have depends upon how nice a person you are.                                                      |                                  |                      |                                     |                   |                   |



| S.N. | Internal-External locus of control items                                                         | Extent of agreement/disagreement |                      |                                     |                   |                   |  |
|------|--------------------------------------------------------------------------------------------------|----------------------------------|----------------------|-------------------------------------|-------------------|-------------------|--|
|      |                                                                                                  | Disagree<br>strongly             | Disagree<br>a little | Neither<br>Agree<br>Nor<br>Disagree | Agree<br>a little | Agree<br>Strongly |  |
| 22*  | Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.           |                                  |                      |                                     |                   |                   |  |
| 23   | Sometimes I can't understand how coaches arrive at the rank they give.                           |                                  |                      |                                     |                   |                   |  |
| 24*  | There is a direct connection between how hard I do athletic training and the performances I get. |                                  |                      |                                     |                   |                   |  |
| 25   | Many times I feel that I have little influence over the things that happen to me.                |                                  |                      |                                     |                   |                   |  |
| 26*  | It is impossible for me to believe that chance or luck plays an important role in my life.       |                                  |                      |                                     |                   |                   |  |
| 27*  | People are lonely because they don't try to be friendly.                                         |                                  |                      |                                     |                   |                   |  |
| 28   | There's not much use in trying too hard to please people, if they like you, they like you.       |                                  |                      |                                     |                   |                   |  |
| 29*  | What happens to me is my own doing.                                                              |                                  |                      |                                     |                   |                   |  |
| 30   | Sometimes I feel that I don't have enough control over the direction my life is taking.          |                                  |                      |                                     |                   |                   |  |

**Note:** all the items in the table with a symbol (\*) on the front are internal LOC and the rest items are external LOC.

### Part III: The Big Five Inventory-44

Direction: here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please put a tick (✓) next to each statement to indicate the extent to which you agree or disagree with that statement.

**How I am in general-----**

| S.No. | Items                                      | Extent of agreement/disagreement |                   |                            |                |                |
|-------|--------------------------------------------|----------------------------------|-------------------|----------------------------|----------------|----------------|
|       |                                            | Disagree strongly                | Disagree a little | Neither Agree Nor Disagree | Agree a little | Agree Strongly |
| 1     | Is talkative                               |                                  |                   |                            |                |                |
| 2     | Tends to find fault with others            |                                  |                   |                            |                |                |
| 3     | Does a thorough job                        |                                  |                   |                            |                |                |
| 4     | Is depressed, blue                         |                                  |                   |                            |                |                |
| 5     | Is original, comes up with new ideas       |                                  |                   |                            |                |                |
| 6     | Is reserved                                |                                  |                   |                            |                |                |
| 7     | Is helpful and unselfish with others       |                                  |                   |                            |                |                |
| 8     | Can be somewhat careless                   |                                  |                   |                            |                |                |
| 9     | Is relaxed, handles stress well.           |                                  |                   |                            |                |                |
| 10    | Is curious about many different things     |                                  |                   |                            |                |                |
| 11    | Is full of energy                          |                                  |                   |                            |                |                |
| 12    | Starts quarrels with others                |                                  |                   |                            |                |                |
| 13    | Is a reliable worker                       |                                  |                   |                            |                |                |
| 14    | Can be tense                               |                                  |                   |                            |                |                |
| 15    | Is ingenious, a deep thinker               |                                  |                   |                            |                |                |
| 16    | Generates a lot of enthusiasm              |                                  |                   |                            |                |                |
| 17    | Has a forgiving nature                     |                                  |                   |                            |                |                |
| 18    | Tends to be disorganized                   |                                  |                   |                            |                |                |
| 19    | Worries a lot                              |                                  |                   |                            |                |                |
| 20    | Has an active imagination                  |                                  |                   |                            |                |                |
| 21    | Tends to be quiet                          |                                  |                   |                            |                |                |
| 22    | Is generally trusting                      |                                  |                   |                            |                |                |
| 23    | Tends to be lazy                           |                                  |                   |                            |                |                |
| 24    | Is emotionally stable, not easily upset    |                                  |                   |                            |                |                |
| 25    | Is inventive                               |                                  |                   |                            |                |                |
| 26    | Has an assertive personality               |                                  |                   |                            |                |                |
| 27    | Can be cold and aloof                      |                                  |                   |                            |                |                |
| 28    | Perseveres until the task is finished      |                                  |                   |                            |                |                |
| 29    | Can be moody                               |                                  |                   |                            |                |                |
| 30    | Values artistic, aesthetic experiences     |                                  |                   |                            |                |                |
| 31    | Is sometimes shy, inhibited                |                                  |                   |                            |                |                |
| 32    | Is considerate and kind to almost everyone |                                  |                   |                            |                |                |
| 33    | Does things efficiently                    |                                  |                   |                            |                |                |
| 34    | Remains calm in tense situations           |                                  |                   |                            |                |                |

| S.No. | Items                                        | Extent of agreement/disagreement |                   |                            |                |                |
|-------|----------------------------------------------|----------------------------------|-------------------|----------------------------|----------------|----------------|
|       |                                              | Disagree strongly                | Disagree a little | Neither Agree Nor Disagree | Agree a little | Agree Strongly |
| 35    | Prefers work that is routine                 |                                  |                   |                            |                |                |
| 36    | Is outgoing, sociable                        |                                  |                   |                            |                |                |
| 37    | Is sometimes rude to others                  |                                  |                   |                            |                |                |
| 38    | Makes plans and follows through with them    |                                  |                   |                            |                |                |
| 39    | Gets nervous easily                          |                                  |                   |                            |                |                |
| 40    | Likes to reflect, play with ideas            |                                  |                   |                            |                |                |
| 41    | Has few artistic interests                   |                                  |                   |                            |                |                |
| 42    | Likes to cooperate with others               |                                  |                   |                            |                |                |
| 43    | Is easily distracted                         |                                  |                   |                            |                |                |
| 44    | Is sophisticated in art, music or literature |                                  |                   |                            |                |                |

**BFI scale scoring:** you will create scale scores by *averaging* the following items for each Big five domain (where **R** indicates using the reverse-scored item).

Extraversion: 1, 6R 11, 16, 21R, 26, 31R, 36

Agreeableness: 2R, 7, 12R, 17, 22, 27R, 32, 37R, 42

Conscientiousness: 3, 8R, 13, 18R, 23R, 28, 33, 38, 43R

Neuroticism: 4, 9R, 14, 19, 24R, 29, 34R, 39

Openness: 5, 10, 15, 20, 25, 30, 35R, 40, 41R, 44

#### Part IV: Open Ended Questionnaires

**Direction:** here are few question presented to you. Please describe or explain each of the items after you read it carefully.

45. What factors do you believe that responsible either for your success or failures in the world running?

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-----.

46. Do you think that your personality (persistent behaviors) could influence your athletic performance? a) Yes b) No, if your answer is yes how it can affect your athletic performance?

-----  
-----.

47. In your view, do psychological factors have relationships with athletic performance?

-----  
-----.

48. Have you got counseling services? A) yes B) no if you answered no, do you want to use counseling services? A) yes B) no

49. What do you think about the overall advantages of counseling services for athletes?

-----  
-----.

50. In order to alleviate athletes' problems and help them to be successful, what kinds of counseling services need to be offered?

-----  
-----.

**Thank you heart fully for all cooperation you did!!**

## **Appendix C: Structured Interview Questions**

### **Participants' Interview Guide**

The purpose of this study is to investigate and understand issues related to internal-external locus of control, personality characteristics of athletes and counseling intervention strategies used in relation with their athletic performance. To this effect, the responses that you provide us concerning these issues will help us to understand them and make this study meaningful. The information you give us will be kept confidential and we are very grateful for your cooperation.

1. How do you describe the general personality characteristics of athletes at their best event?
2. Do you think that athletes' personality characteristics could affect their athletic performance?
3. How do you describe the internal-external locus of control of your athletes at different track events? Which one of LOC type could lead athletes towards to be successful?
4. Have you been taking any psychological course/training? Do you think that counseling services are necessary for improving athletic performance? Are there any professional counselors/psychologists who are recruited in your club to provide psychological services?
5. Could you identify the major problems of your athletes that hinder them from success especially which needs psychological interventions?
6. What kinds of counseling intervention mechanisms/ strategies have been employed to improve athletic performance (during trainings, before and after athletic competitions etc.) in the sport club you are working? Are these actions adequate enough to tackle the problems?
7. As a coach, what do you suggest to enhance athletes' performance from psychological perspectives by the responsible bodies?

**Thank you very much!**

# **APPENDIX D: Descriptive Statistics of Independent Sample t-test across all types of running events.**

Means and Standard Deviations for Male and Female athletes on LOC and personality characteristics (OCEAN) at SDR(200m)

|                   | Sex    | N  | Mean  | Std. Deviation | t       |
|-------------------|--------|----|-------|----------------|---------|
| Internal LOC      | Male   | 11 | 45.55 | 10.053         | -1.292  |
|                   | Female | 23 | 49.22 | 6.445          |         |
| External LOC      | Male   | 11 | 50.09 | 9.159          | .173    |
|                   | Female | 23 | 49.57 | 7.879          |         |
| Openness          | Male   | 11 | 32.55 | 3.643          | .666    |
|                   | Female | 23 | 31.35 | 5.382          |         |
| Conscientiousness | Male   | 11 | 33.82 | 6.462          | .584    |
|                   | Female | 23 | 32.48 | 6.171          |         |
| Extraversion      | Male   | 11 | 27.64 | 3.443          | .507    |
|                   | Female | 23 | 26.65 | 5.951          |         |
| Agreeableness     | Male   | 11 | 34.36 | 5.163          | .008    |
|                   | Female | 23 | 34.35 | 5.967          |         |
| Neuroticism       | Male   | 11 | 20.55 | 3.984          | -2.150* |
|                   | Female | 23 | 23.87 | 4.320          |         |

\*t is significant at p < .05

Means and Standard Deviations for Male and Female athletes on LOC and personality characteristics (OCEAN) at SDR (400m)

|                   | Sex    | N  | Mean  | Std. Deviation | t      |
|-------------------|--------|----|-------|----------------|--------|
| Internal LOC      | Male   | 15 | 53.73 | 4.096          | 1.151  |
|                   | Female | 15 | 50.53 | 9.956          |        |
| External LOC      | Male   | 15 | 51.53 | 4.580          | .944   |
|                   | Female | 15 | 49.00 | 9.327          |        |
| Openness          | Male   | 15 | 25.67 | 4.030          | .318   |
|                   | Female | 15 | 25.13 | 5.083          |        |
| Conscientiousness | Male   | 15 | 34.87 | 3.204          | -.083  |
|                   | Female | 15 | 35.00 | 5.345          |        |
| Extraversion      | Male   | 15 | 28.33 | 4.386          | 1.396  |
|                   | Female | 15 | 26.40 | 3.089          |        |
| Agreeableness     | Male   | 15 | 33.93 | 3.955          | -1.597 |
|                   | Female | 15 | 40.00 | 14.172         |        |
| Neuroticism       | Male   | 15 | 25.67 | 4.030          | .318   |
|                   | Female | 15 | 25.13 | 5.083          |        |

P > .05



Means and Standard Deviations for Male and Female athletes on LOC and personality characteristics (OCEAN) at MDR(1,500m)

|                   | SEX    | N  | Mean  | Std. Deviation | t      |
|-------------------|--------|----|-------|----------------|--------|
| INTLOC            | Male   | 22 | 47.32 | 5.842          | -1.932 |
|                   | Female | 25 | 51.24 | 7.780          |        |
| EXTLOC            | Male   | 22 | 47.95 | 7.773          | -1.769 |
|                   | Female | 25 | 52.04 | 8.013          |        |
| Openness          | Male   | 22 | 30.00 | 4.880          | .567   |
|                   | Female | 25 | 29.08 | 6.082          |        |
| Conscientiousness | Male   | 22 | 33.09 | 4.297          | -1.398 |
|                   | Female | 25 | 35.16 | 5.647          |        |
| Extraversion      | Male   | 22 | 26.27 | 4.872          | -.067  |
|                   | Female | 25 | 26.36 | 4.112          |        |
| Agreeableness     | Male   | 22 | 35.09 | 5.398          | .414   |
|                   | Female | 25 | 34.48 | 4.709          |        |
| Neuroticism       | Male   | 22 | 24.59 | 4.159          | .519   |
|                   | Female | 25 | 23.84 | 5.543          |        |

P > .05

Means and Standard Deviations for Male and Female athletes on LOC and personality characteristics (OCEAN) at MDR(3,000m)

|                   | SEX    | N  | Mean  | Std. Deviation | t       |
|-------------------|--------|----|-------|----------------|---------|
| Internal LOC      | Male   | 13 | 46.31 | 7.532          | -.125   |
|                   | Female | 14 | 46.64 | 6.368          |         |
| External LOC      | Male   | 13 | 44.85 | 8.601          | -1.014  |
|                   | Female | 14 | 48.21 | 8.649          |         |
| Openness          | Male   | 13 | 28.69 | 4.250          | -2.082* |
|                   | Female | 14 | 32.07 | 4.178          |         |
| Conscientiousness | Male   | 13 | 30.62 | 5.284          | -1.670  |
|                   | Female | 14 | 34.43 | 6.465          |         |
| Extraversion      | Male   | 13 | 23.92 | 2.722          | -1.846  |
|                   | Female | 14 | 26.43 | 4.127          |         |
| Agreeableness     | Male   | 13 | 30.00 | 7.314          | -2.786* |
|                   | Female | 14 | 36.36 | 4.254          |         |
| Neuroticism       | Male   | 13 | 23.46 | 4.666          | .483    |
|                   | Female | 14 | 22.50 | 5.585          |         |

\*t is significant at p < .05

Means and Standard Deviations for Male and Female athletes on LOC and Personality characteristics (OCEAN) at LDR(5,000m)

|                   | SEX    | N  | Mean  | Std. Deviation | t      |
|-------------------|--------|----|-------|----------------|--------|
| Internal LOC      | Male   | 24 | 46.00 | 10.935         | 1.392  |
|                   | Female | 9  | 40.44 | 7.764          |        |
| External LOC      | Male   | 24 | 46.88 | 11.141         | 1.168  |
|                   | Female | 9  | 42.11 | 8.069          |        |
| Openness          | Male   | 24 | 29.58 | 3.900          | .612   |
|                   | Female | 9  | 28.67 | 3.640          |        |
| Conscientiousness | Male   | 24 | 32.54 | 5.445          | 1.143  |
|                   | Female | 9  | 30.11 | 5.419          |        |
| Extraversion      | Male   | 24 | 26.17 | 3.319          | 2.065* |
|                   | Female | 9  | 23.67 | 2.345          |        |
| Agreeableness     | Male   | 24 | 35.38 | 5.948          | .781   |
|                   | Female | 9  | 33.67 | 4.444          |        |
| Neuroticism       | Male   | 24 | 24.17 | 4.761          | .999   |
|                   | Female | 9  | 22.44 | 3.206          |        |

\*t is significant at  $p < .05$

Means and Standard Deviations for Male and Female athletes on LOC and Personality characteristics (OCEAN) at LDR(10, 000m)

|                   | SEX    | N  | Mean  | Std. Deviation | t     |
|-------------------|--------|----|-------|----------------|-------|
| Internal LOC      | Male   | 23 | 48.09 | 7.329          | -.388 |
|                   | Female | 14 | 49.07 | 7.741          |       |
| External LOC      | Male   | 23 | 51.04 | 6.414          | .450  |
|                   | Female | 14 | 49.86 | 9.639          |       |
| Openness          | Male   | 23 | 27.35 | 4.618          | 1.382 |
|                   | Female | 14 | 25.29 | 4.008          |       |
| Conscientiousness | Male   | 23 | 34.96 | 5.717          | 1.039 |
|                   | Female | 14 | 32.86 | 6.359          |       |
| Extraversion      | Male   | 23 | 26.13 | 3.770          | .253  |
|                   | Female | 14 | 25.86 | 1.834          |       |
| Agreeableness     | Male   | 23 | 36.39 | 4.698          | .866  |
|                   | Female | 14 | 34.86 | 6.011          |       |
| Neuroticism       | Male   | 23 | 23.13 | 5.388          | .240  |
|                   | Female | 14 | 22.71 | 4.631          |       |

$P > .05$

## Appendix E: Descriptive Statistics of Multiple Regression Analysis of the Variables Considered in the Study

**Table 1', Summary of Regression analysis of the LOC and OCEANs as predictors of BPT at 200m**

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics |       |     |     |          |
|-------|-------------------|----------------|-------------------------|----------------------------|-------------------|-------|-----|-----|----------|
|       |                   |                |                         |                            | R <sup>2</sup> Δ  | F Δ   | df1 | df2 | Sig. F Δ |
| 1     | .551 <sup>a</sup> | .304           | .116                    | 2.278                      | .304              | 1.619 | 7   | 26  | .174     |

a. Predictors: (Constant), Neuroticism, Agreeableness, External LOC, openness, Internal LOC, conscientiousness, Extraversion

**Table 2', ANOVA summary of Regression analysis of the LOC and OCEANs as predictors of BPT at 200m**

| Model |            | Sum of Squares | df | Mean Square | F     | Sig.              |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1     | Regression | 58.808         | 7  | 8.401       | 1.619 | .174 <sup>a</sup> |
|       | Residual   | 134.956        | 26 | 5.191       |       |                   |
|       | Total      | 193.765        | 33 |             |       |                   |

a. Predictors: (Constant), Neuroticism, Agreeableness, External LOC, Openness, Internal LOC, Conscientiousness, Extraversion

b. Dependent Variable: Performance

**Table 3', Summary of Regression analysis of the demographic variables as predictors of BPT at 200m**

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics |       |     |     |          |
|-------|-------------------|----------------|-------------------------|----------------------------|-------------------|-------|-----|-----|----------|
|       |                   |                |                         |                            | R <sup>2</sup> Δ  | F Δ   | df1 | df2 | Sig. F Δ |
| 1     | .710 <sup>a</sup> | .504           | .371                    | 1.922                      | .504              | 3.778 | 7   | 26  | .006     |

a. Predictors: (Constant), Income, Participation, Education, Marriage, Sex, Stay, Age

**Table 4', ANOVA Summary of Regression analysis of the demographic variables as predictors of BPT at 200m**

| Model |            | Sum of Squares | df | Mean Square | F     | Sig.              |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1     | Regression | 97.710         | 7  | 13.959      | 3.778 | .006 <sup>a</sup> |
|       | Residual   | 96.055         | 26 | 3.694       |       |                   |
|       | Total      | 193.765        | 33 |             |       |                   |

a. Predictors: (Constant), Income, Participation, Education, Marriage, Sex, Stay, Age

b. Dependent Variable: Performance

**Table 5', Multiple Regression analysis of predicting athletic performance using LOC and OCEAN at 400m**

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics |       |     |     |          |
|-------|-------------------|----------------|-------------------------|----------------------------|-------------------|-------|-----|-----|----------|
|       |                   |                |                         |                            | R <sup>2</sup> Δ  | F Δ   | df1 | df2 | Sig. F Δ |
| 1     | .491 <sup>a</sup> | .241           | .043                    | 5.801                      | .241              | 1.216 | 6   | 23  | .334     |

a. Predictors: (Constant), Neuroticism, Extraversion, Internal LOC, Agreeableness, Conscientiousness, External LOC

**Table 6', ANOVA summary** Regression analysis of predicting athletic performance using LOC and OCEAN at 400m

| Model |            | Sum of Squares | df | Mean Square | F     | Sig.              |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1     | Regression | 245.593        | 6  | 40.932      | 1.216 | .334 <sup>a</sup> |
|       | Residual   | 773.907        | 23 | 33.648      |       |                   |
|       | Total      | 1019.500       | 29 |             |       |                   |

a. Predictors: (Constant), Neuroticism, Extraversion, Internal LOC, Agreeableness, Conscientiousness, External LOC

b. Dependent Variable: Performance

**Table 7', Multiple Regression** analysis of predicting athletic performance using demographic variables at 400m

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics |       |     |     |          |
|-------|-------------------|----------------|-------------------------|----------------------------|-------------------|-------|-----|-----|----------|
|       |                   |                |                         |                            | R <sup>2</sup> Δ  | F Δ   | df1 | df2 | Sig. F Δ |
| 1     | .739 <sup>a</sup> | .546           | .402                    | 4.585                      | .546              | 3.786 | 7   | 22  | .008     |

a. Predictors: (Constant), Income, Participation, Marriage, Education, Sex, Stay, Age

**Table 8', ANOVA summary of Regression** analysis of predicting athletic performance using demographic variables at 400m

| Model |            | Sum of Squares | df | Mean Square | F     | Sig.              |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1     | Regression | 557.049        | 7  | 79.578      | 3.786 | .008 <sup>a</sup> |
|       | Residual   | 462.451        | 22 | 21.021      |       |                   |
|       | Total      | 1019.500       | 29 |             |       |                   |

a. Predictors: (Constant), Income, Participation, Marriage, Education, Sex, Stay, Age

b. Dependent Variable: Performance

**Table 9', Regression** analysis of predicting athletic performance using LOC and OCEANS at 1500m track event

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics |      |     |     |          |
|-------|-------------------|----------------|-------------------------|----------------------------|-------------------|------|-----|-----|----------|
|       |                   |                |                         |                            | R <sup>2</sup> Δ  | F Δ  | df1 | df2 | Sig. F Δ |
| 1     | .380 <sup>a</sup> | .145           | -.009                   | 39.651                     | .145              | .942 | 7   | 39  | .486     |

a. Predictors: (Constant), Neuroticism, Extraversion, External LOC, Openness, Agreeableness, Internal LOC, Conscientiousness

**Table 10', ANOVA summary of Regression** analysis of predicting athletic performance using LOC and OCEANS at 1500m track event

| Model |            | Sum of Squares | df | Mean Square | F    | Sig.              |
|-------|------------|----------------|----|-------------|------|-------------------|
| 1     | Regression | 10370.274      | 7  | 1481.468    | .942 | .486 <sup>a</sup> |
|       | Residual   | 61316.577      | 39 | 1572.220    |      |                   |
|       | Total      | 71686.851      | 46 |             |      |                   |

a. Predictors: (Constant), Neuroticism, Extraversion, External LOC, Openness, Agreeableness, Internal LOC, Conscientiousness

b. Dependent Variable: Performance

**Table 12'** Regression analysis of predicting athletic performance using demographic variables at 1500m track event

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics |       |     |     |          |
|-------|-------------------|----------------|-------------------------|----------------------------|-------------------|-------|-----|-----|----------|
|       |                   |                |                         |                            | R <sup>2</sup> Δ  | F Δ   | df1 | df2 | Sig. F Δ |
| 1     | .453 <sup>a</sup> | .206           | .063                    | 38.213                     | .206              | 1.442 | 7   | 39  | .217     |

a. Predictors: (Constant), Income, Participation, Education, Sex, Marriage, Stay, Age

**Table 13'** ANOVA summary of Regression analysis of predicting athletic performance using demographic variables at 1500m track event

| Model |            | Sum of Squares | df | Mean Square | F     | Sig.              |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1     | Regression | 14737.633      | 7  | 2105.376    | 1.442 | .217 <sup>a</sup> |
|       | Residual   | 56949.218      | 39 | 1460.236    |       |                   |
|       | Total      | 71686.851      | 46 |             |       |                   |

a. Predictors: (Constant), Income, Participation, Education, Sex, Marriage, Stay, Age  
b. Dependent Variable: Performance

**Table 14'** Regression analysis of predicting athletic performance using LOC and OCEANS at 3000m track event

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics |       |     |     |          |
|-------|-------------------|----------------|-------------------------|----------------------------|-------------------|-------|-----|-----|----------|
|       |                   |                |                         |                            | R <sup>2</sup> Δ  | F Δ   | df1 | df2 | Sig. F Δ |
| 1     | .644 <sup>a</sup> | .414           | .199                    | 39.294                     | .414              | 1.921 | 7   | 19  | .122     |

a. Predictors: (Constant), Neuroticism, Internal LOC, Extraversion, Openness, Conscientiousness, External LOC, Agreeableness

**Table 15'** ANOVA summary of Regression analysis of predicting athletic performance using LOC and OCEANS at 3000m track event

| Model |            | Sum of Squares | df | Mean Square | F     | Sig.              |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1     | Regression | 20762.708      | 7  | 2966.101    | 1.921 | .122 <sup>a</sup> |
|       | Residual   | 29336.032      | 19 | 1544.002    |       |                   |
|       | Total      | 50098.741      | 26 |             |       |                   |

a. Predictors: (Constant), Neuroticism, Internal LOC, Extraversion, Openness, Conscientiousness, External LOC, Agreeableness  
b. Dependent Variable: Performance

**Table 16'** Regression analysis of predicting athletic performance using demographic variables at 3000m track event

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics |       |     |     |          |
|-------|-------------------|----------------|-------------------------|----------------------------|-------------------|-------|-----|-----|----------|
|       |                   |                |                         |                            | R <sup>2</sup> Δ  | F Δ   | df1 | df2 | Sig. F Δ |
| 1     | .637 <sup>a</sup> | .406           | .175                    | 39.689                     | .406              | 1.760 | 7   | 18  | .158     |

a. Predictors: (Constant), Income, Age, Education, Participation, Sex, Stay, Marriage

**Table 17', ANOVA summary of Regression analysis of predicting athletic performance using demographic variables at 3000m track event**

| Model |            | Sum of Squares | df | Mean Square | F     | Sig.              |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1     | Regression | 19403.818      | 7  | 2771.974    | 1.760 | .158 <sup>a</sup> |
|       | Residual   | 28353.721      | 18 | 1575.207    |       |                   |
|       | Total      | 47757.538      | 25 |             |       |                   |

a. Predictors: (Constant), Income, Age, Education, Participation, Sex, Stay, Marriage

b. Dependent Variable: Performance

**Table 18', Regression analysis of predicting athletic performance using LOC and OCEANS at 5000m track event**

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics |      |     |     |          |
|-------|-------------------|----------------|-------------------------|----------------------------|-------------------|------|-----|-----|----------|
|       |                   |                |                         |                            | R <sup>2</sup> Δ  | F Δ  | df1 | df2 | Sig. F Δ |
| 1     | .425 <sup>a</sup> | .181           | -.048                   | 50.669                     | .181              | .789 | 7   | 25  | .603     |

a. Predictors: (Constant), Neuroticism, Openness, Extraversion, Internal LOC, Conscientiousness, External LOC, Agreeableness

**Table 19', ANOVA summary of Regression analysis of predicting athletic performance using LOC and OCEANS at 5000m track event**

| Source of variance | Sum of Squares | df | Mean Square | F    | Sig.              |
|--------------------|----------------|----|-------------|------|-------------------|
| Regression         | 14181.445      | 7  | 2025.921    | .789 | .603 <sup>a</sup> |
| Residual           | 64182.434      | 25 | 2567.297    |      |                   |
| Total              | 78363.879      | 32 |             |      |                   |

a. Predictors: (Constant), Neuroticism, Openness, Extraversion, Internal LOC, Conscientiousness, External LOC, Agreeableness

b. Dependent Variable: Performance

**Table 20', Regression analysis of predicting athletic performance using demographic variables at 5000m track event**

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics |       |     |     |          |
|-------|-------------------|----------------|-------------------------|----------------------------|-------------------|-------|-----|-----|----------|
|       |                   |                |                         |                            | R <sup>2</sup> Δ  | F Δ   | df1 | df2 | Sig. F Δ |
| 1     | .751 <sup>a</sup> | .564           | .442                    | 36.977                     | .564              | 4.616 | 7   | 25  | .002     |

a. Predictors: (Constant), Income, Education, Marriage, Participation, Age, Sex, Stay

**Table 21', ANOVA summary of Regression analysis of predicting athletic performance using demographic variables at 5000m track event**

| Source of variance | Sum of Squares | df | Mean Square | F     | Sig.              |
|--------------------|----------------|----|-------------|-------|-------------------|
| Regression         | 44181.842      | 7  | 6311.692    | 4.616 | .002 <sup>a</sup> |
| Residual           | 34182.037      | 25 | 1367.281    |       |                   |
| Total              | 78363.879      | 32 |             |       |                   |

a. Predictors: (Constant), Income, Education, Marriage, Participation, Age, Sex, Stay

b. Dependent Variable: Performance



**Table 22'**, Regression analysis of predicting athletic performance using LOC and OCEANS at 10,000m track event

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics |      |     |     |          |
|-------|-------------------|----------------|-------------------------|----------------------------|-------------------|------|-----|-----|----------|
|       |                   |                |                         |                            | R <sup>2</sup> Δ  | F Δ  | df1 | df2 | Sig. F Δ |
| 1     | .397 <sup>a</sup> | .158           | -.046                   | 147.299                    | .158              | .775 | 7   | 29  | .613     |

a. Predictors: (Constant), Neuroticism, Internal LOC, Extraversion, Openness, Conscientiousness, External LOC, Agreeableness

**Table 23'**, ANOVA summary of Regression analysis of predicting athletic performance using LOC and OCEANS at 10,000m track event

| Source of variance | Sum of Squares | df | Mean Square | F    | Sig.              |
|--------------------|----------------|----|-------------|------|-------------------|
| Regression         | 117691.964     | 7  | 16813.138   | .775 | .613 <sup>a</sup> |
| Residual           | 629212.738     | 29 | 21696.991   |      |                   |
| Total              | 746904.703     | 36 |             |      |                   |

a. Predictors: (Constant), Neuroticism, Internal LOC, Extraversion, Openness, Conscientiousness, External LOC, Agreeableness

b. Dependent Variable: Performance

**Table 24'**, Regression analysis of predicting athletic performance using demographic variables at 10, 000m track event

| Model | R                 | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of the Estimate | Change Statistics |      |     |     |          |
|-------|-------------------|----------------|-------------------------|----------------------------|-------------------|------|-----|-----|----------|
|       |                   |                |                         |                            | R <sup>2</sup> Δ  | F Δ  | df1 | df2 | Sig. F Δ |
| 1     | .343 <sup>a</sup> | .118           | -.095                   | 150.754                    | .118              | .552 | 7   | 29  | .788     |

a. Predictors: (Constant), Income, Stay, Marriage, Age, Participation, Sex, Education

**Table 25'**, ANOVA summary Regression analysis of predicting athletic performance using demographic variables at 10,000m track event

| Model |            | Sum of Squares | df | Mean Square | F    | Sig.              |
|-------|------------|----------------|----|-------------|------|-------------------|
| 1     | Regression | 87826.059      | 7  | 12546.580   | .552 | .788 <sup>a</sup> |
|       | Residual   | 659078.644     | 29 | 22726.850   |      |                   |
|       | Total      | 746904.703     | 36 |             |      |                   |

a. Predictors: (Constant), Income, Stay, Marriage, Age, Participation, Sex, Education

b. Dependent Variable: Performance

### Declaration

I, the undersigned, declare that this thesis is my original work, and that all sources of materials used for this thesis have been acknowledged.

Name: Tsehaynew Getaneh

Signature: \_\_\_\_\_



A.A.U July 2010

This thesis has been submitted for examination with my approval thesis advisor.

Name: Sintayehu Tadesse (Dr.)

Signature: \_\_\_\_\_

Date: \_\_\_\_\_