

**THE AGGRESSION LEVEL OF ATHLETES IN ADAMA YOUTH
ATHLETICS PROJECT**



BY: - KATAMA KENATE

**A THESIS REPORT SUBMITTED TO JIMMA UNIVERSITY
COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCES
DEPARTMENT OF SPORT SCIENCE IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF
SCIENCE IN SPORT SCIENCE (ATHLETICS COACHING)**

**AUGUST, 2020
JIMMA, ETHIOPIA**

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BY: KATAMA KENATE

ADVISOR: -BIRUK AMARE (Ph.D.)

Co- ADVISOR: - ESHETU GIRMA (M.Sc.)

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DEPARTMENT OF SPORT SCIENCE

DECLARATION

By my signature below, I declare and affirm that this Thesis is my own work. I have followed all ethical and technical principles of scholarship in the preparation, data collection, data analysis and compilation of this Thesis. Any scholarly matter that is included in the Thesis has been given recognition through citation.

Name: Katama Kenate

Signature _____

Date: _____

Department: _____

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SCHOOL OF GRADUATE STUDIES
COLLEGE OF NATURAL SCIENCES
DEPARTMENT OF SPORT SCIENCE

BOARD OF EXAMINERS

As members of the Examining Board of the Final M Sc. Open Defense, we certify that we have read and evaluated the thesis prepared by: Katama Kenate entitled: The aggression level of athletes in Adama youth athletics project

We recommend that it could be accepted as fulfilling the thesis requirement for the degree of Master of Science in coaching athletics specialization.

Dr. Bruk Amare

Name of Major Advisor

Signature

Date

Eshetu Girma

Name of Co Advisor

Signature

Date

Mr. Amanu Eba

Name of Internal Examiner

Signature

Date

Dr. Melkamu D.

Name of External Examiner

Signature

Date

DEDICATION

Dedicated to my lover wife Shewaye Asefa I was marriage during my M. A. study. May Lord bless you!

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First and foremost I would like to thank almighty God; for giving me life, keeping me healthy and for unreserved gift of coverage to undertake this study. I would like to express my immeasurable gratitude to my advisor Dr. Biruk Amare and Mr. Eshetu Girma for his continuous, unreserved, and valuable comments for the successes of this research. Had it not been his whole follow up, patience and cooperation this research would have been much difficult.

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Abbreviations and acronyms

AHA	Anger Hostility and Aggression
ANOVA	Analysis of Variance
CA	Controlling Aggression
CNS	Central Nervous System
GAM	General Aggression Model
HA	Hostility Aggression
PA	Proactive Aggression
RA	Reactive Aggression

Abstract

Aggression is physical or verbal behaviour, it is not an attitude or emotion, and it involves harm or injury. The aim of this study was to assess the athlete's aggression level of Adama youth athletics project. The population of the study consists of All Adama youth athletics project; the sample group consists of 52 athletes and 3 coaches. Totally there are 55 sampling, 32 male and 23 female. ANOVA one-way variance was used to analysis the connection between more than one variable. Gender differences in aggression have been found in virtually every culture that has been studied. Males were found to be more physically and angers aggressive than females, but females used more indirect aggression engaged in verbal aggression and hostility. The result indicates that aggressions level highly depends on age groups difference and educational level of athletes in Adama youth athletics project. As a result, there is a statistical significant age group(14,15,16,17and 18) difference on physical aggression(2,49) $p= 0.001$ and verbal ($F(2,49) p=0.041$ aggression, but there is no statistical age group difference on anger behaviour(2,49) $p=.162$ and, hostility(2,49) $p=.337$. This indicates physical and verbal aggressions highly depend on age groups difference. Educational level is a statistical significant difference on physical aggression, but there is no statistical significance on verbal aggression, anger behaviour, and, hostility. This indicates physical aggressions highly depend on educational status. The factors like; physical aggression $p=0.011$, verbal aggression $p=0.000$, Anger $p=0.000$ and Hostility $p=0.000$ are statistically significant on the athlete's aggression level in the case of Adama youth athletics project.

Key word: - Aggression, Athlete project, youth, p-value 0.05

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CHAPTER ONE

1. INTRODUCTION

1.1 Background of the study

Baron and Richardson (1994) define aggression as any act that harms another individual who is motivated to avoid such harm. Such a broad definition can include a wide range of behaviours from those in which no harm full stimulus is introduced such as intentionally withholding information from another person (or other passive-aggressive behaviours) – to more over tact's of verbal and physical aggression, and at the opposite extreme, the infliction of violence. Aggression has sometimes been divided in to affective (or reactive) and instrumental aggression (see Bushman and Anderson, 2001, for a discussion). Affective aggression, as the name suggests, is aggression associated with negative affect (usually anger). Instrumental aggression is typically goal driven and is relatively devoid of affect. However, the distinction is not entirely clear-cut and as a result, some theorists have advocated abandoning the affective-instrumental distinction (Bushman and Anderson, 2001; Tedeschi and Felson, 1994). Aggression has long been a part of the sport domain. *Indeed, Russell* suggested that outside of wartime, sports is perhaps the only setting in which acts of interpersonal aggression are not only tolerated but enthusiastically applauded by large segments of society. In recent years, however, violence in sport, both on and off the field, has come to be perceived as a social problem.

For instance, commissions have been appointed in Canada, United Kingdom, and Australia to investigate violence in the athletic setting (National Committee on Violence, 1989; Pipe, 1993).

Aggression is defined as the attitude exhibited as physical, verbal, and symbolic to mess competitor over, block or militate against the competitor. This attitude is rooted in anger, fear, hostility, struggle and being precluded. Aggression in sports is described as the one or several of athlete, trainer or watchers who act in contemplation of damage someone by the effect of psychological, biological, or environmental factors during a sportive competition (Işık et al., 2017). Aggression can be defined as any interpersonal behaviour intended to cause physical harm or mental distress. Aggressive players who intentionally cause an injury to their opponents are common in many sports, particularly in collision sports such as Rugby (Maxwell, Visek, 2009). The aggressive attitude towards the opponent and sport hooliganism are object of many social and psychological researches. Representatives of different scientific approaches consider the sport aggressiveness as “ritualized” aggression, a method for sublimation, result of frustration, opportunity for catharsis or special feature of personality, formed by the influence of sport environment. (Kutergin, Ryabushenko, & Gorbotenko, 2010). According to the competitive essence we could consider that sport is already aggressive because during the competition athletes strive to repress the opponent's desire for

victory. It is proved that the aggressiveness of the athletes increases in contact sports (Gardner & Janelle 2002; Silva, 1983; Tucker & Parks, 2001, Gencheva, 2013). On the other hand, sport activity is subordinated by exact, strictly regulated universal rules. It is controlled and each aggressive act exceeding the norms is penalized. The aggressive attitude in some sport disciplines which is in the norms helps achieving the goal. To some extent the aggressiveness in many sports is necessary and it is tolerated. Multitude researches define the youth engaged in sport have better habits for self-regulation towards the aggressiveness and expressed incentive type in young person's not engaged with sports.

The presence or the absence of aggressive attitude does not imply the presence or the absence of such in sport. The results in a study of Gumusdag (2013) demonstrated that Somatic Anxiety was the best significant predictor of Passive Aggression and Assertiveness. Regarding the age factor the investigations show that in definite sport population (10-14-year-old children, adolescence, youths and adults) increasing the age the aggression grows (Stephens, 2004 ;). However, other researches prove that there is no relation between the age and the aggressiveness (*Conroy, Silvia, Newcomer, Walker, & Johnson, 2001*). In 2018, the UNESCO estimated that approximately 30% of all students annually experienced some type of aggression at school. This study focuses on the aggression level of Adama young athletics project. This young athlete it haven't their own professional characteristic, ethical requirements, expectations, outcomes and the overlapping responsibilities, which can be the source to stress. From results of some researches it is true that both professions are stressful by themselves as compared to other professions like runners, secretary, banker, pilot, technician, and so on (Selye 1978, as cited in Akhona, 2008). When considering the military health professionals their causes of stress looks increased as compared to other professionals. As a result, it is convincing to study the level of aggression of such professionals. Finally, this study may show future direction of research.

1.2 Statement of the problem

Aggression, is based on a number of questions that was measured when the respondents youth athlete. They document whether or not the respondents had engaged in a number of aggressive acts such as breaking things, insulting others, attacking people, and intentionally damaging others' property. Prior research has emphasized the importance of studying sex in respect to youth aggression. Female youth crime has increased 127% since 1999, almost twice as fast as male crime (Savoie, 1999). While female crime is not as prevalent as such behaviours committed by males, violent crime accounted for more crime committed by females than by males. Further, two thirds of female youth had charges of common assault (Savoie, 1999). These results have also indicated that female youth tend to be younger when committing violent crime than males (Savoie, 1999). While Lahey (1998) found that those who experienced

adolescent-onset aggressive behaviour were not only more likely to be female, these youth also had a reduced likelihood of meeting criteria for oppositional defiant disorder.

Tremblay (2000) posited that aggression peaks during preschool age as this is when children develop the capacity to inhibit their physical aggression. Other researchers have stated that aggression tends to come to its peak and begins to decrease around the fifth grade (Fite et al., 2008). Studies have indicated that males tend to exhibit antisocial behaviours at a much earlier age than females (Berkout, Young, & Gross, 2011). My observation was assessing the athlete's aggression level in the case of Adama youth athletics project and gathering the information about the Athlete. The researcher believes that assessing the aggression level is very important to answer the problem that initiates to emanate the research. According to my evidences I was try to recommend the factors that affects the aggression level of Adama youth athletics project. Such ;as according to sex, age group, and educational levels of the Adama youth athletics project.

1.3 Research Question

The study was tried to answer the following research questions.

- ✓ What is the aggression levels of athletes according to sex, Age group and educational levels in Adama youth athletics?
- ✓ What is the factor highly affecting the athletes aggression level in Adama youth athletics project?
- ✓ What types of aggression that are commonly observed among Adama youth athletics project?
- ✓ What is the mechanisms that coach use to control aggression Adama youth athletics project?

1.4 Objectives of the Study

1.4.1 General Objective

The purpose of this study was to assess the athlete's aggression level in Adama youth athletics project.

1.4.2 Specific Objective

- ✓ To assess the aggression levels of athletes according to gender, age and educational difference.
- ✓ To describe the factors which highly affect the athlete's aggression level of Adama youth athletics project.
- ✓ Indicating the types of aggression that are commonly observed among Adama youth athletics project.
- ✓ Exploring the mechanisms that coach use to control aggression Adama youth athletics project.

1.5 Significance of the study

Athlete aggression is a social issue, originating from a desire to win and compromise of moral reasoning. Aggression is present in and out of competitive environments and is manifested in physical and emotional

forms. It has been proven through extensive research that anger and aggression leads to injury on the field or court for victims and that family, friends, and acquaintances of aggressive athletes are at risk for bodily and psychological harm. Aggressive behaviour can cause physical or Emotional harm to others. It may range from verbal abuse to physical abuse. It can also involve harming personal property.

Aggressive behaviour violates social boundaries. Thus, the present study was significant in that it sought to the assessment of athlete aggression level of Adama youth athletics project. To provides information for other researchers to conduct detail studies on similar topic.

1.6 Delimitation of the Study

To make the study was manageable and feasible. We conduct in the Adama youth athletics project. The researcher was used to all athletes and coaches to dig out full information about the Adama youth athletics project. Since youth athletes are assuming to have a lot of accomplishments during their competition's years of trainings, they are more likely to suffer from stress. Along with this, they may have some sort of experiences towards the use of substances during their stay in the project. So, I was selected to be the focus of this study.

1.7 Limitation of the study

This study has some limitations. Among the limitations are encountered mostly related to financial problem, corona virus (covid-19) problem, and time constraints. With regards to material limitation, the researcher of this research faced shortages of related books in the research area. Secondly time would be one factor that limited this study and lastly, money are taken as a limitation of the study.

1.8 Definition of terms

Aggressive affect: - includes feelings of anger, hostility, and irritability (Anderson & Bushman, 2002; Prot & Anderson, 2013).

Aggression:- is defined as “any form of behavior directed toward the goal of harming or injuring another live being who is motivated to avoid such treatment” (Baron & Richardson, 1994).

Hostile aggression: - is when the main aim is to cause harm or injury to your opponent, Coulomb and Pfister (1998).

Instrumental aggression: - is when the main aim is achieving a goal by using aggression. (Dollard, Doob, Miller, Mowrer, & Sears, 1939).

Stress: - has been defined as stimulus, intervening and response to variables by different researchers. Martens, Vealey, and Burton (1990)

Anxiety: - is too much, it can hamper or negatively affect the performance and achievement in games including sport games (Lazarus, 2009).

Violence: - is defined as “harm inducing behaviour bearing no direct relationship to the competitive goals of sport, and relates, therefore, to incidents of uncontrolled aggression outside the rules of sport, rather than highly competitive behaviour within the rule boundaries” (Terry & Jackson, 1985, p. 27).

1.9 Organization of the study

This thesis was organized in the five parts. The first is chapter one which deals with introduction. In this section, background, statement of the problem, objective, significance, limitation, delimitation, operational terms and organization of the study would be discussed. The second chapter would be review of literature. In this part, relevant and related literatures would be reviewed. The third part is Research Design and methodology. Presentation and Analysis of Data is the fourth chapter. And finally, Summary, conclusion and recommendation would be given.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. The concept of aggression

Aggression can be defined as any interpersonal behaviour intended to cause physical harm or mental distress. Aggressive players who intentionally cause an injury to their opponents are common in many sports, particularly in collision sports such as Rugby (Maxwell, Visek, 2009). The aggressive attitude towards the opponent and sport hooliganism are object of many social and psychological researches. Representatives of different scientific approaches consider the sport aggressiveness as “ritualized” aggression, a method for sublimation, result of frustration, opportunity for catharsis or special feature of personality, formed by the influence of sport environment. (Kutergin, Ryabushenko, & Gorbolenko, 2010). Aggression has long been a part of the sport domain. Indeed, Russell (1993, p. 191) suggested that outside of wartime, sports is perhaps the only setting in which acts of interpersonal aggression are not only tolerated but enthusiastically applauded by large segments of society. In recent years, however, violence in sport, both on and off the field, has come to be perceived as a social problem. For instance, commissions have been appointed in Canada, United Kingdom, and Australia to investigate violence in the athletic setting (National Committee on Violence, 1989; Pipe, 1993). In the United States, Canada, Germany, United Kingdom, and Australia, court cases have been heard concerning the sport-related victims or perpetrators of aggressive acts. Aggression is defined as the infliction of an aversive stimulus, physical, verbal, or gestural, upon one person by another. Aggression is not an attitude but behaviour and, most critically, it is reflected in acts committed with the intent to injure (LeUnes & Nation, 1989). This definition of aggression includes such wide-ranging acts-engaged in by athletes, coaches, and or spectators-as physically hitting another individual and verbal abuse. Aggressive behaviour can be classified according to the primary reinforcement sought via the act. Hostile aggression is where the principal reward, or intent, is to inflict upon another for its own sake. Instrumental aggression, on the other hand, is where the major reinforcement is the achievement of a subsequent goal. Aggression is primarily a learned behaviour which is the result of an individual's interactions with his or her social environment over time (Bandura. 1973).

Aggression occurs in sports where an athlete's generalized expectancies for reinforcement for aggressive behaviour are high (e.g., receiving praise from parents, coaches, peers) and where the reward value outweighs punishment value (e.g., gaining a tactical and/or psychological advantage with a personal foul, a yardage penalty in American football). Situation-related expectancies (the time of game, score opposition, the encouragement of the crowd) also influence the athlete in terms of whether this is deemed

an appropriate time to exhibit aggression (Husman & Silva, 1984). According to Silva (1984, p. 268), one of the main promoters and maintainers of aggressive behaviour in sport is vicarious reinforcement of "the tendency to repeat behaviours that we observe others rewarded for performing." Conversely, "we are less likely to perform behaviour that we have seen another individual being punished for doing." Research (Bredemeier & Shields, 1994, 1995; Bredemeier, Shields, Weiss, & Cooper, 1987) has shown that the dynamic interplay between the athlete and his or her socializing agents influences the athlete's reasoning about what is right and wrong in the athletic setting. The athletes' level of moral reasoning has been found to predict their judgments concerning the legitimacy of aggressive acts. Further, the level of moral reasoning demonstrated by athletes in the sport context tends to be lower than what is witnessed in other life domains.

It has been suggested that being aggressive can lead to a reduction in subsequent aggressive acts. This supposition is fundamental to the concept of catharsis but has received little empirical support (Thirer, 1993). In fact, research concerning vicarious catharsis specifically suggests that individuals tend to be more aggressive after observing aggression in the sport world. For example, Goldstein and Arms (1971) studied the effects of observing athletic contests on spectator hostility. Spectators were interviewed before and after an Army-Navy American football game and an Army-Temple collegiate gymnastics meet held the same month. The spectators at the football game had a significant increase in hostility as a result of watching the contest regardless of whether their team won or lost. The spectators at the gymnastics meet showed no such increase. Arms, Russell, and Sandilands (1979) repeated the study with spectators observing ice hockey, professional wrestling, or swimming. Their results were consistent with Goldstein and Arms' study in that hostility significantly increased as a result of observing the professional wrestling and ice hockey events. In contrast, spectators observing the swimming meet did not exhibit increased hostility scores. Numerous laboratory studies also have shown heightened levels of aggression on the part of the viewer when observing aggression or violent behavior in a film session (Berkowitz & Alioto, 1973; Geen & O'Neal, 1969; Hartmann, 1969). Research findings also suggest that fans like violence in their sports (Comisky, Bryant, & Zillman, 1977; Bryant, Comisky, & Zillman, 1981; Bryant, Brown, Comisky, & Zillman, 1982). Bryant and Zillman (1983) have proposed that the media exploit this desire for violence in three ways. One is through over-coverage of violent plays. For example, instances of violence in sport are often sensationalized and replayed over and over again on television. Secondly, many feature articles in magazines focus on and glorify violence. Finally, promotions in television programming are often exploitative by using past violent acts seen in previous sport contests to encourage spectators to attend or watch upcoming events.

2.2. Youth Aggression

Aggression is defined as "acts that are hurtful and/or harmful to others" (Artz & Nicholson, 2002.). While aggression in youth has been extensively studied, there remains a gap with respect to the specificities of the nature and degree of aggression among youth. Research has emphasized acts of aggression as being predictive of delinquency and disruptive behaviours (Reef, Donker, Van Meurs, Verhulst, & Van Der Ende, 2011; Vitaro, Gendreau, Tremblay, & Olinny, 1998). This literature highlights aggression as one of the symptoms of conduct disorder, attention deficit hyperactivity disorder, psychoses, substance abuse, depression and other psychiatric disorders (Connor, Steingard, Cunningham, Anderson, & Melloni, 2004; Vitiello & Stoff, 1997). Current research suggests there are two unique types of aggression: proactive (PA) and reactive (RA) (Dodge & Coie, 1987; McAdams III, 2002). Different types of aggression yield different correlates; therefore, understanding these differences is essential for the purposes of both treatment and prevention. Connor et al. (2004) describe PA as a coercive action used as a means of achieving a goal. It is often characterized as being deliberate and predatory in nature (Vitiello & Stoff, 1997). Further, literature has explained PA as a form of intimidation and domination. Conversely, Connor et al. (2004) describe RA as a defensive response often acted out of frustration or anger that is caused by provocation. RA is often associated with strong negative affect, impulsivity and being hostile in intent (Dodge & Coie, 1987).

The literature converges on the high construct validity and reliability of these two subtypes of aggression (Dodge & Coie, 1987; Poulin & Boivin, 2000). Babcock, Tharp, Sharp, Heppner and Stanford (2014) noted that aggression, particularly typologies characterized as PA and RA are often used incorrectly. Numerous studies do not appropriately operationalize their subtypes of aggression and tend to use the terminology 'reactive' and 'proactive' synonymously with impulsive and premeditated. Babcock et al.'s study (2014) considers the symptoms and behaviours for each typology, as distinct. While reactive and impulsive terms were found to be quite similar, there were significant differences between proactive and premeditated types (Babcock et al., 2014). This fact emphasizes the need for the current research to use clear and operationally defined typologies of reactive and proactive aggression. Babcock et al. (2014) further suggest that health care providers should ensure that they are tailoring any treatments to the determined specific subtypes. The intent of the current study is to contribute to this knowledge base in differentiating the two concepts. Treatment outcomes related to aggression, while being somewhat encouraging, could be improved with further understanding regarding the underlying processes and psychiatric diagnoses associated with aggressive incidents (Vitiello & Stoff, 1997). This could be integrated within targeted interventions based on differential typologies.

2.3 Types of Aggression

Researchers identify two types of aggression related to sports: - instrumental aggression and hostile aggression.

2.3.1 Instrumental aggression: by nature, certain sports (such as football, ice hockey, etc.) have higher levels of contact between players. Thus, they inevitably include more aggression. But such violence is often within the bounds of the game. You often need to play with a certain measure of physical aggressiveness to win. This is instrumental aggression.

2.3.2 Hostile aggression (HA), on the other hand, is violence that goes beyond the scope of the sport. Being hostile refers to “impulsive, angry aggression intended to hurt someone who has in some way provoked an individual” (Russell, 2008). One famous example of hostile aggression in sport is a 2006 World Cup football (soccer here in the U.S.) match. After being insulted by Italian athlete Marco Materazzi in the middle of the game, French player Zinedine Zidane delivered a serious head butt to his chest, which sent him flying to the ground. Such action was in no way necessary to the game itself; it was simply a way to retaliate against the athlete. Zidane wanted to hurt his provoker as badly as possible.

2.3.3 Proactive and reactive aggression

Several recent studies of aggression draw a distinction between reactive and proactive aggression (Crick and Dodge 1996). The first of these terms refers to aggressive behaviour that is enacted in response to provocation, such as an attack or an insult, and it is manifested in both self-defensive and angry actions. The latter term refers to aggression that is initiated without apparent provocation, such as we see in bullying behaviour. Such behaviour is not evoked by anger, hostility, or the need to defend oneself, but by other motives that relate to obtaining goods, asserting power, assuring the approval of reference groups and other such goals. Reactive and proactive aggressions are the equivalent of what earlier theorists called affective and instrumental aggression. The affective-instrumental (or reactive-proactive) differentiation will come up in certain specific contexts in this book, and the reader should bear in mind the differences between the two kinds of aggression. The remainder of this book is devoted primarily to a discussion of the processes involved in affective aggression. This emphasis is in no way intended to imply that instrumental aggression is unimportant. However, it has not been studied in nearly the same depth as has affective aggression. There is, for example, no large body of literature analysing the variables involved when one person does not hurt another for money, nor do we have extensive data from controlled studies on the mediators of self-defence. Some studies have begun to inquire into the antecedents of each type of aggression, and they will be cited. On the other hand, we have a great deal of information on affective aggression and the processes that contribute to it.

2.4 Measuring Aggression

In the lab, aggression has typically been measured by assessing the number (Berkowitz, 1962) or intensity (Taylor, 1967) of electric shocks administered to a target individual. Alternately, intensity of blasts of noxious white noise has been used as a measure of aggression (Lindsay and Anderson, 2000). A limited number of experiments have relied on the administration of hot sauce (Lieberman et al., 1999). Still others have utilized measures of verbal hostility (Berkowitz et al., 1962; Kulik and Brown, 1979), point subtraction (Cherek, 1981), and play behaviour (Bandura et al., 1961). A variety of measures of aggression outside of the lab have been employed, including horn-honking (Baron, 1976), and personal confrontations (Harris, 1973, 1974), as well as utilizing aggression and violence data from public archives (Anderson, 1989).

2.5 Theories of Aggression

2.5.1 Frustration–Aggression Theory

Although space precludes an exhaustive survey of aggression theories, there are several that should be highlighted. The Frustration–Aggression Theory emerged from the work of Dollard et al. (1939). The original frustration–aggression formulation postulated that frustration (the blocking of a goal response) was a necessary and decedent of aggression, and that aggression was an inevitable consequence of frustration (Dollard et al., 1939; Miller, 1941). Frustration is the deprivation of some expected outcome, and particularly an outcome that the organism anticipates as pleasurable (Berko-witz, 1989). As Miller (1941) and Berkowitz (1989) contend, whether frustration produces an aggressive response depends up on several factors, including proximity of goal attainment and the potential for punishment of aggressive behavioural responses.

2.5.2 Social Learning Theory

Bandura’s (1973) Social Learning Theory of aggression assumes that there are features of the environment which foster acquisition of aggressive behavioural responses, as well as their performance and maintenance. Aggressive behaviour can be learned by watching someone else behave aggressively, and by imitating that person’s behaviour. The important thing to keep in mind is that imitation is not necessary for the behaviour to be acquired only that the person attended to the behaviour that was modeled initially. Aggression can be maintained in the following ways. First, it can be rewarded. If it is positively reinforced, the response is strengthened and may be used again given the appropriate cues. Reinforcement of aggression in one situation can also increase the like LaHood of aggression in other situations (principle of response generalization).

2.5.3 Cognitive Neo associations Model

The cognitive neo associationism model proposed by Berkowitz (1993) is intended to be both a general theory of emotion and an explanation of aggressive behaviour. The model suggests that whenever an aversive stimulus is encountered, the individual automatically experiences negative affect. This negative affect will trigger a variety of lower-order associations, leading to the triggering of aggression-related ('fight') and escape-related ('flight') tendencies. These tendencies include aggression and escape related motor responses, physiological reactions, thoughts, and memories. These two tendencies may be thought of as associative networks. Once one part of the network has been activated (Motor responses), the other components are also activated. The native strength of these two tendencies will depend on several factors, such as the genetic make-up of the individual, learned responses that the individual has acquired, and the situation itself. If aggression-related tendencies are stronger, the individual will experience rudimentary anger because of conscious and preconscious awareness of these aggression-related reactions. Similarly, if escape-related tendencies are stronger, preconscious, and conscious awareness of these escape-related reactions will lead to a rudimentary fear experience. Berkowitz notes that in a sense his theory parallels the James-Lange theory of emotion. In essence, it is not the experience of anger or fear that leads to various aggression or escape related responses, but rather the aggression or escape-related responses that produce anger or fear. Depending on the circumstances, the individual may subsequently engage in higher order cognitive processing regarding the consequences of various courses of action, the severity of the aversive stimulus, and/or the degree to which the aversive stimulus was intentionally or unintentionally induced. Although these higher order cognitions are important in Berkowitz's (1993) model, they are clearly secondary to affect. Such cognitions are not sufficient to trigger aggressive behaviour by themselves, but do lead to potential decreases or increases in aggression by enabling the individual to more explicitly examine the cause (s) of the aversive stimulus, as well as potential consequences of aggressive behaviour. Berkowitz emphasizes that these higher order cognitions are not necessary for aggression to occur. An individual can become aggressive without engaging in higher order cognitive processing (Crimes of passion). In other words, aggressive behaviour does not require a deliberative decision. In many instances individuals may engage in aggressive behaviour without any awareness of why they are aggressing.

2.5.4 General Aggression Model

According to the General Aggression Model (GAM; Anderson and Bushman, 2002), there are many input variables that can influence the likelihood of aggressive behaviour. Some are individual difference variables (trait hostility and attitudes toward violence). Others are situational variables (the presence of guns or other weapons and pain). These inputs can influence aggressive behaviour through one or more of

three routes: cognition (hostile thoughts, aggression scripts), affect (hostile feelings, expressive motor responses), and arousal (physiological, perceived). Variables traversing these routes can influence a person's immediate appraisal of the situation. This immediate appraisal occurs automatically, and includes an interpretation of the situation (the potential for harm and malicious intentions of target person) and an interpretation and experience of affect (anger at target person). Once an immediate appraisal of the situation has been made, reappraisal may occur. Reappraisal is a thoughtful, effortful, and conscious process in which the individual considers additional information concerning the situation, alternative behavioural responses to the situation, feasibility of the various alternatives, and consequences of carrying out the various alternative behavioural responses. Because reappraisal is an effortful process, it is undertaken only when the individual has sufficient cognitive resources available. At the final stage in the model, the individual makes a choice to aggressor not to aggress.

2.6 Situational Antecedents of Aggression

2.6.1 Provocation

Theoretical formulations postulate that people are more likely to be aggressive under provoking situations compared to more neutral, non-provoking situations (Berkowitz, 1989, 1990, 1993; Dollard et al., 1939; Geen, 2001; Huesmann, 1998). In this sense, a provocation is an action or situation that potentially instigates an angry and aggressive response from the victim, at least in part because the provoking event is perceived to be intentional and malicious by the victim. Provocations may be conceptualized as either attacks, in which the person is physically assaulted, verbally insulted, or threatened; or as frustrations, in which the person is prevented from achieving a goal (Geen, 2001).

Additionally, provocations vary in intensity and, as such, may differ in their potential to elicit an aggressive response (Carlson and Miller, 1988). In laboratory experiments, provocation may be operationally defined in a number of ways, including physical provocations such as intensity, duration, or quantity of electric shocks or noise blasts received from another individual (i.e., confederate or experimenter; Bushman, 1995; Giancola and Zeichner, 1995; Taylor, 1967); point or monetary penalties during a competitive task (Bjork et al., 1997; Bjork et al., 2000); verbal provocations such as personal insults (e.g., Caprara et al., 1986), or negative feedback about their intelligence (Caprara and Renzi, 1981); and frustrations, such as failure to complete a task (Geen, 1968), or a confederate failing to 'learn' in a learning task paradigm (Buss, 1963; Rule and Percival, 1971). In general, empirical research and literature reviews show that people are more likely to be aggressive in response to provocations, such as physical attack or verbal insult (Carlson and Miller, 1988).

2.6.2 Situational Cues

A number of situational cues have been found to interact with provocation to increase aggressive behaviour responses, as well as intervening variables such as anger and accessibility of aggressive cognitions (Carlson et al., 1990). One such cue, weapons and weapon images, has been reliably found to increase aggressive behaviour responses under conditions of high provocation in lab (Berkowitz and Le Page, 1967) and field (Turner et al., 1975), as well as to increase accessibility of aggressive cognitions (Anderson et al., 1998; Bartholow and Heinz, 2006), and affect (Boyanowsky and Griffiths, 1982). Various violent media have also been causally linked to aggressive behaviour responses, including televised violence (Paik and Comstock, 1994), film (Berkowitz and Geen, 1966), music lyrics (Anderson et al., 2003), and video games (Anderson et al., 2004). A number of variables have been shown to moderate the effects of various violent media, including realism (Geen, 1975), similarity of filmed victim to target of aggression (Berkowitz and Geen, 1966), and the extent to which those modeling violence are rewarded or punished (Bandura, 1973). Long-term effects of exposure to media violence have also been demonstrated, including increased incidence of aggressive and antisocial behaviour into adulthood following exposure to televised violence in childhood (Huesmann, 1998). In addition, there is evidence that exposure to televised violence over a period of weeks can lead individuals to overestimate either likelihood of being victims of violent crime (Gerbner et al., 1980), as well as increase levels of fear (Cantor, 1982), anxiety (Bryant et al., 1981), and authoritarian attitudes (Gerbner et al., 1982).

2.7 Environmental Influences

2.7.1 Heat

Archival research of geographic regions show that violent crime rates are higher for cities in warm climates (Los Angeles, Houston, and Miami) than equivalent sized cities in cooler climates (Minneapolis, Seattle, and Chicago) even when socioeconomic and cultural factors (such as poverty) are artistically controlled for (Anderson, 1989, 2001; Anderson and Anderson, 1996, 1998). Time period studies show that violent crimes are more likely to occur during warm-weather months than on cold-weather months, and also that violent crimes tend to be more common in hot years than in cooler years and that the usual summer increase in violent crime is magnified during hotter years (Anderson et al., 1997).

2.7.2 Lead exposure

There is increasing evidence that there is a link between lead exposure in early childhood and violence, and that a reduction in lead exposure is associated with decreases in violent behaviour. Nevin (2000) found that when a lag time of 23 years was added, 90% of the variability in violent crime in the United States could be accounted for by exposure to lead emissions from gasoline powered vehicles. Nevin

(2007) subsequently conducted across-national analysis that largely replicated his previous findings: The curves in lead exposure were statistically linked with the curves in violent crime in the UK, West Germany, Canada, Australia, Finland, France, Italy, and New Zealand. Mielke and Zahran (2012) examined six United States cities with both good lead data and good crime data dating back to the 1950s, finding significant correlations between lead exposure and violent crime in all locations examined. Of course, in areas where lead exposure has declined slowly, violent crime has declined slowly as well (Reyes, 2007). At the neurological level, MRIs can reveal that lead exposure degrades the formation and structure of myelin, which decreases the efficiency with which neurons can communicate with each other (Brubaker et al., 2009). Furthermore, there is evidence that lead exposure is associated with a decrease in neuronal density in the prefrontal area of the cerebral cortex, which is the part of the brain responsible for emotional regulation, impulse control, and reasoning (Cecil et al., 2007).

2.8 Personal Antecedents of Aggression

2.8.1 Individual Differences

Research on personality traits related to aggression suggests at least two broad classes of traits: aggression proneness and susceptibility to provocation (Bettencourt et al., 2006). Traits that fall under the category of aggression proneness, such as trait aggressiveness (Buss and Perry, 1992), are characterized by a general propensity to engage in acts of physical and verbal aggression, a proneness to anger, and a proneness to hold hostile beliefs about other people. Research shows a major effect of aggressiveness on aggressive behaviour under both neutral and provoking conditions (Bjork et al., 2000; Bushman, 1995). For example, in one study (Bushman, 1995), participants playing a competitive reaction time game with an opponent received noise blasts of increasing intensity (provocation level manipulation) after each trial that they lost and were in turn given the opportunity to deliver noise blasts to their opponent after each trial that they won. The results showed that participants who scored high in trait aggressiveness delivered noise blasts of higher intensity than individuals scoring low in trait aggressiveness, regardless of provocation level. In addition, high trait aggressive individuals have been shown to have chronically accessible aggression-related knowledge structures compared to low-trait aggressive individuals (Bushman, 1996).

Over all, the majority of the findings suggest that those who are high in trait aggressiveness are more aggressive than those low in trait aggressiveness and that this difference is observed even when conditions are neutral and aggression is inappropriate. Traits that fall under the category of susceptibility to provocation generally show an interaction with provocation, in which high-trait individuals only show more aggression than their low-trait peers under conditions of high provocation (Bettencourt et al., 2006). One such trait is the Type A or coronary prone personality. Type A individuals typically experience

feelings of irritation when provoked or frustrated (Glass et al., 1974). In addition, provoked Type A individuals have been found to report a greater desire to harm a confederate (Check and Dyck, 1986). Several studies show an interaction of Type A and provocation on aggression, suggesting that Type A individuals are more aggressive than Type B individuals under provoking conditions than under neutral conditions (Carver and Glass, 1978; Muntaner et al., 1989; Strube et al., 1984). Another such trait, narcissism (also referred to as high, unstable self-esteem) has been shown to interact with provocation (Bushman and Baumeister, 1998). For example, Rhodewalt and Morf (1995, 1998) have found that narcissists show higher levels of anger and hostile attitudes toward others when provoked relative to their non-narcissistic peers. Bushman and Baumeister (1998) found that narcissists responded more aggressively under highly provoking conditions than their non-narcissistic peers. In terms of stability, there is considerable evidence that aggressiveness is consistent across time in both adults and children (Eron and Huesmann, 1990; Olweus, 1979). Olweus (1979), for example, reviewed longitudinal research on aggressive behaviour in children and found to be highly consistent from early childhood on through adolescence. Eron and Huesmann's (1990) longitudinal research demonstrated that aggressive behavioural patterns remained consistent from childhood well in to adulthood.

2.8.2 Attitudes

Individual differences in attitudes toward aggression and violence are also potential predictors of aggressive behaviour. Research on the revised attitudes toward violence scale showed that it predicted both self-reported verbal and physical aggression (Anderson et al., 2006). Self-report studies reveal that men who are high in hostile masculinity report that they are in acts of sexual aggression against women to a greater degree than men who are low in hostile masculinity (Malamuth et al., 1995). Right-wing authoritarianism, to the extent that it measures attitudes toward authoritarian aggression, has been shown to be a predictor of higher levels of electric shock in at least one laboratory experiment (Altemeyer, 1981). Although attitudes themselves are considered generally stable (Baron and Richardson, 1994), some short-term fluctuations in various attitudes toward violence have been detected under certain circumstances. In a longitudinal study conducted by Carnagey and Anderson (2007), the authors found evidence of an increased favourability in attitudes toward war following the 11 September 2001 terrorist attacks on the World Trade Center and the Pentagon. Crandall et al. (2009) demonstrated that status quo framing influences attitudes toward torture much like with other types of attitudes. Specifically, Crandall et al. (2009) showed that attitudes toward torture were more favourable when torture was framed as status quo than when framed as novel. Gronke et al. (2010) recently published data showing that most Americans during the previous decade were willing to support the use of torture only if it was perceived to help thwart future terrorist attacks.

2.8.3 Gender

The research on gender differences suggests that males are somewhat more likely to show higher levels of overt physical aggression than females (Eagly and Steffen, 1986). The extent of that difference probably depends on a several of moderating factors, such as whether or not aggressive responses are required in an experimental situation or are freely chosen, and the strength of provocation (Eagly and Wood, 1991). Under conditions of high provocation, males and females are statistically equivalent on measures of verbal aggression (Bettencourt and Miller, 1996). Additionally, although males generally show more direct aggression, females tend to show more in direct aggression (Baron and Richardson, 1994; Crick (1995)).

Prior research has emphasized the importance of studying sex in respect to youth aggression. Female youth crime has increased 127% since 1999, almost twice as fast as male crime (Savoie, 1999). While female crime is not as prevalent as such behaviours committed by males, violent crime accounted for more crime committed by females than by males. Further, two thirds of female youth had charges of common assault (Savoie, 1999). These results have also indicated that female youth tend to be younger when committing violent crime than males (Savoie, 1999). While Lahey (1998) found that those who experienced adolescent-onset aggressive behaviour were not only more likely to be female, these youth also had a reduced likelihood of meeting criteria for oppositional defiant disorder. The literature also noted that, no matter the age, females were more strongly associated with indirect aggression than their male counterparts, though the level of such aggression did increase with age for both sexes (Tremblay, extreme antisocial behaviours with age (Frick & Marsee, 2006). Tremblay (2002) noted high rates of relational aggression (Hyde, 2014). The majority of studies have focused primarily on male samples (Fite et al., 2014; Vitaro et al., 1998). Of the studies that have incorporated both male and female participants, researchers have noted significant sex differences (Berkout, Young, & Gross, 2011; Murray-Close et al., 2010).

Reports have generally found that males were more likely to be charged with serious offences compared to females (Odgers & Moretti, 2002). When research included covert types of indirect and relational aggression, aggression was more equally distributed across sex, with some reports suggesting a higher prevalence rate in girls (Odgers & Moretti, 2002). Murray-Close et al. (2010) found that girls were more likely to be involved in romantic relational aggression compared to boys. Conversely, males were more likely to engage in both more proactive and reactive peer-directed relational aggression compared to females (Murray-Close et al., 2010). While males had a tendency to exhibit more externalizing behaviours, females appeared to have a much higher frequency of internalizing disorders (Berkout, Young, & Gross, 2011). Anxiety comorbidity tended to be more frequent among female samples than males (Berkout, Young, & Gross, 2011). Despite this, a subset of girls has been known to engage in

behaviours reflective of bullying and callousness, which is commonly classified as a proactive type of aggression (Marsee & Frick, 2007; White, Gordon, & Guerra, 2015). Murray-Close and Ostrov (2009) indicated that proactive aggression was associated with increasing physical aggression over time. Also, males were no more significantly associated with physical aggression than girls (Murray-Close, 2009). Research is conflicted but has found that both male and female youth is equally 2002). However, more recent literature has found that males and females exhibit equal, likely to reduce their physical aggression over time and tended to be more indirectly aggressive (Côté, Vaillancourt, Barker, Nagin, & Tremblay, 2007). As with other types of criminal behaviour, sex differences clearly emerge when aggression is being assessed. Males who exhibited proactive aggression demonstrated externalizing behaviours in childhood and criminal behaviours throughout adolescence and adulthood (Pulkkinen, 1996). They also tended to be more aggressive than males exhibiting reactive aggression up until the age of 27, though this difference was not apparent for females (Pulkkinen, 1996).

Conversely, proactive females displayed more internalizing behaviours throughout childhood such as anxiety and were likely to demonstrate neuroticism in adulthood (Pulkkinen, 1996). Connor, Steingard, Anderson and Melloni (2003) investigated proactive and reactive aggression in a sample of clinically referred children and youth and found results contrary to others who had studied non-referred youth. These researchers found no sex differences for proactive or reactive aggression though they did note a non-significant higher frequency for boys with severity and frequency of aggression than girls. Marsee and Frick (2007) conducted a study on detained girls to determine the forms and functions of relational aggression. They found that, similar to overt aggression, callous traits and the expectation of positive outcomes was exclusively linked to proactive aggression. This finding suggested that the emotional processes of incarcerated girls revealed differences in intervention and how types of aggression relate to certain psychopathic behaviours. White, Gordon and Guerra (2015) also investigated callous-unemotional traits and their association with proactive aggression in a sample of young associated with proactive aggression. Further, results indicated that females were more unemotional traits were related to proactive aggression. While their research focused on relational aggression in women, previous research examined aggression in youth and found similar results (Fanti et al., 2009). Similar to their male counterparts, proactive female youth displayed adjustment issues of attentiveness, non-compliance, and conduct problems (Pulkkinen, 1996).

2.8.4 Mental Illness

The research on mental illness and aggression (and more specifically, violent 18 behaviour) has been mixed (Stuart, 2003). However, there is data to support the assertion that those individuals who have severe mental illnesses, such as paranoid schizophrenia, are no more and no less prone to violent 18 behaviour than individuals who are not mentally ill (Stuart, 2003). Recent evidence suggests that other factors, such as alcohol or drug use (Stuart and Arboleda-Florez, 2001; Swanson, 1994), or low socioeconomic status (Monahan et al., 2001), are better indicators of the potential for violence than mental illness. One mental illness that has been experimentally linked to aggression is clinical depression. There is some evidence that individuals who are experimentally induced to feel depressed tend to behave more aggressively than individuals who are induced to be in a neutral or positive mood (Berkowitz and Troccoli, 1990; Hyman and Grush, 1986), and that those who are placed in to a tryptophan-depletion condition tend to behave more aggressively than those in a control condition (Bjork et al., 2000). Examining actual psychiatric patients, Bjork et al. (1997) have presented some evidence that clinically depressed individuals who are highly provoked behave more aggressively than similarly provoked non depressed individuals. However, it should be noted that Bjork et al. (1997) only found this effect among female participants.

2.9 Physiological Factors

2.9.1 Brain Damage and Aggression

Another factor that may play a role in aggressive and violent behaviour is that of damage to the brain. In primates, there is some evidence that removal of the amygdala leads to a reduction in aggressive behaviour (Rosvold et al., 1954). In humans, there is evidence that the lesioning of the amygdala reduces violence associated with temporal lobe seizures (Mark and Ervin, 1970). There is also evidence that reduction in orbitofrontal cortex activity is associated with antisocial behaviour, including violence (Davidson et al., 2000). Davidson et al. (2000) compared violent criminals with typical research participants and observed lower orbitofrontal activity in the violent criminals. In addition, abnormalities in the autonomic nervous system may be involved in aggressive and violent behaviour. Umhau et al. (2002) had perpetrators of domestic violence and typical research participants move from a resting to standing position, and remain standing for 5min. In the sample of perpetrators, the expected increase in heart rate upon standing did not occur. These researchers concluded that the lack of heart rate increase was due potentially to abnormalities in the vagus nerve.

2.9.2 Testosterone

Numerous studies of a variety of pre-primate animal species have demonstrated that androgens, especially testosterone, facilitate aggressiveness between males (Archer, 1991). Specifically, the presence of testosterone early in the life of an animal is instrumental in establishing the biological readiness for a number of functions, including sexual and aggressive behaviour (Rada et al., 1976; Rubinow and Schmidt, 1996). However, although there does appear to be causal relationship between testosterone and aggression in pre-primate species, the relationship has been difficult to demonstrate in primates (Albert et al., 1993; Archer, 1991). Furthermore, attempts to establish a relationship between testosterone and aggression in humans have been equally problematic (Archer, 1991). Several studies over the last three decades have shown a significant positive relationship between testosterone and aggression in humans. (Dabbs and Morris, 1990).

2.10 Psychoactive Drugs and Aggression

There is now ample evidence from multiple experiments that alcohol consumption is causally related to increased aggression in both men (Bushman and Cooper, 1990; Giancola et al., 2009) and women (Giancola et al., 2009), although the effect of alcohol on aggression appears to be stronger in men (Giancola et al., 2009). Other psychoactive depressants that have been causally linked to aggression include benzodiazepines (Berman and Taylor, 1995; Gantner and Taylor, 1988) and codeine (Berman et al., 1993). One substance shown to suppress the effects of provocation is tetra hydro cannabinol, the active ingredient in marijuana (Myerscough and Taylor, 1985; Taylor et al., 1976). The research on central nervous system (CNS) stimulants has been quite mixed (Bushman, 1993). Although cocaine has been experimentally linked to aggression (Licata et al., 1993), no evidence of a link between amphetamine ingestion and aggression has been found (Beezley et al., 1987).

2.11 The conceptualised model

To clear the confusion in the definitions of conceptualised components of anger, hostility, and verbal and physical aggression, researchers have provided various explanations and definitions to dissect the meanings. Drawing from the extant literature from aggressive behaviour and sport management, Figure 1 represents the developed conceptual model. The model consists of four constructs, that is, two predictors – athlete hostility and anger, one mediator – athlete verbal aggression, and one outcome variable – athlete physical aggression. Conceivably, the athlete's hostility and anger influence their verbal aggression and consequently physical aggression in the sport of athletics. Detailed explanations of the associations between these constructs are provided in the hypotheses developed hereafter.

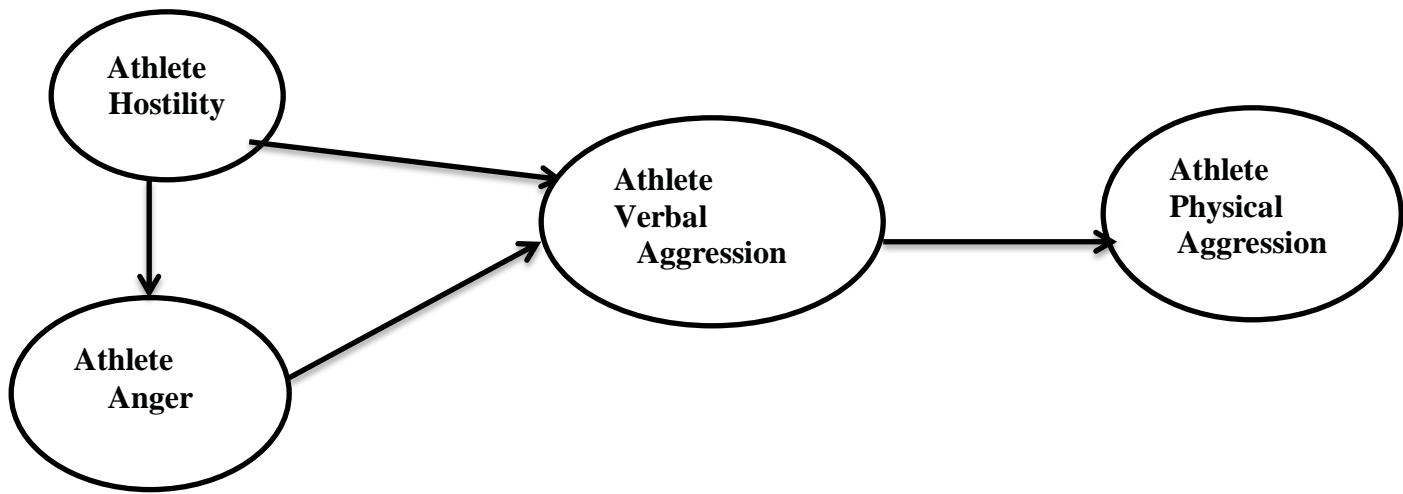


Figure: 1 represents the developed conceptual model.

Athlete hostility is a condition that shows ill-will and malevolence, or a desire to thwart and injure opponents; often occupied by an opponent or opposition team (Maxwell, 2008). According to Tremblay and Ewart (2005), hostility is expressed as a complex set of attitudes that motivate aggressive behaviour. Athletes' subjective emotional experiences play an important role in competitive sports. However, the extant literature agrees that competitive environments often breed hostile attitudes and behaviours, where verbal or ideational tendencies arise among athletes with the aim to outcompete, cause injury to, or devalue other athletes (Wetzels et al., 2009). These hostile behaviours often result in verbal attacks of disliking and getting upset with competing athletes, sport officials, and even team members.

Accordingly, this study posits that: Athlete hostility has a direct positive relationship with athlete verbal aggression within competitive sporting environments. Research has conceptualised anger as an emotional state, emphasising different components, among which is hostile behaviour. Athlete hostility is defined as a negative attitude toward others, and the cognitive dimension of the anger construct that shows the disposition of an enemy (Spielberger et al., 2000:7). For example, Lazarus (2000) defined anger as an emotional condition that consists of subjective feelings of irritation, annoyance, fury, and rage, with concomitant arousal of an autonomic reaction. Whilst Lazarus (2000) called attention to both the physiological and cognitive aspects of anger, Feschbach (1964:13) regarded anger as “a mediating affective response with expressive components.” Spielberger et al. (2000:7) proposed the notion of the AHA Syndrome (anger, hostility, and aggression). Anger, placed at the core of the AHA Syndrome, is defined as “an emotional state that consists of feelings that vary in intensity” (Spielberger et al., 2000:7) emanating from an inherent athlete hostility. Accordingly, this study hypothesizes that: Athlete hostility has a direct positive relationship with athlete anger within competitive sporting environments. Anger is a normal emotion with a wide range of intensity, from mild irritation and frustration, to rage. It is a reaction to a perceived threat to self, team members, property, self-image, or some part of athlete or team identity;

a warning bell that tells that something is wrong. Anger is often followed by reactions, which are verbal, non-verbal, or physical. Usually these reactions start with a rush of adrenaline and responses such as an increased heart rate, increased blood pressure, and tightening muscles, often known as the “fight or flight” response (Spielberger et al., 2000). Mismanaged anger, on the other hand, is counterproductive and can be unhealthy. When anger is too intense, out of control, misdirected, and overly aggressive, it can lead to poor decision making and poor problem solving, creating problems with relationships within teams, and can even affect athlete’s health (Maxwell et al., 2007). When athletes manage anger well, it prompts them to make positive changes in the sporting arena and be agents of change. There is a wide range of behaviour that signals anger. Athletes often look and sound angry, turn red, raise their voices, clam up, slam objects such as rackets, storm away, or otherwise signal to others that they are angry. These reactions are certainly verbal aggression where athletes express their anger verbally, ask for time-out, request apologies, or ask for something to change.

Accordingly, this study posits that: Athlete anger has a direct positive relationship with athlete verbal aggression within competitive sporting environments. The conceptualised definitions of verbal and physical aggression, imbedded in the domain of psychology, are borrowed from the works of Feschbach (1964) as well as Infante and Wigley (1986). Verbal aggression refers to such behaviour as verbally abusing and accusing, shouting and name-calling to opponents, teams or other athletes, with purposeful emotional attack (Infante & Wigley, 1986). In other words, verbal aggressiveness is a trait, emphasising individual differences in the predisposition to attack the self-concepts of others, often expressed in the form of maledictions, teasing, ridicule, threats, swearing, or nonverbal emblems (Infante & Wigley, 1986). This type of self-concept attack might involve insulting the other athletes’ characters, competence, performance, background, or physical appearance, with the intention to humiliate those (Wetzels et al., 2009).

This behaviour often escalates to physical aggression. Physical aggression is violent and has the potential to inflict injury or damage to the targeted opponent or object. Smith et al. (2002) define physical aggression as the use of physical force, or a credible threat of physical force, intended to harm another athlete physically. Often such inflaming demands or mocking behaviour that is hostile, destructive, and/or violent, degenerates to physical unsporting aggression; intentional actions or reactions involving physical contact such as pushing, hitting, butting, kicking, throwing fists or objects, manhandling, crushing, banging objects and excessive obstruction. Accordingly, this study posits that: Athlete verbal aggression has a direct positive relationship with athlete physical aggression within competitive sporting environments.

2.12 Aggressive Cognition

Aggressive cognition includes factors such as aggressive beliefs and attitudes (believing that getting into fights is common and acceptable), aggressive perceptual schemata (a tendency to perceive ambiguous situations in a hostile manner), aggressive expectation schemata (a tendency to expect others to behave aggressively), and aggressive behavioural scripts believing that the appropriate response to an insult is attacking the insulter; Anderson & Bushman, 2002).

The sum of these different cognitive components can be thought of as knowledge structures, and the sum of a person's knowledge structures what determines their personality (Mischel, 1973; Mischel & Shoda, 1995). People who characteristically have aggressive cognitions easily accessible—that is, those who frequently see the world as an aggressive place and who can easily think of aggressive solutions to interpersonal conflict—tend to behave aggressively. Similarly, situations that increase aggressive thinking (provocation, media violence) tend to increase aggression. However, the activation (or thinking) of aggressive cognitions does not always lead to aggressive behaviour, nor are aggressive cognitions required for aggressive behaviour to occur. Thus, aggressive cognitions, though related, are distinct from aggressive behaviour.

2.13 Aggressive Affect

Aggressive affect includes feelings of anger, hostility, and irritability (Anderson & Bushman, 2002; Prot & Anderson, 2013). The presence of aggressive affect increases the likelihood of aggressive behaviour occurring, but, like aggressive cognition, aggressive affect is not a necessary condition for the elicitation of aggressive behaviour. It is quite possible for aggression to occur in the absence of aggressive affect (as in traditionally classified instrumental aggression). Similarly, the presence of aggressive affect does not guarantee that aggression will occur. Thankfully, being angry at others does not mean that one will necessarily aggress against them. Aggressive affect and aggressive cognitions work interactively to influence aggressive behaviour (Anderson & Bushman, 2002). For example, in ruminatively based triggered displaced aggression, an initial provocation elicits aggressive affect, which is sustained over time by rumination (i.e., aggressive cognition), leading to later aggressive behaviour (Miller et al., 2003). But, again, it is important to maintain the distinction between aggressive affect and aggressive behaviour. Many measures of aggressive personality include aggressive cognition, aggressive affect, and aggressive behaviour, mainly because they so frequently co-occur. This sometimes leads to confusion in the research literature by clouding the distinctions between these three very different concepts.

2.14 Theoretical Orientation

There are two theoretical frameworks common within the literature that effectively describe and support the two typologies of RA and PA; these include the frustration-aggression model and social learning theory (Bandura, 1978; Berkowitz, 1989; Card & Little, 2006; Connor et al., 2004).

2.14.1 Frustration- aggression model

The frustration-aggression model postulates that aggression occurs as a result of frustration or anger to an event. This theory is reflective of reactive aggression as it views aggression as a hostile reaction to a perceived threat (Berkowitz, 1989). This type of aggression is a product of emotional affect and environmental cues. Therefore, it is suggested that while aggression is instigated by frustration, there must be a relatively powerful stimuli to allow aggression to be fully expressed (Berkowitz, 1989). This can further be associated with Dodge's (Dodge & Coie, 1987) model of social information processing that states children who are aggressive tend to process information from environmental social cues differently (Berkowitz, 1989). Here, they are more likely to focus on threatening cues or misinterpret cues of others' behaviours that are often ambiguous, known as hostile attribution bias (Dodge & Coie, 1987).

2.14.2 Symptomology

Distinct behaviours and symptoms have been identified for each subtype of aggression. Pulkkinen (1996) conducted the first longitudinal study to assess adolescents displaying either type of aggression. In this study, proactive individuals tended to display externalizing behaviours in childhood. Those who continued to be proactive had an increased frequency of problematic behaviours into adulthood (Pulkkinen, 1996). Specifically, these individuals had adjustment problems throughout their adolescence that included conduct and non-compliance issues. They were also more likely to be involved in criminality later in life compared to their non-proactive counterparts. Interestingly, this group did not demonstrate higher levels of self-control compared to reactive and non-aggressive participants (Pulkkinen, 1996). Alcohol abuse was more related to PA rather than RA in adulthood (Pulkkinen, 1996). It is this literature that gave rise to the belief that proactive aggression leads to criminality later in life.

Literature has noted moderate to high relationships between proactive aggression and callous, uncaring traits (Frick, Cornell, Barry, Bodin, & Dane, 2003; Kimoni et al., 2014; White, Gordon, & Guerra, 2015). As a result, proactive aggression is highly associated with children in the youth justice system. Individuals with higher ratings of callous-unemotional traits tend to score higher on violent delinquency and future criminality (Frick & Marsee, 2006; Kimonis et al., 2014; Vitaro et al., 1998). Further research has found higher psychopathy scores associated with proactive aggression for both children and adults suggesting that proactive aggression could be a possible indicator of psychopathic behaviours (Kolla et al., 2013).

This finding has been noted throughout all stages of development (Kollaet al., 2013). The literature has also shown that proactive aggression tends to be related to other behavioural problems, such as hyperactivity and impulsivity (Scarpa, Haden, & Tanaka, 2010). In previous studies, correlations have shown that substance abuse and family violence is also related to proactive aggression (Connor et al., 2004; Frick & Marsee, 2006).

In a previous study, proactive aggression at 12 years of age was predictive of delinquency and disruptive behaviour (i.e. conduct disorder, oppositional defiance disorder) throughout adolescence (Vitaro, Gendreau, Tremblay, & Olinny, 1998). Moreover, those who demonstrated high levels of reactive aggression displayed a weaker association between delinquency and proactive aggression, though reactive aggression did not moderate the link between proactive aggression and disruptive behaviours (Vitaro et al., 1998). Raine et al. (2006) similarly found that individuals who were proactive had a tendency to be more violent reality distortions. Understanding the link between proactive aggression and potential criminality is important in treatment and prevention programs. There is additional research that has noted the presence of callous-unemotional traits to be more common in those exhibiting comorbid typologies of both reactive and proactive aggression (Fanti, Frick, & Georgiou, 2009). Fanti et al. (2009) indicated that such traits were predictive of more complex antisocial behaviours, though in the area of callousness, proactive aggression was exclusively more strongly related to this trait. Literature has also noted a higher number of individuals who crossover in both typologies of reactive and proactive aggression and were therefore highly aggressive in nature (Frick & Marsee, 2006; Poulin & Boivin, 2000). It is important to note that distinct behaviours within each typology reflect unique risks. While previous literature has controlled for the overlap of typologies, the current study examines both distinct and comorbid groups in identifying possible differences among the three. Currently, there is a lack of research looking at the special circumstance and needs of youth who crossover into both trajectories, especially in a large clinical sample.

Therefore, those participants who overlap into both trajectories in the current study will be referred to as the comorbid group. Currently in the literature individuals who have displayed reactive aggression were found to have a higher likelihood of adult adjustment problems compared to those who are proactive (Pulkkinen, 1996). Longitudinally, children who exhibited reactive aggression had higher rates of maladaptation such as internalizing problems like neuroticism into adulthood (Pulkkinen, 1996). Further, reactive aggression was significantly associated with symptoms of emotion deregulation and ADHD (Card & Little, 2006). These emotional problems included high negative emotionality that was often reflected in disordered mood and anxiety (Card & Little, 2006). Scarpa, Haden and Tanaka (2010) found conflicting evidence showing support for both types of aggression and relatedness to various aspects of ADHD.

Reactive relational aggression was more strongly associated with anger and hostility in adults (Murray-Close, Ostrov, Nelson, Crick, & Coccaro, 2010) than proactive relational aggression. Overall, internalizing problems have been significantly related to those individuals exhibiting reactive aggression (Card & Little, 2006; Fite, Rubens, Preddy, Raine, & Pardini, 2014). Loudin, Loukas, and Robinson (2003) examined an older sample of youth and found that those who had more social anxiety and feared negative evaluation tended to be more relationally aggressive, in turn leading to increased frequency of relational aggression when empathy was at a lower level (Loudin, Loukas, & Robinson, 2003). Due to the fact that emotional dysregulation is strongly linked to reactive aggression it would be expected that such anxiety would be strongly associated with reactive aggression. Dodge and Coie (1987) first noted the association between reactive aggression and early childhood biases in information processing and in perceiving situational cues. This finding was supported by Murray-Close et al. (2010) who found that reactive aggression was associated with histories of abuse, hostile attribution biases and feelings abuse tend to display reactive aggressive behaviours (Connor et al., 2004). Individuals associations of hostile are attribution with both types of aggression (Connor et al., 2004). Childhood experiences of victimization have been related to reactively aggressive tendencies as well (Card & Little, 2006; Poulin & Boivin, 2000). Poulin and Boivin (2000) noted that while childhood victimization has been linked to the reactive subtype, it was not only negatively associated with proactive aggression, but that the presence of proactive aggression was associated with the lack of victimization in one's life. When examining other studies looking at these variables, research found that reactive aggression had stronger associations to victimization versus weaker associations with proactive aggression (Card & Little, 2006). A possible explanation for this is the association between reactive aggression and younger populations by which victimization is prominent (Card & Little, 2006). Teacher reports have revealed that relationally aggressive boys and physically aggressive girls display adjustment problems (Underwood, 2003). Further, these teacher reports showed that girls who were physically aggressive demonstrated more internalizing and externalizing behaviours than their relationally aggressive or non-aggressive female counterparts (Underwood, 2003). Research has also indicated that relational aggression has been used to help youth 'cope' who have felt victimized and reported feelings of inferiority within a peer group (Little, Henrich, Jones, & Hawley, 2003), though in this research instrumental and reactive types were not related to such victimization. Conversely, those who exhibited overt aggression were more socially competent and maintained control over their social peers, using aggression only when needed. Overt forms of aggression were highly related to influential youth who planned and were thoughtful in their actions (Little et al., 2003).

2.15 Age of Onset

The age of onset in aggression is also a relevant factor in differentiating the nature and type of aggression. A significant amount of literature has indicated that aggression (2008). However, there are differing beliefs as to when aggression reaches its peak. For instance, Tremblay (2000) posited that aggression peaks during preschool age as this is when children develop the capacity to inhibit their physical aggression. Other researchers have stated that aggression tends to come to its peak and begins to decrease around the fifth grade (Fite et al., 2008). Studies have indicated that males tend to exhibit antisocial behaviours at a much earlier age than females (Berkout, Young, & Gross, 2011). In Connor et al.'s (2004) study of referred youth, data revealed that younger children were significantly more reactive than their older counterparts. This was similar to Murray- Close and Ostrov (2009), who noted a reduction in physical aggression among older youth and a higher frequency of physical aggression among younger children who tended to alter their type of aggressive behaviour dependent upon their needs. The authors also indicated that their findings did not provide evidence of an association between age and proactive aggression (Murray-Close & Ostrov, 2009). Connor et al. (2004) highlighted that older children had a tendency to have more thoughtful planning and have more intent in their aggression as opposed to uninhibited younger children. These modest findings leave several unanswered questions including: 1) Understanding if certain types of aggression only occur as a stage of development; and 2) Differences of age of onset between males and females. Findings generally confirm the extant research identifying changes and behaviours as being dependent on age of onset of the aggression (Frick & Marsee, 2006; Lahey et al., 1998). Children who begin displaying conduct problems at an early age tend to show more callous typologies as well as ADHD symptoms. These tend to lead to more decreases throughout childhood (Dodge & Coie, 1998; Fite, Colder, Lochman, & Wells, that while research focuses on adolescents, evidence showed that it was younger children who had a tendency to be more physically aggressive compared to older counterparts. This behaviour decreased with age and increasing cognitive capacity. On the contrary, non-physical aggression was associated with intent and had an opposite effect (Tremblay, 2002). It was also more common amongst older youth (Tremblay, 2002). This was further supported by findings stating that children who were unable to regulate emotions and demonstrated higher rates of physically aggressive behaviour in early childhood were more likely to exhibit significant, violent behaviour in adolescence and adulthood (Tremblay et al., 2004).

2.16 Aggression, Delinquency, and its Relationship to Costs

Aggression among children and youth has a significant impact on society. High levels of aggression and subsequent delinquency in childhood are more likely to lead to youth justice involvement. The literature notes that child and youth aggression is a predictor for later violence (Broidy et al., 2003; Pulkkinen, 1996). As a result, this leads to high cost interventions and legal fees. This research indicates that children involved in delinquent behaviour are much more likely to be violent offenders as adults (Loeber, Farrington, & Petechuk, 2003). Aggressive individuals tend to be highly stable over time and are at higher risk for outcomes associated with antisocial behaviour such as delinquency (Dodge & Coie, 1987). In turn, stressing the importance of gaining a better understanding of aggressive behaviours in childhood and youth to facilitate the development of early interventions and treatment programs is needed. In a 25-year longitudinal study conducted by Fergusson, Horwood and Ridder (2005), conduct problems were found to be associated with later adjustment and risk for involvement in future criminality, mental health issues and substance use. Given that traits related to conduct problems and antisocial youth have been associated with future criminality (Kimonis et al., 2014), there remains only a woman. Supportive of research by Marsee and Frick (2007), the study found that callous- symptoms and care planning needs for both sexes by the time they are in triage would be useful. This research could improve prioritization and triaging efforts to allocate scarce resources more appropriately, thereby reducing the need for high intensity services and involvement with the justice system for those in need (Stewart et al., 2015). Furthermore, including a study that compares both sexes with equal, large sample sizes is needed. It has been established that about 10-20% of children and youth in the general population suffer from a mental health disorder (Canadian Mental Health Association, 2013). Moreover, youth in the justice system suffer from substantially higher rates of mental health disorders, with estimates ranging from 50-75% of those in the youth justice system suffering from at least one mental health diagnosis (International Society of Psychiatric Mental Health Nurses, 2008). Consequently, researchers have begun to explore the costs of aggression in youth populations. A Canadian report on the estimates of social and economic costs of crime outline approximately 967 million dollars spent in the youth criminal justice system per year, with this more than tripling in the adult criminal justice system (Zhang, 2008). Similarly, over 158 billion dollars is reportedly spent each year on youth violence in the United States (Bastiaens & Bastiaens, 2006). Berkout, Young and Gross (2011) notes the immense financial impact that aggressive behaviours reflective of conduct disorder have on society. Foster and Jones (2005) estimate a total cost of \$70,000 in a seven-year span for a child with conduct disorder. These authors note that most of this spending results from school expenditures for special education, though this was proportionally less of an issue due to higher dropout rates for those with conduct disorder. Twenty percent of these costs were related to modest literature on

sex differences in service utilization. Exploring the severity in behavioural problems required relatively larger amounts of inpatient mental health services (Foster & Jones, 2005). Craig, Schumann, Petrunka, Khan and Peters (2011) note the limited data on costs associated with delinquent behaviour in Canada. The study examined a longitudinal sample of at-risk youth to determine a comprehensive evaluation of costs for youth offending in a Canadian context. These researchers found higher rates of government expenditures for remedial education, health care and social services, social assistance and criminal justice system expenditures whereby 80% of costs to the government were from 18% of the sample representative of the high-risk youth (Craig et al., 2011).

While approximately half of these costs were going towards preventative measures, the other half were reactionary costs such as visits to the doctor, emergency room visits, and having serious injuries (Craig et al., 2011). Female youth costs were much higher than their male counterparts within the high-risk group. The authors suggested that this might be due to a higher frequency of medical needs and issues (Craig et al., 2011). Craig et al. (2011) found that girls in high-risk groups tended to have much higher costs with arrests and court appearances. The likelihood of entering the criminal justice system after an arrest was much higher for female youth than their male counterparts (Craig et al., 2011). Overall, it was suggested that female delinquency is more costly at approximately \$244, 056, and boys at \$229,236 over a ten year time span. Previous research indicated a younger onset of offending in males, though Craig et al.'s (2011) study revealed that male and female youth began offending at similar times. A previous study noted that continuing medium and high-risk offenders who started in their adolescence increased their severity of crime and had significant increased costs later in juvenile justice expenditures whereas undiagnosed youth who had displayed severe for both implementation of early prevention programs and more evidence-based treatment. Further, this is one of the few studies examining costs related to delinquency. To date, there is essentially no research examining service allocation and treatment costs for the subtypes of proactive and reactive aggression.

2.17 Service Utilization

Research and clinical records to date highlight excessively high rates of unmet needs by children and youth in the mental health system (Burns et al., 1995; Kataoka, Zhang, & Wells, 2002). A study using data from the National Survey of American Families to address the amount of services being used by children and adolescents in a year revealed that the most in need of such services were not receiving those (Kataoka et al., 2002). Specifically, Kataoka et al. (2002) found that up to 80% of youth who needed mental health services did not receive any such care, particularly when uninsured. Rates were even lower when looking at children under the age of five years. The literature has highlighted that children with aggressive behaviours require higher levels of resource allocation and service need that are reflected in

higher costs to treat the aggression and associated symptoms (Dean, Duke, George, & Scott, 2007). Kataoka et al. (2002) found that while higher rates of need were associated with higher rates of received care, this population is still a small portion of those in need. The authors discuss the many implications that result from this data such as the increased risk of suicidality and other negative coping behaviours if left untreated from their mental illness (Kataoka et al., 2002). Cheung and Dewa (2007) further highlight that growing mental health concerns within Canada, particularly around suicidality, remain unaddressed. Their study revealed life (Cohen, Piquero, & Jennings, 2010). This is important information for policy maker's depression and 50% with suicidality did not receive any services. Another study examining the patterns of service utilization among children and youth found that those categorized as having a disruptive disorder received more mental health services than those who suffered from depressive disorders (Wu et al., 1999). Further, there was a greater perceived need to seek treatment by parents for those children with disruptive disorders than those with other symptoms (Wu et al., 1999).

2.18 Service utilization, aggression, and psychiatric co-morbidity

One of the main reasons for referrals to children's mental health agencies is aggression, with over half of emergency room referrals serving youth (Campbell, 2006; Dean et al., 2007; Margulies & Carlson, 2012). While latency age children comprise the greatest number of referrals to emergency rooms for aggression, only 5% of the referrals include preschool age children (Margulies & Carlson, 2012). Aggressive behaviours are often exhibited across a variety of psychiatric disorders. For instance, children who display aggressive tendencies often exhibit socially withdrawn behaviours (Campbell, 2006; Margulies & Carlson, 2012). The suggested reason for this is because children displaying such behaviours tend to be harder to manage and are considered to be more of a problem. This reinforces the unmet needs for children who are displaying different symptoms such as social withdrawal and other various internalizing disorders linked with aggression (Campbell, 2006). Individuals diagnosed with conduct disorder tend to exhibit high levels of co-morbidity with other conditions such as ADHD, anxiety, depression and substance use (Loeber & Keenan, 1994). Consequently, it is difficult to classify aggression as it is common to a variety of disorders such as bipolar, conduct disorder, that 40% of adolescents between the ages of 15 and 18 who were diagnosed with suggest that high levels of aggression in conjunction with comorbid psychiatric disorders increase the likelihood of complex service usage. Developing a further understanding of aggressive typologies to better understand its symptoms as well as service allocation will aid in appropriately connecting children and youth to the necessary resources. This may also provide clarity and understanding of children displaying a variety of behaviours before an escalation occurs.

2.19 Emergency room referrals

Referrals to emergency rooms have been identified as a crucial access point for children in need, particularly with mental health problems (Davidson, Kutcher, Manion, McGrath, & Reynolds, 2010), especially those exhibiting out-of-control, aggressive behaviors that often reflect reactive symptomology. To date, there is no national data on children and youth service use for mental health or for wait times, which adds to the lack of knowledge currently available about our Canadian mental health system (Davidson et al., 2010). There is further little knowledge around what specific behavioural typologies are receiving such referrals. Research has noted an increase in rates for referrals of children and youth to mental health interventions due to aggressive, antisocial and suicidal behaviours, with rates of aggressive behaviour exhibited by 25-90% of patients (Connor, 2002). There is a scarcity however with respect to what typologies of aggressive behaviour are yielding what types of referrals. Moreover, it has been noted that boys tend to have more psychiatric emergency visits (58%) in comparison to their female counterparts (42%), with 37% of visits including some type of aggressive or violent behaviour (Edelsohn, Braitman, Rabinovich, Sheves, & Melendez, mood disorder and ADHD (Edelsohn et al., 2003; Margulies & Carlson, 2012). This is the ages of 6 and 12 (Edelsohn et al., 2003). Understanding the subtypes of aggression will allow us to predict the needs for referrals and facilitate triaging and prioritizing in a more timely and cost-efficient manner. Data from this province-wide study will begin to add to the picture of what service use for children and youth looks like in this country.

2.20 Service utilization and sex differences

Research has noted that female youth have a lower incidence of CD and ODD, though this prevalence is lower, the symptoms are more extreme (Underwood, 2003). This is referred to as the “gender paradox” by which, in this case, girls exhibiting disruptive behaviour tend to have more severe symptoms with high comorbidity of the symptoms noted above (Loeber & Keenan, 1994; Tiet, Wasserman, Loeber, McReynolds, & Miller, 2001; Underwood, 2003). Further, incarcerated girls had a higher tendency to have multiple psychiatric diagnoses and mental health problems alongside higher rates of suicidal ideation and attempts compare to boys (Odgers & Moretti, 2002). This finding would suggest a higher likelihood of deviant behaviours in females with conduct disorders compared to males. Preferential treatment for young men has been found whereby female youth tended to receive informal services (Cheung & Dewa, 2007). In line with the gender paradox, Loeber and Keenan (1994) suggest that risks such as suicide are higher for female youth with conduct disorder as well. Tiet et al. (2001) found that girls tend to have as many needs and symptoms as boys when covert problems are included in the definition of conduct disorder. Overall female youth involved with delinquent behaviour tend to display more significant

patterns of symptoms, with some research implying greater externalizing behaviours compared to delinquent boys 2003). Similarly, youth had the highest number of visits, followed by children between frequency of behavioural and disruptive disorders in boys, it is the girls who fall into this category that are most at risk. It has been suggested that the concern around the gender paradox reflects the fact that the referral system tends to be more attentive to the needs of male youth (Tiet et al., 2001). As a result, girls are only receiving such services when they are demonstrating extreme deviance and disruption. This study will further drive the examination of aggressive typologies with respect to biological sex and offer a clearer picture of when female youth are referred. This could further offer insight into what in particular are driving the large amounts of costs when treating female youth. Considering the typologies of aggression will also be useful in comparing whether one gender is actually “more deviant” than another or whether their behaviour is simply exhibited differently.

2.21 Service utilization in youth justice settings

Tracy, Kempf-Leonard and Abramoske-James (2009) reported that girls tend to be arrested for less serious crimes than boys. Female youth were more likely to receive more serious charges in court for offenses or violations and were more likely to be detained (Tracy et al., 2009). Tracy et al. (2009) noted that girls are much younger in age when they are placed in correctional facilities compared to boys. They are also placed in residential settings for offenses far more than their male counterparts, who commit more serious offenses prior to entering a similar setting. Similarly, Odgers and Moretti (2002) noted that girls exhibiting behaviours associated with conduct disorder were placed in foster care and other facilities earlier than boys. Craig et al. (2011) found that delinquent girls were more expensive than delinquent boys in society, with criminal justice costs (McCabe, Lansing, Garland, & Hough, 2002). Therefore, while statistics reflect a higher their disproportionate involvement with medical care, court and other legal costs (Craig et al., 2011). Overall, these results suggested that the criminal justice system treats male and female youth differently for aggressive and disruptive behaviours whereby it appears girls are treated more punitively. Finally, a comprehensive body of research highlights the overrepresentation of youth with mental illness in the justice system. Therefore, youth who display aggressive behaviours are more likely to be charged and treated for mental health reasons within the youth justice system (Odgers, Burnette, Chauhan, Moretti, & Reppucci, 2005; Yampolskaya & Chuang, 2012). In particular, Yampolskaya and Chuang (2012) note that youth are five times more likely to be involved in the justice system when they had a diagnosis of conduct disorder. Another noteworthy finding indicated that children who had any psychiatric diagnosis had a higher rate of criminal recidivism over time (Yampolskaya & Chuang, 2012). The literature has highlighted that the juvenile system tends to exacerbate issues for youth and bring about several more challenges within the institution such as more violence (Defense for Children International,

2007). Odgers et al. (2005) emphasizes the lack of evidence-based practice and useful strategies to help youth at-risk. In sum, a better screening tool to identify and effectively assess and refer youth in need to appropriate services is required, particularly before they become involved with the justice system and increase costs for themselves and their community exponentially.

2.22 Service utilization in educational settings

Research to date has explored the use of educational institutions as a main source of receiving mental health services for children and youth (Burns et al., 1995). Burns ET doubling those of boys. It was argued that these higher rates for girls were reflective of who tended to receive service from their school counsellor or school psychologist. Further, only 11-13% of their participants received any care from the medical/clinical sector, while the justice and welfare sectors provided mental health services to very few overall (Burns et al., 1995). It is important to note that the services that were provided tended to be with children who had more severe symptomology; nonetheless still less than half of the more severe group still received no services (Burns et al., 1995).

2.23 Aggression and restraint use

Aggressive behaviours in mental health facilities tend to lead to medication and restraints (Canadian Institute for Health Information, 2011). The literature highlights the high costs associated with the use of restraints (Lebel & Goldstein, 2005; Phillips, Hawes, & Fries, 1993). It further indicates an increased need in the use of restraints with male youth (Delaney & Fogg, 2014; Jacob et al., 2015). Specifically, male youth tend to be in restraints for a longer period of time than their female counterparts (Jacob et al., 2015). Phillips et al. (1993) first noted the decrease in cost when the use of restraints was lowered. This is due to a variety of reasons that include reduced need for staff involvement and fewer injuries. In a more recent study, an adolescent inpatient service was explored to assess the costs of using restraints on such a population (Lebel & Goldstein, 2005). Their study revealed that reduction in restraint use led to a reduction in staff time and costs for staff, reduced number of injuries for staff and youth, reduced staff turnover and sick time, as well as improved outcomes for the youth (Lebel & Goldstein, 2005). Specifically, when calculating the costs of restraints, the authors considered time, duration, and number of staff required. Further, staff time spent on restraints was reduced from 23% to 4%, with greater time spent on programming for the youth and relationship building (Lebel & Goldstein, 2005). In particular, there was a 98% reduction in days missed as a result of staff injury (Lebel & Goldstein, 2005). Finally, the change in restraint use allowed for effective change in debriefing and the addition of prevention strategies (Lebel & Goldstein, 2005). The Maryland Youth Practice Improvement Committee developed a scientific report to manage acute aggression in youth (dosReis, Barnett, Love, Riddle, & Maryland Youth Practice

Improvement Committee, 2014). They established three levels of aggression and treatment to reduce the use of restraints. The first level targets autonomous youth with the possibility for aggressive tendencies while the second is for youth who may cause imminent violence. This treatment targets specific symptoms and may include the use of medication and consider providing the treatment in various environments. Finally, the third level occurs when the safety of others is of imminent importance and the aforementioned interventions have not been effective (dosReis, Barnett, Love, Riddle, & Maryland Youth Practice Improvement Committee, 2014). Understanding the needs of the child based on imminent risk can circumvent aggressive incidents, prevent restraint use, reduce injuries and ultimately reduce costs.

2.24 Types of treatment

As noted above, there is little research that focuses on the subtypes of reactive and proactive aggression with respect to service utilization and its various moderators. Further, the need to meet the child in his or her own setting was indicated to effectively observe their behaviour and other associated factors for multi-systemic therapy to occur. It is believed that this would be effective in reducing arrests rates and improving level of functioning for youth in the justice system, among other settings (Bastiaens & Bastiaens, 2006). Dean et al. (2007) conducted a study to evaluate the effectiveness of behaviour management programs to reduce aggressive behaviours in inpatient youth. This organizational approach included individualized plans, staff training, positive reinforcement; all using the least restrictive measures possible (Dean et al., 2007). Their results showed that such a program was successful in not only reducing aggressive tendencies but also staff injuries, need for restraints and seclusions, and security services (Dean et al., 2007). If properly implemented such an intervention could reduce costs of using restraints, injuries caused and turnover in staff (Dean et al., 2007). Additionally, they recommend engaging the family and entire team in all aspects of treating the aggressive behaviour (Knapp et al., 2012). Further research has noted in-home and family-based therapies as being most effective for young, aggressive children (Bastiaens & Bastiaens, 2006). Such a multi-systemic approach on treatment was shown to improve both arrests rates and overall functioning (Bastiaens & Bastiaens, 2006). Treatment approaches for aggressive behaviour are varied and some have included psychotropic medication. For example, Bastiaens and Bastiaens (2006) have found that, though common in adult violent behaviour, there is a lack of evidence for drug treatment and the use of antipsychotics for youth when associated with aggression and underlying psychiatric disorders. Further, Knapp, Chait, Pappadopoulos, Crystal, and Jensen (2012) describe the increased use of medication for aggressive behaviour including antipsychotics and mood stabilizers, though there is minimal research to support its efficacy. Some research still supports medication compliance as the most effective long-term treatment, particularly for criminal behaviour (Bastiaens & Bastiaens, 2006; Yates, Kunz, Khan, Volavka, & Rabinowitz, 2010). A clear picture of what services are

being geared towards the youth based on their aggressive behaviours within a Canadian context is needed. This would enlighten service providers and policy makers of ways to not only ensure effective treatment but also reduce costs that arise from hospitalizations, arrests and violent occurrences.

2.24.1 Health care practitioners

Bastiaens and Bastiaens (2006) have further discussed the various types of health care provided to aggressive youth. Their research found that it was psychologists who delivered treatment and evaluation services to those exhibiting childhood-onset and reactive aggression. Further, Cheung and Dewa (2007) did not find any sex difference in overall service use for mental health services. They did find a statistically significant gender difference for participants with depression and suicidality whereby female participants were more likely to use services particularly from general practitioners, social workers and counsellors.

2.24.2 Current Study

There is a paucity of research examining service utilization in relation to aggression in youth, particularly when addressing the typologies of reactive and proactive aggression. The literature is scarce with respect to the examination of differential service allocation for children and youth who present with different aggressive behaviours. Of importance, previous literature has demonstrated that female youth only receive services once their situation has escalated and has become extreme (McCabe et al., 2002). This research needs to be further investigated in order to offer practical assessment and treatment guidance. The literature highlights that using only one dimension to study and define aggression exhibited by children and youth prevent us from appropriately meeting their needs (Dodge & Coie, 1987). As a result the current aim of this study is to:

- 1) Assess whether sex is linked to differing rates of aggression in a sample of clinically-involved youth. There is currently varying findings on aggressive behaviours between sexes, though most research has demonstrated that males tend to have a higher frequency and intensity in aggressive behaviours compare to their female counterparts. It is therefore hypothesized that males will have higher rates of aggressive behaviour in comparison with female participants.
- 2) Examine rates of proactive versus reactive aggression including those who overlap into both trajectories will be assessed. The literature has highlighted that the two subtypes of reactive and proactive aggression are theoretically different.
- 3) Further assess variations in service utilization across sex by addressing key differences with respect to dominant subtypes of aggression that have been noted based on the individual's age at the time of the aggressive behaviour. Particularly, reactive aggression has been demonstrated more in younger children

due to its association with emotion dysregulation (Connor et al., 2004). Hence, it is hypothesized that younger children will tend to display more reactive styles of aggression than older children.

4) Finally, to conduct a valuable examination of subtypes of aggression and service utilization within child and youth mental health facilities and their relation to age and biological sex. A final hypothesis expects that comorbid aggressive youth, those overlapping in both typologies, will have higher costs and use higher intensity services than those falling into an individual subtype. Overall, the predominant research question for this study is to determine how subtypes of aggression (reactive, proactive, or comorbid) present for service allocation and cost.

2.25 Violence

Violence refers specifically to the physical component of aggression. It is defined as “harm inducing behaviour bearing no direct relationship to the competitive goals of sport, and relates, therefore, to incidents of uncontrolled aggression outside the rules of sport, rather than highly competitive behaviour within the rule boundaries” (Terry & Jackson, 1985, p. 27). In other words, violence is equated to physically inflict illegal and hostile aggressive acts. If there is no intent to injure the opponent and the athlete is using legitimate means in order to achieve his or her goals, then that athlete is not being aggressive but assertive. The distinction is that the intent, when one is being assertive, is to establish dominance rather than to harm the opponent (Thirer, 1994). Like aggression, behaviour does not have to cause actual harm to be classified as violent. Attempting to fatally wound someone with a knife, but missing, is still considered a violent act, for example. Aggressive and violent behaviours are best conceptualized as being on a continuum of severity with relatively minor acts of aggression (e.g., pushing) at the low end of the spectrum and violence (e.g., homicide) at the high end of the spectrum. Thus, all acts of violence are considered instances of aggression, but not all acts of aggression are considered instances of violence. For example, a child pushing another child away from a favoured toy would be considered aggressive but not violent. An extreme act, such as attempted murder, however, would be considered both aggressive and violent (with violent being the more descriptive term). In recent years, some nonphysical forms of aggression have earned the label “violence” when the consequences are severe. For example, certain types or patterns of verbal aggression are sometimes labeled “emotional violence,” usually when directed at children or intimate partners with the goal of severely harming the target’s emotional or social well-being. Nonetheless, “violence” is most often researched in the context of extreme physical aggression. Since violence is considered a subset of aggression, the remainder of this chapter will focus primarily on aggression with the understanding that most of the classifications of aggression are also applicable to violence. In the United States, the Federal Bureau of Investigation classifies murder, forcible rape, aggravated assault, and robbery as violent crimes, with the definition of each crime closely

resembling social–psychological definitions of violence. But, even here, there is some ambiguity. Although the relevant research is sometimes considered politically controversial, some studies of rape have found that the primary intent of some rapists is not to harm the victim but rather sexual gratification. This does not mean that the harm to the victim should be downplayed, of course, or that the crime should be considered less offensive. But the focus on intent is important if one wants to thoroughly understand such heinous behaviour to devise interventions that reduce its occurrence. Similarly, many robberies have as their primary goal the attainment of money or other valuable resources, and to the robber the harm that is visited upon the victim is incidental. Again, the scientific goal of understanding the criminal act of robbery requires a full understanding of the various motivations that underlie it, and theories of aggression and violence are designed to do just that. Although violence is sometimes treated as separate from aggression especially by criminologists, political scientists, public policy makers, and the public most social psychologists consider violence to be a subset of aggression. Specifically, the most common scientific definition of violence is as an extreme form of aggression that has severe physical harm (serious injury or death) as its goal (Anderson & Bushman, 2002; Bushman & Huesmann, 2010; Huesmann & Taylor, 2006).

CHAPTER THREE

3 RESEARCH DESIGN AND METHODOLOGY

3.1 The research designs

The research design was triangulation design. In the descriptive survey method cross sectional survey was strongly believed to be the most appropriate for addressing the interned proposes of this study. Study was on the athlete’s aggression level in the case of Adama youth athletics’ project.

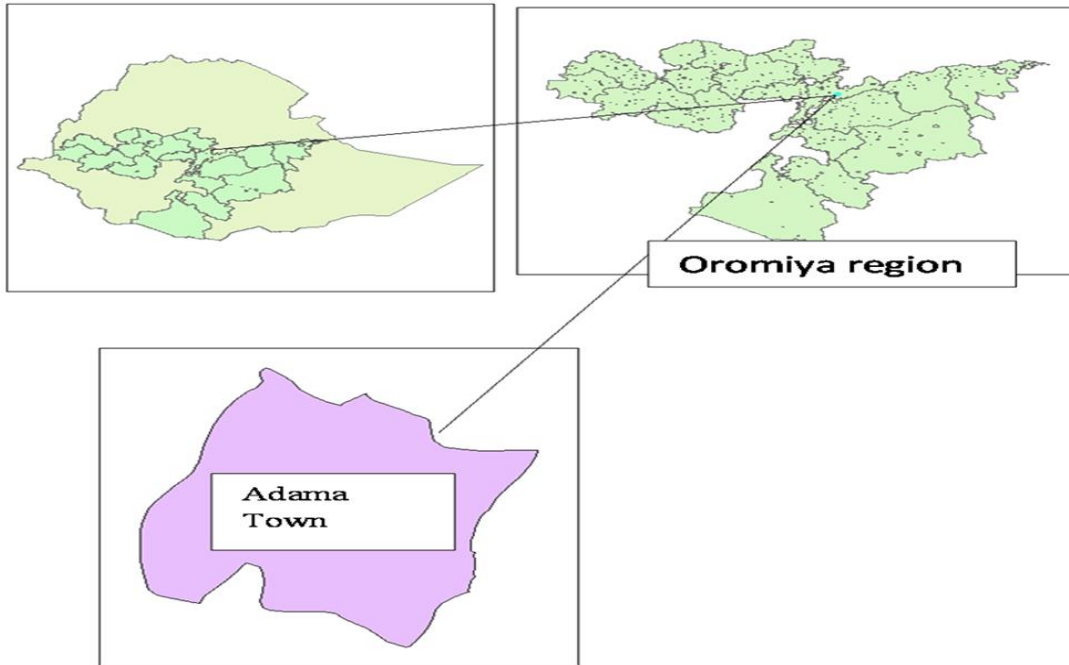
3.2 Study area

In this study the research was take place in East shoa Adama; Oromia regional state. The athletics project is organized and leads by Adama town administrative youth and sport bureau. The athletes are living with their family and are willing during the training time. Athletes were the researcher selected the site because it’s close to the research population and compatible to the regular workplace of the researcher. And it was convenient to observe and follow at a limited distance to the research population.



Source: - on the internet; <https://adama location.com> › Adama

Map of the study



Source: - on the internet; <https://mapcarta.com> > Adama



Source: - on the internet; <https://mapcarta.com> > Adama

3.3 Source of the data

The data was collected from primary and secondary sources. The primary sources of data collect thought questionnaire and interview from athletes and coaches. Secondary sources of data internets, relevant books, journals that were relate to the topic under study.

3.4 Population, Sampling Techniques, and sample size determination

Population

The number of population Adama youth athletics project was 55. Using availability sampling method because, the population of my research was very small. Availability sampling is the method of choosing subjects who are available or easy to find. This method is also sometimes referred to as haphazard, accidental, or convenience sampling. The primary advantage of the method is that it is very easy to carry out, relative to other methods. All populations were 55 subjects used as a sample out of these numbers 52 are athletes and 3 are coaches.

Sample size determination

No	Name of project	Total population						Sample size (n)					
		55						55					
1.	Adama young athletics project	Athlete			Coach			Athlete			Coach		
		M	F	T	M	F	T	M	F	T	M	F	T
		30	22	52	2	1	3	30	22	52	2	1	3

Source: - Adama youth athletics project and sport bureau in 2012 E.C.

3.5 Instruments of data collection

For better of the study, data is collect using both questionnaire and interview to collect reliable data. All information obtain through these instruments were organized and frame to suit the final analysis. The questionnaires and interview were prepared in Afan Oromo language for all respondents in order to avoid language barriers.

3.5.1 Questionnaire is used to gather relevant data from athletes. Athlete questionnaires are a standard question. It comes from (buss and perry 1992) Aggression questionnaires 20 items. That means 5 items for physical aggression, 5 items for verbal aggression, 5 items for Angers and 5 items for Hostility question. Besides questionnaire is easier to handle and simple for respondents to fill in within a short time. To satisfy the need for confidentiality, respondents were not asking to put their names on the questionnaires. Instead, they were kindly requested to indicate their sex, age, training age, qualifications experience as far as the background characteristics are concerned.

3.5.2. Interview is the method of collecting data involves presentation of oral-verbal stimuli and reply in terms of oral-verbal responses. This method can be used through personal interviews and, if possible, through telephone interviews. Our study interviews are personal interviews. I was face-to-face contact to

the coach and interviewing. Interview is including a form of verbal questionnaire as its data gathering from coaches. Interview questions are prepared for the coach.

(a) *Personal interviews*: Personal interview method requires a person known as the interviewer asking questions generally in a face-to-face contact to the other person or persons. (At times, the interviewee may also ask certain questions and the interviewer responds to these, but usually the interviewer initiates the interview and collects the information.) This sort of interview may be in the form of direct personal investigation or it may be indirect oral investigation. In the case of direct personal investigation, the interviewer must to collect the information personally from the sources concerned.

(b) *Telephone interviews*: This method of collecting information consists in contacting respondents on telephone itself. It is not a very widely used method, but plays important part in industrial surveys, particularly in developed regions. The interview is like a conversation and has the purpose of obtaining information relevant to a research topic (Kumar, 1999).

3.6 Procedures of data collection

The relevant information is gathering through the design questionnaires and interviews. For respondents who have been select, the final copies of the questionnaires were distributed in face –to-face situation by the researcher. This was done intentionally if there is a need for additional explanation on how to respond and to get back as many questionnaires as possible. Regarding observational check lists, it was filling during the period in which the researcher was in each athletics project. In addition to observational check lists project documents was consult by the researcher to triangulate the result of questionnaires and interview.

3.7 Data Analysis Method

In this study, both qualitative and quantitative analytical procedures were employed. For quantitative data analysis they have used descriptive statistics and ANOVA methods of data analysis. For qualitative data analysis they have used logical connected expression of the respondent responses. ANOVA were carried out to indicate the status of the dependent and independent variables and descriptive statistic was carried to describe the distribution of each factor. Also, Tables and charts were used to illustrate these statuses. Data was analyzed using statistical package software (SPSS version 23).

3.8 Variables of the study

Aggression- the dependent variable, aggression, is based on a several of questions that was measured when the respondent's youth athlete. They document whether the respondents had engaged in a several of aggressive acts such as breaking things, insulting others, attacking people, and intentionally damaging others' property.

Gender

Independent variables include specific sport and gender. Prior research has emphasized the importance of studying sex in respect to youth aggression. Female youth crime has increased 127% since 1999, almost twice as fast as male crime (Savoie, 1999). While female crime is not as prevalent as such behaviours committed by males, violent crime accounted for more crime committed by females than by males. Further, two thirds of female youth had charges of common assault (Savoie, 1999). These results have also indicated that female youth tend to be younger when committing violent crime than males (Savoie, 1999). While Lahey (1998) found that those who experienced adolescent-onset aggressive behaviour were not only more likely to be female, these youth also had a reduced likelihood of meeting criteria for oppositional defiant disorder.

Age of Onset

The age of onset in aggression is also a relevant factor in differentiating the nature and type of aggression. However, there are differing beliefs as to when aggression reaches its peak. For instance, Tremblay (2000) posited that aggression peaks during preschool age as this is when children develop the capacity to inhibit their physical aggression. Other researchers have stated that aggression tends to come to its peak and begins to decrease around the fifth grade (Fite et al., 2008). Studies have indicated that males tend to exhibit antisocial behaviours at a much earlier age than females (Berkout, Young, & Gross, 2011). In Connor et al.'s (2004) study of referred youth, data revealed that younger children were significantly more reactive than their older counterparts. This was similar to Murray- Close and Ostrov (2009), who noted a reduction in physical aggression among older youth and a higher frequency of physical aggression among younger children who tended to alter their type of aggressive behaviour dependent upon their needs.

Physical aggression: involves acts of physical touching between an aggressor and a victim or between an aggressor and an inanimate object. Examples include hitting or shoving someone, breaking, or throwing an object.

Verbal aggression: Verbal aggression, the act of using aggressive language on a target, can be distinguished from verbal aggressiveness, a person's attitude toward using aggressive language (Levine, Beatty, & Limon, 2004). With adequate measurement, it should be possible to accurately predict verbal aggression from scores on a verbal aggressiveness scale (Infante, Rancer, & Wigley, 2011; Levine et al., this issue).

Anger: The concept of anger usually refers to an unpleasant emotion ranging in intensity from irritation or annoyance to fury or rage. Feelings of anger are elicited in situation of being treated unjustly and is accompanied by subjective arousal. As a personality trait it can be defined as the characteristic to experience frequent and pronounced episodes of this emotion.

Another relevant aspect of anger is its expression. In this context, two subtypes have been defined: "anger-out", a personality trait derived from a combination of anger and aggression (i.e., the expression of aggressive behaviour when angry) and "anger-in", a tendency to feel anger and suppress it (Schulman and Stromberg 2007). Anger is viewed by other authors (Norlander and Eckhardt 2005) as a multidimensional construct, involving physiological, behavioural, cognitive and phenomenological components. Scales have been developed to evaluate various aspects of anger. The Anger-Out scale of the Spielberger et al. (1985) Anger-Expression Questionnaire evaluates tendencies to express aggression outwardly using a self-report questionnaire format, whereas the Anger-In scale purportedly measures tendencies to suppress or withhold anger.

Hostility: Various studies combine under the single label of hostility a variety of manifestations of anger and aggression. Nevertheless, those represent distinct cognitive, emotional, and behavioural characteristics. Essentially, hostility generally reflects a person's tendency to view the world in a negative, cynical fashion. Smith et al (Smith, Glazer et al. 2004) define hostility as a primarily cognitive construct involving "negative attitude toward others, consisting of enmity, denigration, and ill will". The author describes its components: the cynicism (i.e., a belief that others are motivated primarily by selfish concerns); the mistrust (an expectation that people will tend to be hurtful); and denigration (i.e., a devaluation of other people's motivation and goals). Other authors define hostility as "antagonistic interpersonal attitude" including cognitions (cynicism and hostile attributions), affect (hostile emotions) and behaviours (aggressive responses) (Barefoot JC LI. These definitions, as well as the personality traits they originate from, are highly correlated and overlapping. Smith and Glazer (Smith, Glazer et al. 2004) point out the correlation among these phenomena, emphasizing that anger, hostility, and aggression are not just different names for the same construct. Consequently, one could not presume that they have similar associations with cardiovascular pathology. It was observed that, compared to men with low levels of hostility, those with higher scores on Hostility scale showed greater increase in blood pressure, heart rate, and levels of norepinephrine, cortisol, and testosterone. Interestingly, such increase occurred only during (and shortly after) the aversive comments. In a similar study Everson et al (Everson, McKey et al. 1995) evaluated men with high and low levels of hostility. They found that men with low levels of hostility experienced rapid adaption of heart rate and blood pressure elevations to task repetition, while men with high hostility experienced even larger increases in their rates of heart rate and blood pressure after repetitions of aversive tasks.

Emotional aggression involves acts of verbal abuse and intimidating gestures. Examples include taunting, teasing, and arguing.

Biological Factors: Men are more likely than women to engage in physical aggression. While researchers have found that women are less likely to engage in physical aggression, they also suggest that women do use non-physical forms, such as verbal aggression, relational aggression, and social rejection. Verbal aggression includes threatening and intimidating others and engaging in malicious teasing, taunting, and name-calling.

Environmental Factors: How you were raised may play a role. People who grow up witnessing more forms of aggression are more likely to believe that such violence and hostility are socially acceptable. Bandura's famous Bobo doll experiment demonstrated that observation can also play a role in how aggression is learned. Children who watched a video clip where an adult model behaved aggressively toward a Bobo doll were more likely to imitate those actions when given the opportunity.

Physical Factors: Epilepsy, dementia, psychosis, alcohol abuse, drug use, and brain injuries or abnormalities can also influence aggression. Physical aggression includes such behaviours as pushing, shoving, hitting, slapping, biting, kicking, hair-pulling, stabbing, shooting, and rape.

Lack of self-control- Kimberley Jackshaw says. A lack of self-control is the lack of control over oneself (dah). You cannot control you. Do not know how to control you. Do not know why you need to control you. Because of you do not have reason to control you. You do not have goal. It likes a horse without a rider. a boat without navigator. No direction. It just drifts around. No goal no control. No reason to control. Desmond Cholozor, lives in Delta, Nigeria (2001-present) Answered Jan 7, 2020 First of all what do we know as self-control, well for my own opinion self-control could be describe as when someone Controls his behaviours or characters no matter any situation someone his or her self But when someone is not controlling his or her behaviours, whether in a good or bad situations, I can say such person is lacking self-control.

Sudhir Kumar says that Lack of self-control means you lose your grip on emotions provoked by your own self-ego. Yes. Every emotion is powerless until unless it is attached with your ego in one or the other way. You lose self-control only when we allow your ego to drive your emotions.

There is other side of it as well and that is “you allow other people’s ego to influence & drive your emotions”. This other side is dangerous and is a certain source of most of the pain that you face in your life.

CHAPTER FOUR

4. DATA ANALYSIS AND INTERPRETATIONS

This chapter deals with analyzing, presenting, Interpreting, and discussing the data collected through questionnaires and interview.

4.1. Demographic information of respondents

Variables name			Frequency	Percent	Valid percent	Cumulative percent
Age of respondents	Valid	14 years	6	11.5	11.5	11.5
		15 years	15	28.8	28.8	40.4
		16 years	17	32.7	32.7	73.1
		17 years	11	21.2	21.2	94.2
		18 years	3	5.8	5.8	100.0
		Total	52	100.0	100.0	
Sex of respondents	Valid	Male	29	55.8	55.8	55.8
		female	23	44.2	44.2	100.0
		total	52	100.0	100.0	
Educational level	Valid	Elementary	26	50.0	50.0	50.0
		High school	22	42.3	42.3	92.3
		Preparatory	4	7.7	7.7	100.0
		Total	52	100.0	100.0	

Table 4.1.1: The aggression level of Adama youth athlete responses

Physical aggression	Valid	Disagree	8	15.4	15.4	15.4
		partially disagree	11	21.2	21.2	36.5
		agree	19	36.5	36.5	73.1
		strongly agree	14	26.9	26.9	100.0
		Total	52	100.0	100.0	
Verbal aggression	Valid	Disagree	5	9.6	9.6	9.6
		partially agree	12	23.1	23.1	32.7
		agree	20	38.5	38.5	71.2
		strongly agree	15	28.8	28.8	100.0
		Total	52	100.0	100.0	
Anger	Valid	strongly disagree	15	28.8	28.8	28.8
		disagree	19	36.5	36.5	65.4
		partially agree	6	11.5	11.5	76.9
		agree	1	1.9	1.9	78.8
		strongly agree	11	21.2	21.2	100.0
Total	52	100.0	100.0			
Hostility	Valid	Disagree	25	48.1	48.1	48.1
		partially agree	3	5.8	5.8	53.8
		strongly agree	24	46.2	46.2	100.0
		Total	52	100.0	100.0	
Aggression level	Valid	Low	10	19.2	19.2	19.2
		medium	12	23.1	23.1	42.3
		high	30	57.7	57.7	100.0
		Total	52	100.0	100.0	

According to the above table the age 14 years of respondent is 11.5 percent of them is included in the study, 15 years of respondent is 28.8 percent included in the study, 16 years of respondent is 32.7 percent included in the study, 17 years of respondent is 21.2 percent and 18 years of respondent is 5.8 percent included in the study. Also, from the above table sex male of respondent is 55.8 percent and female respondent is 44.2 percent is included in the study. In Educational level elementary school respondent is 50.0 percent, High school respondent is 42.3 and preparatory school respondent is 7.7 percent is included in the study. Physical aggression of respondents; disagree 15.4 percent, partially agree 21.2 percent, agree 36.5 percent, strongly agree 26.9 percent is selected. Verbal aggression: disagree 9.6 percent, partially agree 23.1 percent, agree 38.5 percent, and strongly agree 28.8 percent is selected. Anger of respondents; strongly disagree 28.8 percent, disagree 36.5 percent, partially agree 11.5 percent, agree 1.9 percent, strongly agree 21.2 percent is selected. Hostility of respondent; disagree 48.1 percent, partially agree 5.8 percent, strongly agree 46.2 percent is selected. Finally, according to the above table, the aggression level of Adama youth athlete is at low level by 19.2 percent, 23.1 percent of Adama youth athlete is at medium level and 57.7 percent of the rest athlete is at high level. Therefore, according to our respondents, the aggression level of Adama youth athlete is at high level of aggression.

Table 4.1.2: Independent sample test of aggression between male and female in Adama youth athletics project

	Group	N	Mean	Std.	Mean Difference	T	Df	p-value
Physical aggression	Male	30	4.10	.885	0.827	3.104	50	.003
	Female	22	3.27	1.032				
Verbal aggression	Male	30	2.63	.890	1.32	-	4.912	.000
	Female	22	3.95	1.046				
Anger behaviour	Male	30	2.93	1.388	1.024	2.611	50	.012
	Female	22	1.91	1.411				
Hostility	Male	30	2.67	1.213	1.33	-	3.787	.001
	Female	22	4.00	1.309				

In order to determine the difference in aggression level among gender (Male and Female), an independent-sample t-test was conducted to compare whether there is a statistical significant difference in aggression level among gender. As indicated in the above Table, there is a significant difference in male and female on physical aggression. Male ($t = 3.104$, $M = 4.10$, $SD = .885$, $p = 0.003$) and Female ($t = 3.104$, $M = 3.27$, $SD = 1.032$), $p = 0.003$ (two-tailed). The mean difference in male and female regarding physical aggression is 0.827, which is large.

This shows that there is a different regarding physical aggression between male and female athletes. On the other hand, male athletes have higher physical aggression level as compared to female athletes in case of Adama youth athletics project.

Regarding to verbal aggression, the result shows; Male ($t = -4.912$, $M = 2.63$, $SD = 0.890$) and Female ($M = 3.95$, $SD = 1.046$), $p = 0.000$ (two-tailed). The mean difference in male and female regarding verbal aggression is 1.32, which is large. This shows that there is a statistically significant different regarding to verbal aggression between male and female athletes. This indicates female athletes have higher verbal aggression level as compared to male athletes in case of Adama youth athletics project.

On the other hand there is also statistical significant difference between male and female athletes with regard to anger behaviour, Male ($t = 2.611$, $M = 2.93$, $SD = 1.388$) and Female ($t = 2.611$, $M = 1.91$, $SD = 1.411$), $p = 0.012$ (two-tailed). The mean difference in male and female regarding anger behaviour is 1.024, which is large. This indicates male athletics have high anger behaviour as compared to female athletes in case of Adama youth athletics project.

Similarly there is a statistical significant difference between male and female athletics with regard to hostility, Male ($t = 2.611$, $M = 2.67$, $SD = 1.213$, $p = 0.001$) and Female ($t = 2.611$, $M = 4.00$, $SD = 1.309$), $p = 0.001$ (two-tailed). The mean difference in male and female regarding hostility is 1.330, which is large. This indicates female athletics are higher hostility as compared to male athletes in case of Adama youth athletics project.

Table 4.1.3 Comparison of aggression in terms of the age variable using ANOVA

	Age group		Sum of Squares	df	Mean Square	F	Sig.
Physical aggression	14-15	Between Groups	29.652	2	14.826	30.146	.001
	16-17	Within Groups	24.098	49	.492		
	18-19	Total	53.750	51			
Verbal aggression	14-15	Between Groups	7.331	2	3.665	2.957	.041
	16-17	Within Groups	60.746	49	1.240		
	18-19	Total	68.077	51			
Anger behaviour	14-15	Between Groups	7.957	2	3.979	1.892	.162
	16-17	Within Groups	103.043	49	2.103		
	18-19	Total	111.000	51			
Hostility	14-15	Between Groups	4.392	2	2.196	1.111	.337
	16-17	Within Groups	96.839	49	1.976		
	18-19	Total	101.231	51			

In order to determine the difference in aggression level among age group (14-15, 16-17, and 18-19), one-way ANOVA was used to compare whether there is a statistical significant difference in aggression level

among age group. As a result of the above table shows, there is a statistical age group significant difference on physical aggression ($F(2,49)$, $P\text{-value}=0.001$) and verbal aggression ($F(2,49)$, $p\text{-value}=0.041$). In order to these result 15years of athlete highly physical aggression depend on the 14 years athlete. 17 years old athlete highly physical aggression depends on 16 years and 19 year athlete highly physical aggression depends on the 18 years athlete. But there is no statistical age group difference on anger behaviour ($F(2,49)$, and $P\text{-value}=.162$), hostility ($F(2,49)$, $P\text{-value}=.337$). This indicates physical and verbal aggressions highly depend on age groups difference.

Further to determine which age group differs significantly one another the Tukey post hoc multiple comparisons methods were employed to show where the significant differences exist. The result indicated that, there is physical aggression difference between 14-15 and 18-19 age group with mean difference 1.729, and $p\text{-value}=0.000$ and also there is physical aggression statistical significant difference between 16-17 and 18-19 with mean difference 0.518, and $p\text{-value}=.006$, but physical aggression is not statistical significant difference between 14-15 and 16-17 with mean difference 1.211, and $p\text{-value}=.210$. Similarly, there is verbal aggression difference between 16-17 and 18-19 age groups with mean difference 0.964, and $p\text{-value}=0.048$ (Appendix A: Table 6A). Therefore, this result show that age of respondents between 18 and 19 years old were highly affected by physical and verbal aggression as compared to the other age groups.

Table4.1.1 Comparison of aggression in terms of the educational level using ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Physical aggression	Between Groups	8.943	2	4.472	4.890	.012
	Within Groups	44.807	49	.914		
	Total	53.750	51			
Verbal aggression	Between Groups	1.588	2	.794	.585	.561
	Within Groups	66.489	49	1.357		
	Total	68.077	51			
Anger behaviour	Between Groups	6.492	2	3.246	1.522	.228
	Within Groups	104.508	49	2.133		
	Total	111.000	51			
Hostility	Between Groups	1.204	2	.602	.295	.746
	Within Groups	100.027	49	2.041		
	Total	101.231	51			

In order to determine the difference in aggression level among educational status (elementary school, high school and preparatory), one-way ANOVA was used to compare whether there is a statistical significant difference in aggression level among educational status group. As a result of the above table shows,

educational status is a statistical significant difference on physical aggression ($F(2,49)$, P -value=0.012) but there is no statistical significance on verbal aggression ($F(2,49)$, p -value=.561), anger behaviour ($F(2,49)$, and P -value=.228), hostility ($F(2,49)$, P -value=.746). This indicates physical aggressions highly depend on educational status. Further to determine which educational differs significantly one another the Tukey post hoc multiple comparisons methods were employed to show where the significant differences exist. The result indicated that, there is physical aggression difference between elementary and preparatory school with mean difference 0.969 and p -value=0.019 and also there is physical aggression statistical significant difference between preparatory and higher school with mean difference 1.079 and p -value=.018 (Appendix A: Table 7A). Therefore, this result shows that higher educational is higher effect on physical aggression as compared to the other educational status.

Multiple Comparisons on Aggression Level

Tukey HSD

Dependent Variable	(I) Aggression Level	(J) Aggression Level	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Physical aggression	low	Medium	.233	.409	.837	-.76	1.22
		High	-.700	.349	.122	-1.54	.14
	medium	Low	-.233	.409	.837	-1.22	.76
		High	-.933*	.326	.017	-1.72	-.14
	high	Low	.700	.349	.122	-.14	1.54
		Medium	.933*	.326	.017	.14	1.72
Verbal aggression	low	Medium	1.117	.535	.103	-.18	2.41
		High	-.767	.456	.223	-1.87	.34
	medium	Low	-1.117	.535	.103	-2.41	.18
		High	-1.883*	.427	.000	-2.91	-.85
	high	Low	.767	.456	.223	-.34	1.87
		Medium	1.883*	.427	.000	.85	2.91
Anger behaviour	low	Medium	-.583	.457	.415	-1.69	.52
		High	-2.367*	.390	.000	-3.31	-1.42
	medium	Low	.583	.457	.415	-.52	1.69
		High	-1.783*	.365	.000	-2.66	-.90
	high	Low	2.367*	.390	.000	1.42	3.31
		Medium	1.783*	.365	.000	.90	2.66
Hostility	low	Medium	.450	.401	.505	-.52	1.42
		High	2.367*	.342	.000	1.54	3.19
	medium	Low	-.450	.401	.505	-1.42	.52
		High	1.917*	.320	.000	1.14	2.69
	high	Low	-2.367*	.342	.000	-3.19	-1.54
		Medium	-1.917*	.320	.000	-2.69	-1.14

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

4.2: Aggression level by gender difference using bar chart

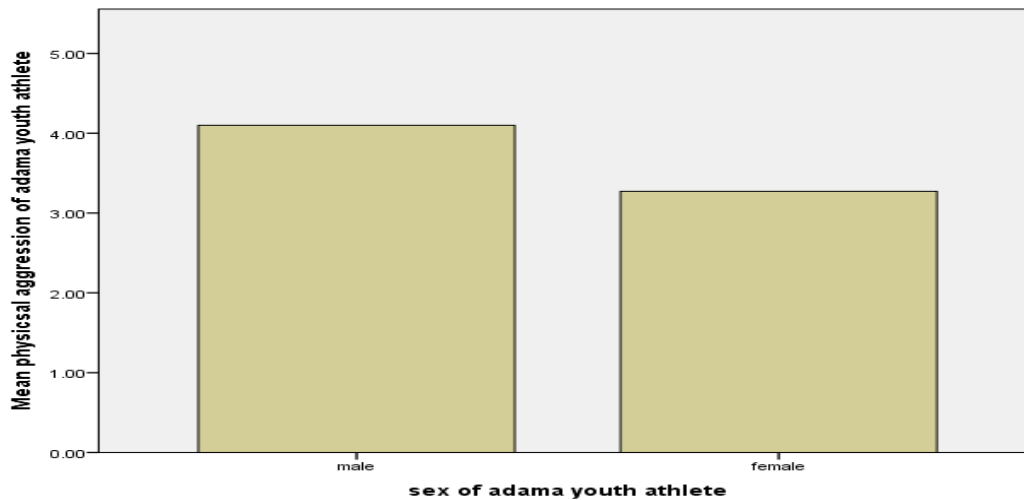


Figure 1: physical aggression level in terms of gender

The above bar-chart gives information on the mean physical aggression level in terms of gender. The result showed that physical aggression of male athletes is higher as compared to female in Adama youth athletics project. After competition male athletes are aggressive than female athlete.

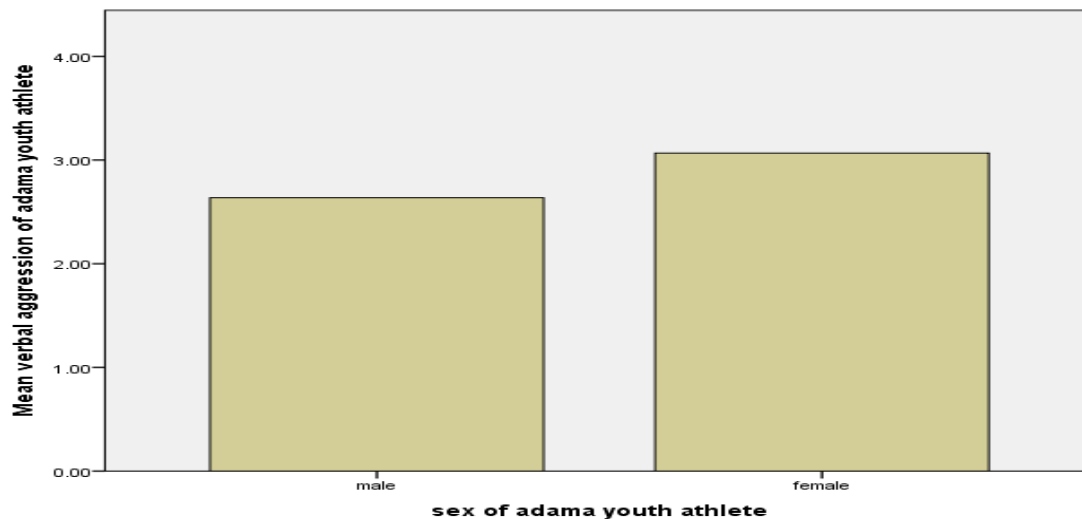


Figure 2: Verbal aggression level in terms of gender

The above bar-chart gives information on the mean verbal aggression level in terms of gender. The result showed that verbal aggression of female athletes is higher as compared to male in Adama youth athletics project. Pre computational period female athletes are verbal aggression higher than male athlete.

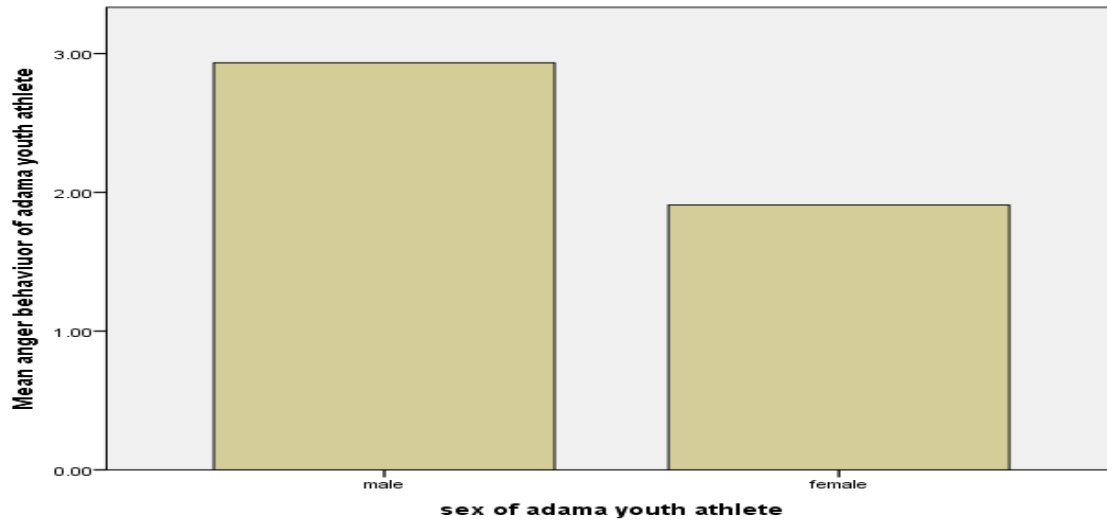


Figure 3: Anger behaviour level in terms of gender

The above bar-chart gives information on the mean anger behaviour in terms of gender. The result showed that anger behaviour of male athletes is higher as compared to female in Adama youth athletics project.

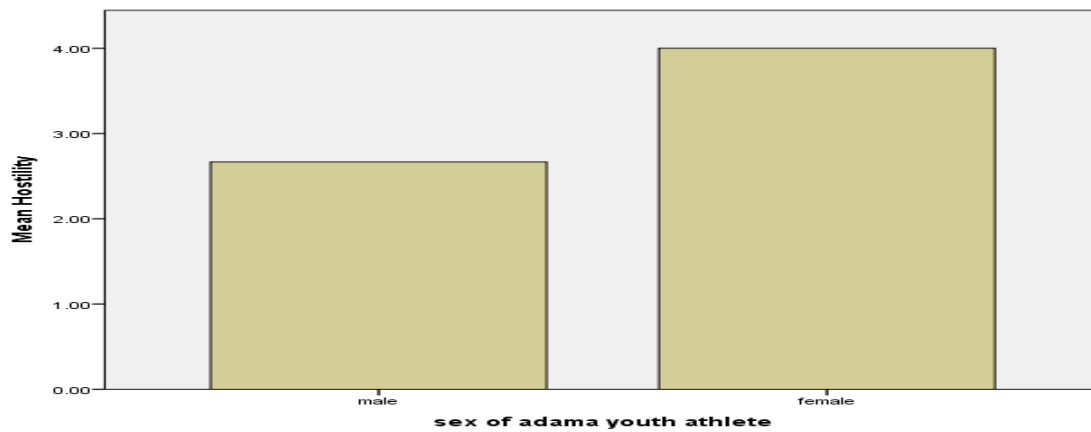


Figure 4: Hostility in terms of gender

The above bar-chart gives information on the mean of hostility in terms of gender. The result showed that hostility of female athletes is higher as compared to male in Adama youth athletics project.

4.3 Factors which affect the athletes aggression level of Adama youth athletics project

Table 4.1.2 Comparison of aggression level using ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
Physical aggression	Between Groups	8.983	2	4.492	4.916	.011
	Within Groups	44.767	49	.914		
	Total	53.750	51			
Verbal aggression	Between Groups	30.824	2	15.412	9.874	.000
	Within Groups	76.483	49	1.561		
	Total	107.308	51			
Anger behaviour	Between Groups	55.117	2	27.558	24.164	.000
	Within Groups	55.883	49	1.140		
	Total	111.000	51			
Hostility	Between Groups	58.214	2	29.107	33.156	.000
	Within Groups	43.017	49	.878		
	Total	101.231	51			

According to the above ANOVA table physical aggressions (F(2,49), P-value=0.011) during the competition, verbal aggression ((F(2,49), P-value=0.000) during the training, anger behaviour (F(2,49), P-value=0.000) during the training, and hostility (F(2,49) P-value=0.000) during the training. That means physical aggression, verbal aggression, anger behaviour, and hostility has a factor on the athletes aggression level of Adama youth athletics project, so that the p-value is less than 0.05.

4.4 The qualitative analysis from interviewing the coach.

According to the respondent, there are many reasons which develop the aggression level. Among them, both physical and psychological terms are the harm to oneself, other or objects in the environment. This type of social interaction centers on harming another person, either physical or mental. The expression of aggression can occur in several of ways including verbally, mentally, and physically. As their expression, high level of aggression was available separately through gender, verbal, mental and physical ways. **Among mental reasons**, Negative Emotions, Hormones influence and addictive of different drugs are the main cause of Aggression level at Adama youth athlete. As soon as, physical expression such as injure, are also other factors.

Negative Emotions: If I were to ask you about the times that you have been aggressive, you probably would tell me that many of them occurred when you were angry, in a bad mood, tired, in pain, sick, or frustrated.

And you would be right we are much more likely to aggress when we are experiencing negative emotions. When we are feeling ill, when we get a poor grade on an exam, or when our car doesn't start in short, when we are angry and frustrated in general we are likely to have many unpleasant thoughts and feelings, and these are likely to lead to violent behaviour. Aggression is caused in large part by the negative emotions that we experience because of the aversive events that occur to us and by our negative thoughts that accompany them. On the construction of the anger experience: Aversive events and negative priming in the formation of feelings. One kind of negative affect that increases arousal when we are experiencing it is frustration. Frustration-aggression hypothesis: Examination and reformulation.

Although frustration is one cause of the negative affect that can lead to aggression, there are other sources as well. In fact, anything that leads to discomfort or negative emotions can increase aggression.

Hormones influence: Hormones are also important in creating aggression. Most important in this regard is the male sex hormone testosterone, which is associated with increased aggression in both animals and in humans. Testosterone affects aggression by influencing the development of various areas of the brain that control aggressive behaviours. The hormone also affects physical development such as muscle strength, body mass, and height that influence our ability to successfully aggress. Although testosterone levels are much higher in men than in women, the relationship between testosterone and aggression is not limited to males. Although women have lower levels of testosterone overall, they are more influenced by smaller changes in these levels than are men. It must be kept in mind that the observed relationships between testosterone levels and aggressive behaviours that have been found in these studies cannot prove that testosterone causes aggression the relationships are only correlational.

In fact, the effect of aggression on testosterone is probably stronger than the effect of testosterone on aggression. Engaging in aggression causes temporary increases in testosterone.

Addictive's of different drugs: Also, according to the respondent's addictive of different drug; like drinking alcohol, smoking a cigarette, chewing a chat and etc. are another factors which increasing aggression level of Adama youth athlete. The consumption of alcohol increases aggression. In fact, excessive alcohol consumption is involved in most violent crimes, including rape and murder. Alcohol increases aggression for a couple of reasons. For one, alcohol disrupts executive functions, which are the cognitive abilities that help us plan, organize reason, achieve goals, control emotions, and inhibit behavioural tendencies. Alcohol also influences aggression through expectations. If we expect that alcohol will make us more aggressive, then we tend to become more aggressive when we drink. The sight of a bottle of alcohol or an alcohol advertisement increases aggressive thoughts and hostile attributions about others.

Also, a biological difference (gender) is another factor which increases the level of aggression at Adama youth athlete according to respondent's responses. The respondents say that gender differences of aggression can depend upon the type of aggression under study. Men are much more likely to engage in physical aggression. Men and women are equally likely to engage in verbal aggression. Men and Women experience aggression differently: Women view their aggression as often coming from excessive stress and a loss of self-control. Males often view aggressive acts as an exercise in control over others, brought on by a challenge to their self-esteem or integrity. Men are more likely to view their aggressive acts as positive (instrumental aggression). Women feel more guilt and concern after being aggressive than men. Recently, researchers have also considered indirect aggression: Gossiping, spreading false rumors, revealing someone's secrets without their permission. Both men and women respond to insults and provocation with aggression.

According to respondents there are so many types of aggression factors of athlete; such as: Several different factors can influence the expression of aggression. *Biological factors*: can play a role. Men are more likely than women to engage in physical aggression. While researchers have found that women are less likely to engage in physical aggression, they also suggest that women do use non-physical forms such as verbal aggression, relational aggression, and social rejection. *Physical Factors*: Epilepsy, dementia, psychosis, alcohol abuse, drug use, and brain injuries or abnormalities can also influence aggression. *Environmental factors*: also play a role, including how people were raised. People who grow up witnessing more forms of aggression are more likely to believe that such violence and hostility are socially acceptable. *Temperature factors*: Higher temperatures can lead aggressive athletes to become more aggressive. For instance, working in extremely high temperatures is known to increase aggression when we are hot, we are more aggressive. Influence of population density and temperature on interpersonal affective behaviours. *Fear of retaliation by victim*: To an extent, the fear of retaliation by the victim of aggression can discourage the aggressive player from initiating that aggression. *Game situation*: Several studies have shown that more aggressiveness occurs as there is a big difference between scores. When the scores are close, aggression is at a minimum. *Rivalry due to familiarity*: Familiarity breeds contempt. As players become more familiar with one another due to frequency of play, rivalries also may increase, and aggression in turn becomes more frequent. *Reduced goal orientation*: As the ego state of the athlete increases, there is general lack of respect for the game or the official. A high task goal orientation results in a higher level of sportsmanship.

CHAPTER FIVE

5. SUMMARIES, CONCLUSION AND RECOMMENDATION

This chapter summarizes the major findings of the study and then concludes on the base of these findings. Finally, feasible recommendations are suggested.

5.1. Summary

Aggression refers to behaviour that is intended to harm another individual. To determine whether behaviour is aggressive, we must determine the intent of the criminal. The level of intent that underlies an aggressive behaviour creates the distinction between emotional or impulsive aggression (which refers to aggression that occurs with only a small amount of forethought or intent) and instrumental or cognitive aggression (which is intentional and planned). Aggression can be nonphysical as well as physical, and nonphysical aggression can be very damaging to its victims. The ability to be aggressive to others, at least under some circumstances, is part of our fundamental human makeup. Because aggression helps in both our individual survival as well as in the survival of our genes, human beings need to be able to aggress. Under the right situation, if we feel that our self is threatened, almost all of us will aggress. Aggression is controlled in large part by the area in the core of the brain known as the amygdala. Although the amygdala helps us perceive and respond to danger, and this may lead us to aggress, other parts of the brain including the prefrontal cortex help us control and inhibit our aggressive tendencies. Hormones and chemicals such as testosterone, serotonin, and alcohol also relate to our tendencies to aggress.

We are more likely to aggress when we are experiencing negative emotions a signal that the self is threatened. Frustration occurs when we feel that we are not obtaining the important goals that we have set for ourselves, and frustration increases aggression. Other negative emotions, including pain and the fear of our own death, also increase aggression. These effects are heightened when we are also experiencing arousal. On the other hand, feeling good about ourselves, or feeling good about others, appears to be incompatible with anger and aggression.

Although catharsis, the idea that engaging in less harmful aggressive actions will reduce the tendency to aggress later in a more harmful way, is a theory that is endorsed by many people, there is no evidence that catharsis actually occurs. If we hit a punching bag, pound on a pillow, or scream as loud as we can with the idea of releasing our frustration, the opposite occurs rather than decreasing aggression, these behaviours in fact increase it. Participating in aggression simply makes us more, not less, aggressive. As would be expected by principles of social reinforcement, if we are rewarded by being aggressive, we will likely aggress again, but if we are punished for our violence, we may subsequently curb our aggression.

And we learn aggression by modeling others, an outcome that is particularly problematic for children who grow up in violent families. Although rewarding aggression can increase it, there is, however, a problem with using punishment to reduce aggression: The punishment can be modeled, which can increase the aggressive behaviours that we are trying to stop. Aggression occurs when we feel that we are being threatened by others, and thus personality variables that relate to perceived threat also predict aggression. Gender differences in aggression have been found in virtually every culture that has been studied. These differences in violent aggression are caused when the athlete disadvantage during a match, loss of the points, official mistakes, verbally insulting the opponents to distract them and drinking the alcohol. Although biology, social learning, the social situation, and culture are all extremely important, we must keep in mind that none of these factors alone predicts aggression, but that they work together to do so. Our knowledge about aggression forms a foundation for potentially for reducing violence. To prevent the cycle of violence from beginning, we must reduce exposure to violence, help people control their emotions, and work at the societal and government level to create and enforce laws that punish those who are aggressive. Hopefully, you now have a better understanding of the causes of aggression and may also work harder to try to prevent it both in yourself and others.

5.2. Conclusion

In conclusion, athlete aggression Levels of physical aggression, verbal aggression, Anger, and hostility were measured using the (buss and perry Aggression Questionnaire 1992). According to the above result the age 14 years of respondent is 11.5 percent of them is included in the study, 15 years of respondent is 28.8 percent included in the study, 16 years of respondent is 32.7 percent included in the study, 17 years of respondent is 21.2 percent and 18 years of respondent is 5.8 percent included in the study. Also, from the above table sex male of respondent is 55.8 percent and female respondent is 44.2 percent is included in the study. In Educational level elementary school respondent is 50.0 percent, High school respondent is 42.3 and preparatory school respondent is 7.7 percent is included in the study. Physical aggression of respondents; disagree 15.4 percent, partially agree 21.2 percent, agree 36.5 percent, strongly agree 26.9 percent is selected. Verbal aggression: disagree 9.6 percent, partially agree 23.1 percent, agree 38.5 percent, strongly agree 28.8 percent is selected. Anger of respondents; strongly disagree 28.8 percent, disagree 36.5 percent, partially agree 11.5 percent, agree 1.9 percent, strongly agree 21.2 percent is selected. Hostility of respondent; disagree 48.1 percent, partially agree 5.8 percent, strongly agree 46.2 percent is selected. Aggression level of Adama youth athlete is at low level by 19.2 percent, 23.1 percent of Adama youth athlete is at medium level and 57.7 percent of the rest athlete is at high level. The highest frequency of aggression level of Adama youth athlete is maximum level. An independent- sample t-test was conducted to compare whether there is a statistically significant difference in aggression level among gender. The result shows that there is a different regarding physical aggression between male and female athletes. In order to determine the difference in aggression level among gender (Male and Female), an independent- sample t-test was conducted to compare whether there is a statistically significant difference in aggression level among gender. Males were found to be more physically and anger aggressive than females, but females used more indirect aggression engaged in verbal aggression and hostility. The factors like; physical aggression 0.011, verbal aggression 0.000, Anger 0.000 and Hostility 0.000 are statistically significant or it affecting on the athlete's aggression level in the case of Adama youth athletics project. On the other hand one way ANOVA was used to compare whether there is a statistically significant difference in aggression level among age group and educational status. The result indicates that aggressions level highly depends on age groups difference and educational status of athletes in Adama youth athletics project. In order to determine the difference in aggression level among age group (14-15, 16-17, and 18-19), one-way ANOVA was used to compare whether there is a statistical significant difference in aggression level among age group. As a result table 4.3 shows, there is a statistical age group significant difference on physical aggression ($F(2,49)$, $P\text{-value}=0.001$) and verbal aggression ($F(2,49)$, $p\text{-value}=0.041$), but there is no statistical age group difference on anger behaviour ($F(2,49)$, and $P\text{-value}=0.041$), but there is no statistical age group difference on anger behaviour ($F(2,49)$, and $P\text{-value}=0.041$).

value=.162), hostility (F(2,49), P-value=.337). This indicates physical and verbal aggressions highly depend on age groups difference. And also in order to determine the difference in aggression level among educational status (elementary school, high school and preparatory), one way ANOVA was used to compare whether there is a statistical significant difference in aggression level among educational level group. As a result table 4.4 shows, educational status is a statistical significant difference on physical aggression (F(2,49), P-value=0.012) but there is no statistical significance on verbal aggression (F(2,49), p-value=.561), anger behaviour (F(2,49), and P-value=.228), hostility (F(2,49), P-value=.746). This indicates physical aggressions highly depend on educational status.

Several of different factors can influence the expression of aggression. *Biological factors*: can play a role. Men are more likely than women to engage in physical aggression. *Physical Factors*: Epilepsy, dementia, psychosis, alcohol abuse, drug use, and brain injuries or abnormalities can also influence aggression. *Environmental factors*: also play a role, including how people were raised. *Temperature factors*: Higher temperatures can lead aggressive athletes to become more aggressive. *Fear of retaliation by victim*: To an extent, the fear of retaliation by the victim of aggression can discourage the aggressive player from initiating that aggression. *Game situation*: Several studies have shown that more aggressiveness occurs as there is a big difference between scores. When the scores are close, aggression is at a minimum.

5.3. Recommendation

Aggression level of Adama youth athlete is possible minimizing. The first method was minimizing aggression level of Adama youth athlete; control aggression and violence by athletes. Athletes who involve in aggressive acts severely penalized, at levels much more than any reinforcement that the game offers. Youth athletes taught to have non-aggressive but assertive behavior. Athletes rewarded for showing restraint and patience in emotionally charged game situations. An athlete's anger feelings can be regulated through proper role play. Tolerance and patience on the part of the coach or leader was reducing violent behavior in athletes. A friendly atmosphere, more in the lines of a family event is ensured by the organizers. Aggressive athletes can be provided proper counseling and rehabilitation. Distribution of alcoholic beverages/cigarettes at sporting events is stopped. The punishment can be modeled, which can increase the aggressive behaviours that are stopped. The coach is advising the athlete for us a positive thinking.

Coaches made aware of the potential damage of aggression in sport, not only for their team and the player at hand, but for society. At each competitive level and for every sport, a fair play code-of-conduct should be made a compulsory element in established and enforced guidelines for coaches.

Management is prohibition the use of alcoholic beverages at sporting events. Athletes should take part in programs aimed at helping them reduce behavioural tendencies toward aggression. The tightening of rules, imposing of harsher penalties, and changing of reinforcement patterns are only part of the answer to inhibiting aggression in sport. Ultimately, the athlete must assume responsibility for his or her behaviour. Hormones are also important in creating aggression. Testosterone affects aggression by influencing the development of various areas of the brain that control aggressive behaviours.

The second method of minimizing anger and aggression level of Adama youth athlete:

- ✚ Count backwards from 10,
- ✚ Take 3 deep breaths,
- ✚ Exercise or play to let off some steam/energy,
- ✚ Find a quiet place,
- ✚ Vent! Talk to someone,
- ✚ Tell yourself calming statements. (It is okay. Keep calm. Relax.),
- ✚ Lie down and relax, tense your body- then relax it. (Repeat),
- ✚ Think peaceful thoughts, (Relaxing by the pool, holding your pet, hugging a parent),
- ✚ Walk away and Avoid anger triggers.

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APPENDIX I

Jimma University

College of natural science department of sport science

Questionnaire for Athletes

Dear Athletes: This questionnaire is designed to collect information. The purpose of this study is assessing the athlete's aggression level in the case of Adama youth athletics project, finding the level of aggression and to giving the recommendation. This questionnaire is one of the instruments which help the researcher to gather the necessary data for his MA fulfillments. Thus, you are kindly requested to give the required information based on the provided questions. Your contribution is more decisive for the achievement of this study. The researcher would like to assure you that all the responses you give will be confidential and kept safely according to the details on consent form that is given to you on the provided sheet. Your name is not necessary in this information. Thank you in advance for your willingness to cooperate in responding to the questionnaires.

I. Background information

Please, tick (✓) marks your choice from the following alternatives in the blank space in front of the options:

1. **Sex:** Male _____ Female _____
2. **Age:** 10-16 _____ 17-25 _____ 26-35 _____ 36-40 _____ 41-50 _____ above 50 _____

II. Educational level

- Primary school _____ High school _____ Complete Certificate _____
Diploma _____ First degree _____ MSc/MA _____

III. Work experience in years:

- 1-3 _____ 4- 6 _____ 7- 9 _____ More than 10 _____

Instruction: Please, tick (✓) marks your choice from the following alternatives in the box in front of the options:

1. Strongly disagree
2. Disagree
3. Partially agree
4. Agree
5. Strongly agree

No	Physical aggression	1	2	3	4	5
1.	Occasionally I can't control the urge to strike another person.					
2.	Given enough provocation, I may hit another person.					
3.	If someone hits me, I hit back.					
4.	I get into fights a little more than the average person.					
5.	If I much resort to violence to protect my rights, I will.					
Verbal aggression						
1.	I tell my friends openly when I disagree with them.					
2.	I often find myself disagreeing with people.					
3.	When people annoy me, I may tell them what I think of them.					
4.	I cannot help getting into arguments when people disagree with me.					
5.	My friends say that I'm somewhat argumentative.					
Anger						
1.	I flare up quickly but get over it quickly.					
2.	When frustrated, I let my irritation show.					
3.	I sometimes feel like a powder keg ready to explode.					
4.	I am an even-tempered person.					
5.	Some of my friends think I am a hothead.					
Hostility						
1.	I am sometimes eaten up with jealousy.					
2.	At times I feel I have gotten a raw deal out of life.					
3.	Other people always seem to get the breaks.					
4.	I wonder why sometimes I feel so bitter about things.					
5.	I know that "friends" talk about me behind my back.					

MUL'ISTUUI

Yunivarsiitii Jimmaa

Mana Barnoota Qo'annoo Kolleejii Barnoota saayinsii uumamaatti

Muumme Saayinsii Ispoortii

Bargaaffii Qo'annoo Fi Qorannoo Atileetootaaf Dhiyaate.

Kabajamoo deebii kennaadhaaf affeeramtan, kaayyoon bargaaffii kanaa naannoo oromiyaatti goodina Adaamaa maagaala Adaamaa keessattii rakkoowwan walitti bu'insa Atileetoota piroojeektii Adaamaa kan dargaggoota sadarkaa maali irra akka jiruufi sababa ka'umsaa addaan baasun haala ittin too'atamuu kallattii eerudhaan furmaata keenudha. Gama biraatiin qo'ataan qorannoo kana kan gaggeessuuf Yunivarsiitii Jimmaatti sadarkaa barnoota digirii 2^{ffaa} fi beekumsa qo'annoo Barnoota Ispoortii fi Qo'annoo uumama Naannoo ittin guuttachuuf jecha kan hojjetameedha. Kanaafu, deebii haga ta'e kennuudhaan gargaarsa akka naaf gootan kabajaan isin gaafadha.

Yeroo keessan Aarsaa gootanii odeeffannoo kana haala gaariin guutuun waan deebii naaf laattanniif galatoomaan jedha.

I. Odeeffannoo raga kennitoota

Mallattoo (√) kana fayyadamuudhaan filannookee bakka duwwarratti guuti.

1. **Saala:** Dhiira _____ Dhalaa _____
2. **Umurii:** 10-16 _____ 17-25 _____ 26-35 _____ 36-40 _____ 41-50 _____ 50 olii _____

II. Sadarkaa barnoota

Sadarka 1ffaa _____ Sadarka 2ffaal _____ Ragaa xumura adda addaa _____
Dipilooma _____ digirii 1ffaa _____ Digirii 2ffaa _____

III. Muuxannoo hojii:

Waggaa 1-3 _____ Waggaa 4- 6 _____ Waggaa 7- 9 _____ Waggaa 10 olii _____

Qajeelfama: Gabatee armaan gadii keessattii yaadota dhiyaatan kana fayyadamuudhaan deebii keessan Guutumatti nan morma kan jedhuurran hanga Guutumatti nan deeggara jedhuttii yaadota jiran gabatee tarree harka mirgaa keessatti mallattoo (√) jedhu kaa'i.

- | | |
|----------------------------|----------------------------|
| 1. Guutumatti nan morma | 4. Nan deeggara |
| 2. Nan morma | 5. Guutumatti nan deeggara |
| 3. Gartokkoon nan deeggara | |

Lakk.	Jibbinsa Qaamolee miiraan mul'atan (physical aggression)	1	2	3	4	5
1.	Isa namni mormu obsurraa nama nan rukkuta.					
2.	Akka namni sirritti aaruuf nama biraa nan rukkuta.					
3.	Yoo namni na rukkutu; anis rukkutaaan nan deebisa.					
4.	Hiriyyakoo miti hangafakoollee nan lola (rukkuta).					
5.	Yoon aaree mirgakoo kabachifachuuf nama nan goola.					
Jibbinsa haasawaan mul'atan (verbal aggression)						
1.	Hiriyyootakoo waliin wal dhabee iftoominaan ittin dubbadha.					
2.	Yeroo baay'ee akkan namoota waliin walii hin galleetti of beeka.					
3.	Yeroo namoonni na aarsan waa'ee isaani kanan yaadun dubbadha.					
4.	Nmoota waliin yeroon wal dhabu akka isaan na hin falmineef carra hin kennu.					
5.	Hiriyyoonikoo ati faallaa namaati na jedhu.					
Aarii (Anger)						
1.	Dafeen aara; dafee narra gala.					
2.	Yoon abdi kutuu miira aariitu narraa mul'ata.					
3.	Si'a tokko tokkoo nama obsa hin qabne ta'uu kootu natti dhaga'amaa.					
4.	Ani nama baay'ee aaruudha.					
5.	Hiriyyoonikoo tokko tokkoo akka ani dafee tarkanfii fudhadhutti na yaadu.					
Jibbummaa (Hostility)						
1.	Darbe darbee ani jibbinsaan guutameera.					
2.	Yeroon kun akka nama jireenya isa irratti taphatuutti natti dhaga'ama.					
3.	Namoonni yeroo hunda akka ani yaada nama diiguutti na ilaalu.					

4.	Al tokko tokkoo maaliif akka dhiigni koo hadhawaa ta'ee na dhiba (ciinqa).					
5.	Akka namoonni duubaan nahamataan nan beeka.					

APPENDIX II

Jimma University

College of natural science department of sport science

Interview Questionnaire for Coach

1. What do you know the cause of aggression in Adama young athlete?
2. What do you know about the aggression levels of athletes according to gender difference?
3. What is the factor of aggression in Adama young athletic project athletes?

Mul'istuu II

Yunivarsiitii Jimmaatti

Mana Barnoota Qo'annoo Kolleejii Barnoota Saayinsii Umaama

Muumme Saayinsii Ispoorti

Qorannoo gaffii fi deebbi Leenjistoota piroojeektii adaamaaf qoopha'e.

1. Waldhabdee (wal jibbinsa) Atiileetoota garee olguddattoota piroojeektii Adaamaa giddutti mul'atuuf ka'umsi isaa maali jette yaadda?
2. Waldhabdee (wal jibbinsa) Atiileetoota garee olguddattoota piroojeektii Adaamaa saala fallaa giddutti qabani maalii?
3. Sababiin ka'umsa wal dhabdee(wal jibbinsa) kana hoo maal fa'a jettee yaadda?

Appendix A:

Table 3A. Multiple Comparisons Age

Tukey HSD

Dependent Variable	(I) age1	(J) age1	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Physical aggression	14-15	16-17	-1.211*	.264	.210	-0.85	1.57
		18-19	-1.729*	.224	.000	-2.27	-1.19
	16-17	14-15	1.211*	.264	.210	-1.57	0.85
		18-19	.518	.250	.006	.09	1.12
	18-19	14-15	1.729*	.224	.000	1.19	2.27
		16-17	-.518	.250	.006	-1.12	-.09
Verbal aggression	14-15	16-17	-.657	.420	.270	-1.67	.36
		18-19	.307	.356	.667	-.55	1.17
	16-17	14-15	.657	.420	.270	-.36	1.67
		18-19	.964*	.396	.048	.01	1.92
	18-19	14-15	-.307	.356	.667	-1.17	.55
		16-17	-.964*	.396	.048	-1.92	-.01
Anger behaviour	14-15	16-17	-.892	.547	.242	-2.21	.43
		18-19	-.798	.464	.208	-1.92	.32
	16-17	14-15	.892	.547	.242	-.43	2.21
		18-19	.094	.516	.982	-1.15	1.34
	18-19	14-15	.798	.464	.208	-.32	1.92
		16-17	-.094	.516	.982	-1.34	1.15
Hostility	14-15	16-17	.647	.530	.447	-.63	1.93
		18-19	.604	.450	.379	-.48	1.69
	16-17	14-15	-.647	.530	.447	-1.93	.63
		18-19	-.043	.501	.996	-1.25	1.17
	18-19	14-15	-.604	.450	.379	-1.69	.48
		16-17	.043	.501	.996	-1.17	1.25

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

Table 4A. Multiple Comparisons on educational status

Tukey HSD

Dependent Variable	(I) educational level	(J) educational level	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
physical aggression	elementary school	high school	.110	.310	.933	-.64	.86
		Preparatory	-.969*	.344	.019	-1.80	-.14
	high school	elementary school	-.110	.310	.933	-.86	.64
		Preparatory	-1.079*	.380	.018	-2.00	-.16
Preparatory	elementary school	.969*	.344	.019	.14	1.80	
	high school	1.079*	.380	.018	.16	2.00	
Verbal aggression	elementary school	high school	-.390	.378	.561	-1.30	.52
		Preparatory	-.014	.419	.999	-1.03	1.00
	high school	elementary school	.390	.378	.561	-.52	1.30
		Preparatory	.376	.462	.697	-.74	1.49
Preparatory	elementary school	.014	.419	.999	-1.00	1.03	
	high school	-.376	.462	.697	-1.49	.74	
Anger behavior	elementary school	high school	-.026	.474	.998	-1.17	1.12
		Preparatory	-.874	.525	.229	-2.14	.40
	high school	elementary school	.026	.474	.998	-1.12	1.17
		Preparatory	-.848	.580	.317	-2.25	.55
Preparatory	elementary school	.874	.525	.229	-.40	2.14	
	high school	.848	.580	.317	-.55	2.25	
Hostility	elementary school	high school	-.313	.463	.779	-1.43	.81
		Preparatory	.063	.514	.992	-1.18	1.30
	high school	elementary school	.313	.463	.779	-.81	1.43
		Preparatory	.376	.567	.786	-1.00	1.75
Preparatory	elementary school	-.063	.514	.992	-1.30	1.18	
	high school	-.376	.567	.786	-1.75	1.00	

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

Table 5A. Multiple Comparisons on Aggression Level

Tukey HSD

Dependent Variable	(I) Aggression Level	(J) Aggression Level	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Physical aggression	low	Medium	.233	.409	.837	-.76	1.22
		High	-.700	.349	.122	-1.54	.14
	medium	Low	-.233	.409	.837	-1.22	.76
		High	-.933*	.326	.017	-1.72	-.14
	high	Low	.700	.349	.122	-.14	1.54
		Medium	.933*	.326	.017	.14	1.72
Verbal aggression	low	Medium	1.117	.535	.103	-.18	2.41
		High	-.767	.456	.223	-1.87	.34
	medium	Low	-1.117	.535	.103	-2.41	.18
		High	-1.883*	.427	.000	-2.91	-.85
	high	Low	.767	.456	.223	-.34	1.87
		Medium	1.883*	.427	.000	.85	2.91
Anger behaviour	low	Medium	-.583	.457	.415	-1.69	.52
		High	-2.367*	.390	.000	-3.31	-1.42
	medium	Low	.583	.457	.415	-.52	1.69
		High	-1.783*	.365	.000	-2.66	-.90
	high	Low	2.367*	.390	.000	1.42	3.31
		Medium	1.783*	.365	.000	.90	2.66
Hostility	low	Medium	.450	.401	.505	-.52	1.42
		High	2.367*	.342	.000	1.54	3.19
	medium	Low	-.450	.401	.505	-1.42	.52
		High	1.917*	.320	.000	1.14	2.69
	high	Low	-2.367*	.342	.000	-3.19	-1.54
		Medium	-1.917*	.320	.000	-2.69	-1.14

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